111th Congress
1st Session

COMMITTEE PRINT

COMPILATION OF RESPONSES TO CLIMATE CHANGE QUESTIONNAIRE

PREPARED BY STAFF

OF THE

COMMITTEE ON AGRICULTURE
HOUSE OF REPRESENTATIVES

PART 1 OF 2

MAY 2009

U.S. GOVERNMENT PRINTING OFFICE

WASHINGTON : 2009

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COMPILATION OF RESPONSES TO CLIMATE CHANGE QUESTIONNAIRE

PART 1 OF 2

MAY 2009

HOUSE OF REPRESENTATIVES,
COMMITTEE ON AGRICULTURE,
Washington, D.C.

PREFACE

In March 2009, the House Committee on Agriculture formulated a questionnaire and distributed it to over 400 organizations in order to gather information about the different options being considered in Congress to reduce greenhouse gas emissions. For years, farmers, ranchers, and forest landowners have been participating in agricultural programs that result in carbon reduction, and this solicitation was meant to find out how these efforts may fit in the overall task of addressing global climate change. The questionnaire was sent to a diverse group, including commodity, conservation, forestry, research, energy, business, and nonprofit interests and was released to the public for the opportunity to submit responses. The Committee received more than 200 responses to the questionnaire, showing the considerable interest in the work that farmers, ranchers, and forest landowners are already doing to support carbon sequestration and emission reduction as well as a great interest in identifying potential benefits for the future. The responses are presented here, in alphabetical order, by organization or individual name.

The Committee would like to thank all those who participated in this process. The information gathered and presented will be helpful in future discussions related to climate change.

U.S. House of Representatives
Committee on Agriculture
Room 1301, Longworth House Office Building
Washington, DC 20515–6001

(202) 225-2171
(202) 225-8510 FAX

March 11, 2009

To Whom It May Concern:

Congress may soon consider a range of climate change options to reduce greenhouse gas emissions. Among the options being considered are those that would either mandate or authorize a cap and trade program or impose a carbon tax or fee. The House Committee on Agriculture is gathering information to help Members better understand the options available especially as they relate to agriculture and forestry. Most of the current legislative proposals would not require emission reductions in the agriculture and forestry sectors, but various proposals would allow producers to receive emission allowances to generate carbon offsets which could be sold under a cap and trade program. Depending on how it is constructed, agriculture producers and forest landowners may benefit from a carbon reduction program, and it is important Members understand the various approaches.

The Agriculture Committee and the United States Department of Agriculture (USDA) have a track record of working with stakeholders on carbon sequestration programs. Farm Bill programs encourage farmers and ranchers to sequester carbon and reduce emissions associated with climate change, adopt energy efficiency measures, produce renewable energy feedstocks, and participate in markets for carbon storage. Similarly, many agriculture conservation programs provide cost-sharing and technical assistance to farmers solely for the purpose of natural resource conservation.

If Congress decides that climate change legislation should seek to maximize agriculture's participation and ensure greenhouse gas reductions, sustaining a strong farm and ranch economy is imperative. Understanding that there are many different approaches to address this issue, and in the interest of maintaining an open, transparent, and inclusive process, we have created the attached document to gather input across the broad spectrum of interested parties. This questionnaire will be sent to various organizations, to gather information and facilitate the discussion of the role of agriculture and forestry in the climate change debate. The responses we receive will be used in crafting principles that could be part of any subsequent legislation.

The questionnaire is a combination of short answer and essay questions. Short answers should be no more than **three hundred words**, and essay answers should be no

more than **six hundred words**, and all responses should be on topic for consideration for the record. It is understood that some groups may not have an opinion on each question, therefore please answer those questions applicable to you and/or your organization.

There are a number of individuals, stakeholders, and public organizations interested in the topic of climate change, and our goal is to solicit a response from them all. The structure of trade associations, coalitions, and other entities may lend to duplication; however, the choice of answering on behalf of a specific company or on behalf of an organization/coalition is left to you. Please note that all submitted questionnaires must be accompanied by a completed biographical form which includes group affiliations.

Thank you for taking the time to respond to this questionnaire. The deadline for all responses is **April 10, 2009**. If you have any questions related to this document please contact the House Committee on Agriculture at 202-225-2171, or send an email to AgQuestionnaire2009@mail.house.gov.

Sincerely,

Collin C. Peterson
Chairman
House Committee on Agriculture

Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Organization(s) you represent

Address

Email

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
   Please respond in 600 words or less.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
   Please respond in 300 words or less.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
   Please respond in 600 words or less.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
   Please respond in 600 words or less.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
   Please respond in 300 words or less.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
   Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

   Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
   Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
   Please respond in 600 words or less.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
   Please respond in 300 words or less.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
   Please respond in 300 words or less.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
   Please respond in 300 words or less.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
25X`25
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name
Erne Shea, 25x'25 Coordinator; Jeffrey Frost, Carbon Advisor to 25x'25

Organization(s) you represent
25x'25 is a diverse alliance of agricultural, forestry, environmental, conservation and other organizations and businesses that are working collaboratively to advance the goal of securing 25 percent of the nation's energy needs from renewable sources by the year 2025. 25x'25 is led by a national steering committee composed of volunteer leaders. The 25x'25 goal has been endorsed by over 800 partners, 31 governors, 14 state legislatures and the U.S. Congress through The Energy Independence and Security Act, which was signed into law on December 19, 2007. 25x'25 is a special project of the Energy Future Coalition (EFC). The EFC is a broad-based non-partisan public policy initiative that seeks to bring about change in U.S. energy policy to address overarching challenges related to the production and use of energy.

Click here for a list of endorsements.

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

The 25x'25 Steering Committee in 2008 appointed a Carbon Work Group to analyze agriculture and forestry's role in a reduced carbon economy and develop recommendations for how each sector can capitalize on efforts to reduce and capture carbon and greenhouse gas emissions. The Carbon Work Group, comprised of select Steering Committee members and additional volunteer leaders from carbon market stakeholder groups, has developed a Discussion Guide: Agriculture and Forestry in a Reduced Carbon Economy – Solutions from the Land. The positions stated within this response reflect the content of that work and that process.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Agriculture and forestry can and will deliver substantial emissions reductions, including sequestration, under any national climate change policy. All of the high-likelihood national climate change policies being discussed will result in a price for carbon emissions[1]. A price for carbon emissions is an incentive to create emissions reductions, reductions that the agriculture and forestry sectors can deliver. The 25x'25 National Steering Committee has not made a formal recommendation in favor of a cap and trade system. However, the majority of our planning has focused upon how an offset program, generally presumed to be within a national cap and trade action, must be structured. The program must both meet the national goals and allow the agricultural and forestry sectors to contribute to the full extent of their capability, especially with regard to biological sequestration in forests and soils. At the same time, 25x'25 recognizes that climate legislation is part of a larger suite of carbon reduction policies.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

First, the background framing facts are presented. According to a recent study by the EPA, these sectors, mostly agriculture, source about 7% of annual U.S. emissions. The forest-related sink is at present increasing in the U.S. Ignoring the relatively inconsequential release of CO_2 from the operation of farm equipment, the bulk of the agricultural emissions emanate from animal husbandry in the form of methane (CH_4) and nitrous oxide (N_2O) emissions. The CH_4 is from manure management and enteric fermentation and represents about 2% of U.S. emissions. The N_2O is from agricultural soils plus very small amounts from manure management and represents about 5% of U.S. emissions.

These sectors should not be directly covered, as the monitoring costs needed to bring them into a cap-and-trade system are prohibitive. Given the diffuse nature of these emissions and the limited accuracy of current science in estimating actual emissions on the small scale of individual farm operations, it is not practical to manage these emissions today. The overhead and inefficiencies associated with a cap-and-trade program designed to

---

[1] Greenhouse gas (GHG) emissions are often referred to as just "carbon emissions" even though there are six greenhouse gasses generally covered, including carbon dioxide (CO_2) and the two others most relevant here, methane (CH_4) and nitrous oxide (N_2O). Thus, a "carbon price" is inclusive of all greenhouse gas emissions.

manage such uncertainty, from hundreds of thousands of disparate sources, would make the program plan costly, ineffective, and counter-productive.

As will be suggested within, 25x'25 supports the design of an offset program which will allow the agriculture and forestry sectors to cost effectively deliver emissions reduction services. That is, the inclusion of offsets has the potential to lower the overall costs of a cap and trade system. Portions of these reductions can come from the above-mentioned CH_4 and N_2O sources under an appropriately designed program, but the far larger potential for these sectors to deliver significant reduction services, realistically equal to 10%-25% of annual national emissions, comes from terrestrial sequestration of CO_2 in soils and forests.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be distributed at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?

Please respond in 600 words or less.

25x'25 has not taken a formal position about the allowance distribution question. As we represent sectors not expecting to be capped, it has been our intention to focus only on those aspects of a program which affect us directly, not the larger challenges and issues of the overall program design. We are aware, however, of the repeated failure of several previous programs to manage this process well, resulting in non-binding caps, windfall profits for recipients of free allowances, and carbon prices too low to motivate any behavioral change.

Further, 25x'25 leaders have articulated the manner in which allowance auction proceeds or alternatively the use of allowance "set-asides" could be employed for multiple beneficial purposes. An allowance set-aside program or revenue from auctions could be used to invest in research and development of project types that currently lack the science or protocols (e.g. methane emissions from enteric fermentation and nitrous oxide emissions from manure management) to be accepted in the cap and trade program via the offset model. Promising new project types and methodologies with significant offset volume will reduce the overall costs of a cap and trade program.

The fundamental benefit of setting aside some allowances for special use, such as supporting new forms of offset reductions or to reward early actors, is that set-aside allowances are part of a system design which produces supplementary reductions below the cap without in any way imperiling the cap limits. Other sources have written extensively about the technical details of program designs employing allowance set-asides.[2]

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[2] Several sources have in differing ways elaborated upon this issue effectively. See for example: CRS Report: Potential Offset Supply in a Cap-and-Trade Program (Order Code RL34705); or see the Nicholas Institute Policy Brief on Treatment of Early Agricultural and Forestry Actors in a Federal Cap-and-Trade.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

The National Steering Committee has not expressed an opinion about this issue. We would observe however that the Committee has supported a system with low overhead and easy manageability. Federal preemption of these early experiments, while drawing upon their successes and learning from their failures, seems the logical way to produce the most efficient national system. Further, the nature of the problem – GHG emissions – is global. Thus, the federal government is probably better equipped to deal with this problem rather than regional agencies.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Please respond in 300 words or less.

The 25x'25 National Steering Committee has expressed the strong belief that a cap-and-trade system must call upon the uncapped agriculture and forestry sectors to deliver substantial emissions reductions services[3] to the full extent of their ability. The Committee feels that the most effective means for it to fulfill its role will be for USDA, in partnership with EPA, to be the administering agency with respect to agricultural and forestry offset project rules.

Important practice changes and measurement systems will emerge that are required to meet demanding carbon offset accounting protocols. These practices and systems will also affect the viability of the agriculture and forestry systems in their wider roles as providers of food, fiber, feed, and fuel as well as their role as stewards of the land which is the source of a full scope of ecosystem services. The USDA, including its Forest Service branch, is the agency most able to manage the nuances of the administration of new emissions reduction opportunities in a fashion which seamlessly integrates with the full scope of sector operations and responsibilities.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

The National Steering Committee has not yet taken a position on this issue. There is long-term experience within the agricultural sector with futures and options, the basic building blocks of most derivative markets. As for all commodity/financial markets, we are aware of the importance of a host of regulatory requirements. It is equally clear that these

[3] The general term "reduction services" is used herein to represent all allowable forms of improvement including reductions, sequestration, and avoided emissions.

requirements have not been met in recent years and the regulatory failures are known to be a significant factor in our current national economic downturn. The details of effective regulation are more important than the choice of a regulatory agency. The 25x'x Steering Committee has not set out a position on these regulatory details at this time.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

   Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

   The 25x'25 National Steering Committee has not addressed these market conditions with a detailed position at this time. However, carbon markets (markets for allowances and fungible offset credits) require a level of underlying transparency beyond that required by any other types of markets. Specifically, the multi-level[4] standards and rules demanded by the challenges of environmental accounting for greenhouse gasses are: new; evolving; subject to uncertain science - especially in the farm and forestry sectors; and subject to non-market shocks and adjustments such as fires, floods, windstorms, and more. All of these factors call for an openness and transparency satisfying the most demanding critic as to the genuine emissions reduction outcomes achieved by every offset project, a substantial portion of which will come from our sectors. This need for environmental accounting integrity and stringency imposes the need for an important level of transparency beyond that required for most markets.

   As a consequence, the National Steering Committee would find more comfort with "a", the mostly tightly controlled and transparent of the three.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

   Please respond in 600 words or less.

---

[4] Here is one way to describe the levels: 1) general principles and practices of environmental accounting for carbon fluxes and emissions; 2) program level rules such as the policy to implement a national cap-and-trade system; and 3) protocols describing the detailed environmental accounting rules to be followed for company inventories or project types, with different industries and different forms of reduction projects each requiring a set of specifications. Examples of recommended general rules and guidelines include World Resources Institute's Greenhouse Gas Protocol for Project Accounting and the International Standards Organization 14064-Part 2. Examples of current voluntary market offset project rules include the Voluntary Carbon Standard and the Gold Standard. Examples of project types (e.g. biogas recovery and afforestation/reforestation) for which there are well developed protocols include the Clean Development Mechanism Methodologies and California Climate Action Registry. Ultimately every qualified type of offset activity will require its own detailed project protocol rules

There will be negative impacts for specific regions and populations and those who will be most negatively affected deserve some assistance. Several models have examined the impact of a domestic cap and trade policy on energy prices, GDP, employment, and distribution of those costs. Independent reviews or meta studies of an array of models conclude that the economic impact of a cap and trade policy on the U.S. economy would be moderate (Aldy, 2007; Jorgenson, 2008; Keohane, 2008). Short-term costs and impacts could be significant, however, especially for the most energy-intensive agricultural operations and for low-income rural households.

Climate change policy will have a greater economic impact on some sectors than others. Higher energy prices as a result of a cap would adversely affect firms in the energy and energy-intensive goods and services industry, which would create losses for some investors and workers in this sector. Manufacturing, the most energy intensive industry, is likely to feel the greatest impact (Keohane, 2008). Agriculture and forestry sectors, however, are the only sectors on the production side of the economy that are expected to experience a positive output as a result of mitigation (Jorgenson, 2008).

Further, if the agriculture and forestry sectors, under a cap and trade policy, are allowed to provide offsets as uncapped sectors, they will have the potential for an annual multi-billion dollar revenue stream. This will provide added revenue for American agricultural producers and forest landowners and have a multiplier effect in rural areas.

Sources:

- Aldy, J. E. (2007). Assessing the Costs of Regulatory Proposals for Reducing U.S. Greenhouse Gas Emissions Washington D.C.: Pew Center on Climate Change.
- Jorgenson, D., Goettle, R., Wilcoxen, P., Sing Ho., M. (2008). The Economic Costs of Market-based Climate Policy. Washington D.C.: PEW Center on Global Climate Change.
- Keohane, N. (2008). What will it Cost to Protect Ourselves from Global Warming? Washington D.C.: Environmental Defense Fund.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

There are several alternatives for how to correct the unintended income distribution and cost increase effects. The income effects fall disproportionately on the poorest households or rural sectors. Under a cap and trade program, revenue from the sales of allowances could be used to minimize the negative impacts of a climate policy. Proceeds from the auction could be distributed to help individuals, businesses, and local governments cut their energy bills and mitigate cost increases as well as to develop renewable energy technologies, stimulate the economy, and provide green-collared jobs. Revenue generated can also be used for research in the agriculture and forestry sectors where monitoring methods and protocol development will need to be developed and improved. For example, examining land management decisions that affect soil carbon or developing protocols for emission reductions from enteric fermentation or improved manure application methods could be viable offset opportunities.

If a carbon tax is the chosen policy option, it could be revenue-neutral. That is, the proceeds from the tax could go back to the public to lessen the stress on the economy. By returning the tax dividends to low-income energy users, a carbon tax could also be designed to be equitable and possibly even "progressive". A cap and trade policy can also be progressive through a cap and dividend program where revenue from the program is returned to taxpayers as a tax rebate.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

Transitional assistance has not been addressed by the National Steering Committee at this time but we recognize that it must be provided.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

The U.S. government owns little cropland, so any sequestration activities on public lands are likely to focus on forests and rangelands. The Intermountain West is a much drier area that represents the greatest opportunity for management decisions to affect carbon storage quantity on public lands. This vast area comprises nearly 100 million acres of federal forests where decades of fire suppression has resulted in large build-up of biomass. Currently, federal policy has focused on efforts to carryout fuel reduction projects to reduce the risks of highly destructive fires and significant losses of carbon stock (Richards et al., 2006). Since preserving carbon stocks through fire control also protects people, households, and businesses and thus prevents economic loss, it is likely to gain public support.

Government managed carbon sequestration on public lands has the advantage of being cost-effective to monitor, enforce, and relatively easy to implement. However, like anything that involves government-owned lands, taxpayers would bear the costs of any carbon sequestration program. Therefore, any carbon storage proposal on public lands must gain enough revenue from offsets to cover costs and be politically feasible.

Forested public lands could also potentially, subject to a design which addresses additionality effectively, act as a reserve or bank for carbon sequestration activities on private property that unintentionally release carbon stocks. For example, even if a landowner manages his/her forest to provide carbon credits that are real, additional, verified, and permanent, forest stock may decrease from forest fires, disease, insect outbreaks, and/or extreme weather. Public forestland may thus be used as insurance for unintended forest degradation on private property and this mechanism can be a component of an overall management of permanence issues.

Sources:

- Richards, K.R., Sampson, R.N., Brown, S. 2006. Agricultural and Forestlands: U.S. Carbon Policy Strategies. PEW Center on Global Climate Change. Washington, D.C.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

The National Steering Committee has taken no formal position on this issue. There is, however, the recognition that a cap and trade system fixes the level of emissions reductions but allows the price of carbon to fluctuate. Further, it will take robust carbon prices to change behaviors and transition to a low-carbon future. Research has shown that the agriculture and forestry sectors can deliver increased quantities of reductions at higher prices. Robust carbon prices will also allow a rapid response in the front years of a program by offset providers, providing the most cost effective solutions for capped sectors.

With a cap and trade program, market price volatility could be disruptive under extreme circumstances. However, there are ways to insulate the program against volatile prices. First, a cap that does not over-allocate allowances will ensure that the cap is binding and will prevent prices from falling too low. Thus, it is critical that the quantity of allowances be set so capped sectors are forced to reduce their emissions below business as usual. Second, a strategic offset reserve could be designed to allow for additional offsets to be sold to the marketplace if prices become too high. This will increase supply of offsets in the marketplace which will act to control extreme price spikes.

Similarly, because the offset markets are the only practical means to buy time for capped sectors to transition to a permanent low-carbon state, offsets have the potential to lower the costs of a cap and trade program. The capped sectors face long capital turnover times, the requirement for new technological solutions, and similar factors all requiring a much extended timeline as compared to the more immediately deliverable transition solutions arising from biological sequestration opportunities in the farm and forestry sectors. As described in following responses, 25x'25 has addressed market pricing issues which arise from the legitimate concerns about sequestration, issues about market risks and reversals of biological carbon capture and storage.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

There are lessons to be learned from the European Union's Emissions Trading System (ETS). First, the EU ETS lacked a harmonized cap setting system, which made it difficult to build consensus on a fixed cap limit. The decentralized cap setting process is more a political manifestation of the multinational character of the EU than it is an inherent component of a cap and trade system (Ellerman et al., 2008). European Union Allowances (EUAs) were the sum of 25 or more separate decisions. A cap and trade system in the U.S.

should follow that of the U.S. SO2 program where the Congressional legislation set the cap and allocation and the registry is maintained at the national level.

Second, because the two trading periods: 2005-2007 and 2008-2012 were self-contained trial periods; price difference between trading periods arose. The price difference has been a recognized flaw of the EU ETS system (Ellerman et al., 2008). If the U.S. chooses a cap and trade system, it should allow banking and borrowing between trading periods so there is one price signal of emission reductions to the market.

Third, the EU ETS has been criticized for allowing windfall profits by some generators. While windfall profits can be attributed to an array of contextual, conceptual, and empirical issues, free allowances has been generally blamed for significantly higher profits by some generators. Auctioning allowances is an alternative (Ellerman et al., 2008).

Fourth, over-allocation of allowances can result in a non-binding cap. A cap expected to be moderately constraining can become non-binding when there is variation in business as usual (BAU) emissions, due to weather, economic growth or other factors. The cap that was expected to be a modest shortage now becomes a surplus (Ellerman et al., 2008). This could happen with the Regional Greenhouse Gas Initiative (RGGI) that also has a modest emission reduction goal.

Finally, the supply of allowances was fixed originally. The new suggestion is for the RGGI 2013 - 2020 cap to begin a decline indefinitely by an annual rate. In the U.S. system, the cap should decline over-time at an annual rate.

In respect to agriculture and forestry offset credits, the EU ETS does not accept any "biological sequestration" offset credits. This is mainly due to the inherent uncertainty of biological sequestration credits being permanent. It is widely acknowledged, however, that incorporating biological sequestration credits in future agreements will provide critical low cost abatement opportunities that are needed to reach the desired reductions. What is more, as describe below, 25x'25 has described a means to immunize the markets, offset credit buyers, and the entire program from this inherent uncertainty.

The Australian Emissions Trading Scheme is one international trading mechanism where forest sinks will likely be eligible. However, soil carbon credits will not likely be eligible (Depart. of Sustainability and Environment Melbourne, 2008).

Sources

- Ellerman, D.A., Joskow, P.L. 2008. The European Union's Emissions Trading System in Perspective. Pew Center on Global Climate Change. Washington, D.C.
- Victoria Government. 2008. Land and Biodiversity at a Time of Climate Change: Opportunities in Carbon Sequestration. East Melbourne, Australia

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

The 25x'25 Steering Committee expects and supports a voluntary offset program, which will serve the capped sectors through the delivery of low-cost offsets. By allowing the agriculture and forestry sectors to participate in an offset program as an uncapped sector, there will be a substantial increase in supply of offsets volumes, which will decrease the overall costs of the program to the public.

At the same time, as expressed elsewhere, the use of allowance set-asides is supported as a production means to both protect the integrity of the cap and advance the development of subsidiary objectives. 25x'25 has identified set-asides as able to contribute to objectives such as the development of new sector science in support of immature protocols which can subsequently deliver significant emission reductions.

In general, 25x'25 does not support performance standards, since they tend to be highly prescriptive in terms of dictating a choice of technologies and techniques. Further, research has demonstrated that performance standards are inefficient policy instruments. A market-based solution such as a voluntary offset program within a cap-and-trade system has been shown to have the ability to deliver significant volumes of reductions cost-effectively and thus, contribute to an overall reduction in the costs of the cap and trade program.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

The 25x'25 Steering Committee believes that a request for an artificial limit to the number of offsets is an historic artifact which will no longer be needed, given a properly designed national program. The economists and cap-and-trade experts have written about the economically inefficient and counterproductive nature of an offset limit. The main point delivered by economists is that limiting the amount of offsets arbitrarily will ultimately raise the costs of the cap and trade system. However, our response will not address the issue from this vantage point, although we agree setting an offset limit has such problems.

Instead, we will focus on the issue of why limits should no longer be needed and why those parties who have historically advocated for such limits may now be persuaded that they are not required, given an appropriate system design.

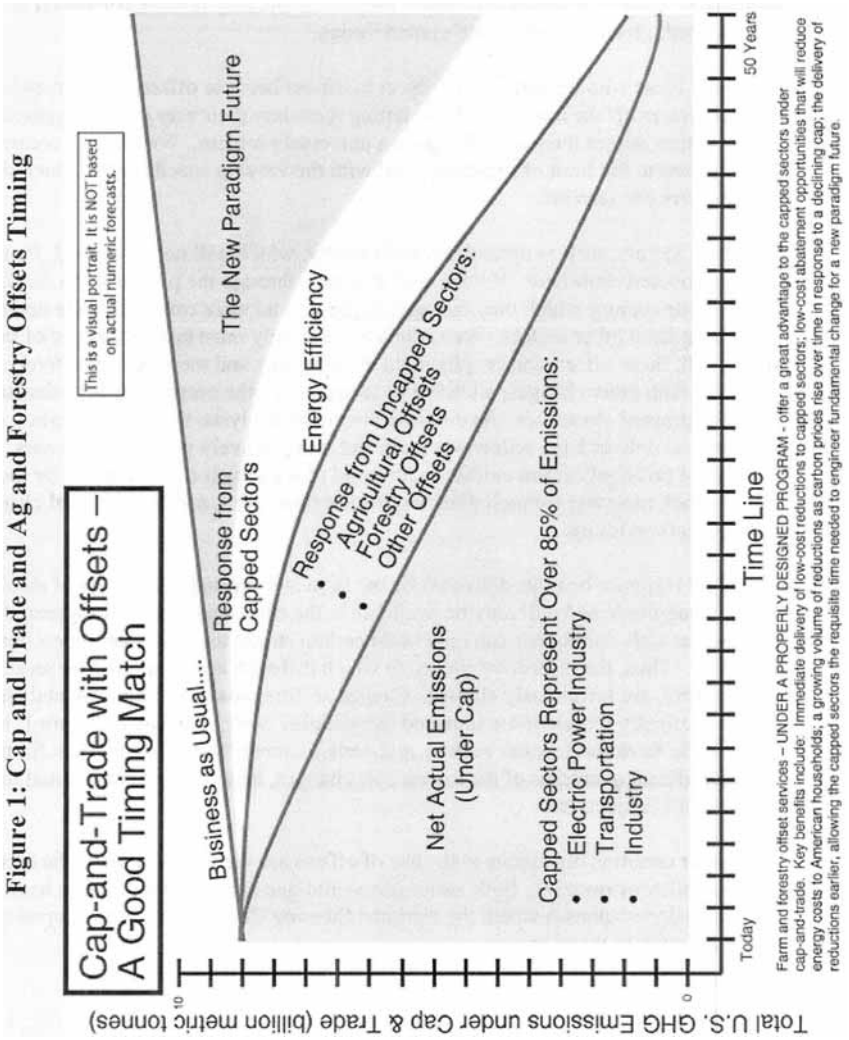
There are those who fundamentally object to offsets because offsets are seen as letting the capped sectors off the hook somehow, letting them buy their way out of responsibility. But this assertion misses the point. We have a universal problem. We must all contribute to the solutions to the limit of our means and with the varying speeds under which different stakeholders can respond.

There are sectors, such as agriculture and forestry, which will not be capped, for the valid reasons covered elsewhere. Yet these sectors can, through the power of the services of the lands of our country which they manage, sequester and store carbon dioxide emissions emanating from other sectors. As a country, we simply must take advantage of this power. Better still, these offsets can be generated more rapidly and more cost effectively in the short-run than other changes, allowing us to accelerate the progress against demanding, time-constrained objectives. As described by many analysts, these sequestration offset services can deliver large reductions early and inexpensively while other sectors, driven by the market prices of carbon emissions, respond at the slower rate mandated by the limits of capital stock turnover, technological innovation timescales, and fundamental changes tied to a low carbon future.

The rapid response benefits delivered by the farm and forestry sectors are of an ultimately limited magnitude and will only be available in the early stages of the program. It is known that soils and forests can only build carbon stocks to certain saturation limits, not endlessly. Thus, the respective cycles, to which different actors are tied for reasons beyond their control, are fortuitously aligned. Capped sectors must make fundamental changes which inherently require more time and carry higher costs. As seen in Figure 1, in the interim, the farm and forestry sectors, and certain other offset providers, can fill the gap with significant quantities of the lowest cost changes, benefiting the nation and the attainment of objectives.

Two other common objections to the use of offsets are the issues of scientific certainty and the possibility of reversal. Both issues raise valid questions and both issues have valid system design responses which the National Steering Committee has developed and articulates within this response.

Figure 1: Cap and Trade and Ag and Forestry Offsets Timing



Farm and forestry offset services – UNDER A PROPERLY DESIGNED PROGRAM - offer a great advantage to the capped sectors under cap-and-trade. Key benefits include: Immediate delivery of low-cost reductions to capped sectors; low-cost abatement opportunities that will reduce energy costs to American households; a growing volume of reductions as carbon prices rise over time in response to a declining cap; the delivery of reductions earlier, allowing the capped sectors the requisite time needed to engineer fundamental change for a new paradigm future.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

Domestic offset sources, as long as they meet stringent program requirements for acceptance, should not be distinguished or privileged one as compared to another. The production of domestic offsets also produces other local and regional environmental co-benefits, such as enhanced soil conditions, water quality and biodiversity.

The use of offsets from international sources is a more complex issue. The issues of trade advantage, government support, environmental integrity, offset additionality, program monitoring, and more, all surface when considering how different national systems may be linked to an uniform international solution. This National Steering Committee supports international cooperation and problem solving. We have begun to coordinate with farm and forestry sectors in other parts of the world. At present, we can only say that we want the issues to be solved comprehensively through the on-going UNFCCC process with which the United States is now reengaging with renewed vigor. Until the complex international agreements can be made and accepted by the U.S. Congress, it might be appropriate and prudent to proceed based mostly upon the known quality of domestic offsets meeting the U.S. program standards. The acceptance of international offsets, when properly structured, will not directly benefit the farm and forestry sectors, but is a clearly needed part of our global cooperation and coordination.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

We used question 18 below to list our top-level criteria: real, additional, etc.

As the nation's largest potential providers of offsets of CO_2, N_2O, and CH_4, the 25x'25 National Steering Committee does take a position on the issues about the nature of the tracking and monitoring systems to be required by an offset system. At present, our positions on this issue are practical, conceptual, and provisional. We would, however, welcome the opportunity to elaborate further on specific ideas.

Performance-Standards and Technology-Benchmarks. Operationally, the screening procedures and project monitoring and verification rules must accept some imperfection in order to avoid unacceptably high offset program costs. In general terms, this can be in the form of acceptance of individual project-type protocols employing performance-standards and technology-benchmarks in lieu of mandating project-specific data, monitoring, and accounting where arguably unnecessary.

Leakage is similar in some ways to the issue of sequestration duration in that unintended GHG emissions may occur. Leakage means that the planned rate of reductions might not materialize ex-post because they are increased elsewhere. Unintended emissions within a project's boundary require the project owner to solve the problem. However, leakage is often outside the project boundary and beyond the control of the project owner. For example, avoiding deforestation through an offset project in one area could simply shift the land demand, causing deforestation at a different location.

***Leakage** is defined as an increase in emissions outside of the project's emissions boundary that occurs as a result of the project's implementation.*

Recognizing that leakage is a shared problem, one solution is a program design that accounts for leakage using adjustment factors developed for specific activities and applied at the regional or national scales.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Qualified offsets must be the result of a well-constructed cap and trade program and its associated offset credits rules. Qualified offsets must be real, additional, verified, registered, fungible, and permanent (or of contracted duration).

Real means measured and quantified in a rigorous and approved manner.

Additional or surplus means that that they are beyond business as usual.

Verified means confirmed by approved independent third-party experts as in compliance.

Registered means to be included in a transparent and public fashion in a comprehensive registry listing.

Fungible means that an offset from a project is the same as an allowance. An offset and an allowance will have the same price and same character (e.g. $10 per metric tonne of carbon dioxide equivalent) and be exchangeable one for the other in an undifferentiated fashion.

Permanent refers to the character of sequestration which may be more precisely defined as meeting the contracted duration of sequestration (whether for one or fifty years).

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

The National Steering Committee has not specifically addressed this issue, but would expect to support a system of uniform, government-approved, independent agents or government employees, to perform these services. Either verification costs borne by

project owners should be set by the program authorities or the program should license and employ the verifiers directly and charge a uniform service fee.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

The answer to this issue must be specific to each type of offset project. Wherever the science and tracking methods are more certain, for example, a manure biogas project, standards are a possibility. Where there is great variability within a project type, for example, soil sequestration varies according to climate, soil type, tillage, etc., more gradients of practice standards might be needed and in highly unusual project cases, project-specific data might be required.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

The 25x'25 National Steering Committee strongly supports the necessity of full equivalence between offsets and allowances. Any deviation from this equivalence will generate distortions in the system that will ultimately translate in an increase in costs of the overall program. This fungibility will smooth market functioning and fully protect offset buyers from any project-specific offset risks. In fact, under our plan to corral the risk "behind the registry", offsets will NOT be associated with any individual project. In fact, given that an offset credit is exchangeable with allowances at the market price under all conditions, it could even be desirable to term them "allowances" once sold by the registry.

An offset program will benefit from a system design where each offset, once issued and registered by the program, is indistinguishable from every other offset and all offsets are fully fungible (fully substitutable) with allowances. This proposed approach is predicated upon a number of coordinated conditions as described herein.

***Permanence** refers to the length of time that carbon will remain stored after being sequestered in vegetation.*

Permanence is a type of project risk most often associated with biological and geologic sequestration of emissions. If fully fungible, an offset sourced from a biological sequestration project will be indistinguishable from a farm methane reduction, which involves no questions of permanence. This means that the permanence or duration issue for biological sequestration must be addressed at the project and program level in a way that ensures that individual offset credits, once issued and registered by the program, carry no risk-adjusted price discount and no price differential in the marketplace.

Agriculture and forestry entities understand that biological sequestration projects such as soil carbon, afforestation, or reforestation, possess inherent uncertainty and risk regarding the duration of the sequestration. These projects and their owners must account for this uncertainty, the issue commonly referred to as "permanence".

Fully fungible offsets will derive from a program design that accounts for, manages, and ameliorates the risk and uncertainty behind the registry and before offset credits are issued. The practical results are that offset buyers are fully protected from uncertainty. The risk and uncertainty are managed by the project owner and the cap and trade program itself, with the costs inevitably borne by the owners of sequestration projects.

Given the requirement for all offsets to be fungible post-registration, and given the duration uncertainty for sequestration projects, there are a number of tools that a cap and trade offset program may employ to accomplish the desired outcomes. Agriculture and forestry understand that individual sequestration projects face significant challenges to bring offsets to market, no matter which system is used. A system with fungibility, as recommended here, keeps the risk corralled behind the registry and away from the offset trading markets. An alternative cap and trade system approach demands risk-adjusted offset prices as the means to accommodate sequestration uncertainty, leaving buyers faced with variable risk and variable pricing.5

A cap and trade system designed around fungible offsets, must manage the uncertainty associated with sequestration duration behind the registry. It is possible to manage the uncertainty using a combination of tools. For example, risk-adjusted crediting rates can be employed. By crediting all afforestation projects of a given species in a given geographic realm at only a portion of the expected ex-post sequestration rate, the program and project can account for uncertainty such as forest fires.

Although full discussion of such details is beyond the scope here, agriculture and forestry prefer solutions for sequestration projects that use fixed, project-type factors for the discounted crediting-rates, the risk-adjusted crediting rates. While project protocols may allow for project-specific risk ratings, it could be too administratively burdensome to require that unique discount crediting rates be computed for each project. Agriculture and forestry prefer limited-life risk exposure for project owners via buffering mechanisms such as risk pools, insurance premiums, and other means administered at the central cap and trade offset program level.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

As described in #22 above, a fungible offset credit system completely shields the capped sector buyers from any considerations about permanence and duration. This issue is managed transparently, but entirely behind the registry, between project owners and the registry. The final details will require carefully planning, but are entirely manageable in a way which improves the functioning of the system.

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[5] An alternative is a system which brings sequestration offsets to market still bearing the risks of unknown duration. This latter system incorporates the risk adjustment for sequestration projects via market price discounts. These price discounts are the means for a market to account for the uncertainty. There is no fungibility between individual offsets and between offsets and allowances in this latter type of system.

The National Steering Committee assumes that there will be a discounted crediting rate for project owners when they list their offsets on the registry. The registry will sell offsets at the market price shared by both all offset credits and all allowances. The excess of the proceeds between the price received and the discounted credit rate proceeds paid out to project owners will be used to fund a risk pool. Under acts of nature which disrupt the permanence of biological sequestration, the pool proceeds will be used to buy replacement offset credits from other projects, such that at all times the program registry has taken responsibility for ensuring that every offset credit is full backed by a contracted-duration sequestered stock of carbon offsets.

There are key details to manage, but solvable ones. For example, the risk of reversal differs between soil carbon and forest sequestration. There will need to be differing discounted crediting rates which reflect the appropriate magnitude of risk and allow an ample risk pool to exist to protect the environmental integrity of the entire system under extreme outcomes. By being conservative on the front end to create an ample system-wide risk buffer, the program can later pay risk rebate dividends to project owners after the fact. Similarly, if risk is underestimated, the discounted risk-adjusted crediting rates will need to be flexible enough to respond to keep the risk pools healthy over time.

This solution set, which in short form we refer to as the "behind the registry" solution, fundamentally alters and answers a number of problems which have been identified from other programs.

Offset contracts of specific duration will form one of the basic cornerstones of this "behind the registry" solution under development by the 25x'25 organization.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

The National Steering Committee has expressed support for protection of early actors[6] so that they are not disadvantaged. In particular those offset markets that provide credits that are real, additional and verified should be recognized in a climate policy.

At the same time there is recognition that once an entity has been paid in a marketplace there is no expectation that they will be paid a second time. That same project should however, subject to meeting current program standards, be eligible to earn incremental offset credits on a forward basis.

There is also the recognition that not all voluntary market offsets and credits were created under standards with high environmental integrity and full transparency. In short, not all

[6] We use the term "early actors" to refer to uncapped sectors and the term "credit for early action" to refer to capped sectors.

claims are equal and there must be a process to decide which claims are in fact qualified and eligible for recognition.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Forest landowners and agricultural producers who have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions should be recognized under all policy options if the reductions are qualified offsets. That is, offsets are real, additional, verified, registered, and permanent (or of contracted duration). If the offsets meet this criteria they are "additional" to Business-As-Usual (BAU) and should qualify in any new regulated carbon policy.

"Stackable" benefits refers to the ability to benefit simultaneously from multiple governmental policies that pay for the protection or enhanced provision of ecosystem services. For example, if you receive Conservation Reserve Program (CRP) payments and also earn carbon offset credits for the increased soil carbon from the same land, the benefits are stackable. Stackable benefits arise when an action earns benefits in two or more different programs. Other programs where carbon offset projects might qualify for credits while receiving other, stackable, benefits are the USDA EQIP program and Conservation Security Program (CSP). These government programs can incorporate a carbon sequestration component as an additional ecosystem service payment.

While there may be challenges relative to additionality, payments for other ecosystem services such as water quality improvements should not be precluded by participation in the carbon offsets markets; rather participation in multiple ecosystems services marketplaces should be allowed; the benefits should be “stackable”.

One way the government could incorporate biological sequestration credits in a program like CRP is to pay an additional "top up" payment for the additional environmental attribute provided by the landowner. CRP currently uses an environmental benefits index (EBI) to rank the environmental value of the land according to multiple physical attributes, i.e. soil, land use type etc. Carbon could be one more ecosystem service added to the EBI so that landowners are rewarded for the additional effort in providing that service.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Please see prior response under #24 on stackability.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?

Please respond in 300 words or less.

Please see prior discussions under #22

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

The agriculture and forestry sectors believe that effective program administration will entail the use of the USDA, in collaboration with EPA, to oversee offset project protocol rule development and implementation in these sectors.

Offset project protocols need to be very specific to each type of activity and their development will be facilitated by the deep domain knowledge available only through the USDA resource. The development of the details of each protocol type for these sectors must be delegated to the USDA, operating within an overall program administration by EPA.

Protocol development must bring scientists, sector experts, carbon market knowledge, and overall program rules into alignment. There must be a clear and direct methodology spelled out to develop and add protocols for entirely new activities for which no protocols have historically been developed. An example might be the capture of enteric methane emissions in a ventilated barn. If proven practical, then we should allow new reduction opportunities to be inserted into the program quickly and seamlessly, subject to compliance with all normal stringency regarding basis in science, measurement, monitoring, and eligibility.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

There is need for a program which balances overall rigor and record keeping with the demands of small incremental projects spread over a large number of participants but yielding substantial cumulative gains.

If there is not a net cost effectiveness for the offset provider, the voluntarily practice changes will not be undertaken.

The program should recognizes the substantial co-benefits of many practice changes, such as the water and air quality improvements associated with a farm methane capture project.

A program design is needed which does not create perverse incentives. For example, there could be a benefit for low-tillage which inadvertently incents an existing practitioner – one not recognized under early actor program rules - to cease conservation tillage in order to resume it subsequently for offset credits.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

There are several conservation and forestry programs that provide incentives for implementing practices that reduce greenhouse gas emissions, such as Section 9007 of the current U.S. farm bill that provides funds for renewable energy systems, such as anaerobic digesters. The 2008 Farm Bill allocates $255 Million to eligible projects between 2009-2012, not all of which focus on GHG emissions reductions, but some that do reduce emissions as a co-benefit of renewable energy. Other programs like the Conservation Reserve Program (CRP) provide rental rate payments for vegetative set-asides (i.e. buffers) to improve water and soil quality. While CRP focuses on soil and water quality payments, the approximately 34 million acres enrolled in the program also sequester large amounts of carbon. In FY 2009, USDA allocated $1.8 billion in CRP payments to 430,000 U.S. farms.

While programs such as the 2008 Farm Bill Renewable Energy Provisions and CRP provide incentives for ecosystem service provision and co-benefits of GHG emissions reductions, avoidance or sequestration, they are not sufficient to reach the necessary reduction level. The National Steering Committee takes the position that Congress should allow the agriculture and forestry sectors to provide carbon offsets as an uncapped sector. Allowing the agriculture and forestry sectors to participate in offset markets will provide the necessary incentives for farmers and foresters to internalize GHG reductions, avoidance or sequestration into their business decisions.

Education, outreach and research of emissions reductions, avoidance and sequestration are critical to accelerate the adoption/ implementation. The government can play an important role in providing information and technical services to landowners to preserve existing stocks. USDA has historically provided information through its research, extension and education programs that are tied to State Land Grant Universities and Cooperative Extension Services. These programs, such as workshops, conferences, tours and classes can help landowners implement these sequestration activities.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Offsets must be registered based upon reductions verified ex-post; no forward crediting will be allowed.

Under cap and trade, the system design must identify and guard against potential perverse outcomes such as the temporary cessation of a practice in order to restart the same practice as a qualified additional project earning offsets. The cap and trade system design must guard against unintended collateral consequences and perverse incentive, such as water quantity or quality degradation impacts.

The answers to this table are based on the following definition assumptions. **Effectiveness** refers to the ability for that particular activity to sequester, reduce or avoid GHG emissions relative to total U.S. emissions. **Ability** to verify refers to whether that activity can be verified by a third party, independent verifier and if the activity is real, additional, and permanent. **Cost** for the agricultural producer refers to opportunity cost and fixed up-front cost to engage in that specific activity. **Capacity** refers to the ability for the producer to implement that activity immediately which is a function of several factors, including knowledge, cost, technology and whether the science is strong enough for the activity to be accepted in the marketplace. That is, the offset is real, additional, permanent, and verifiable.

Effectiveness is difficult to summarize in some cases because for the categories listed below there are multiple sources that have different effectiveness levels. For example, Avoided Fossil Fuel Emissions includes liquid transportation fuels, thermal biopower, renewable electrical power all of which have different effectiveness on avoiding fossil fuel emissions.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Reforestation	Excellent	Excellent	Low	High
Afforestation	Excellent	Excellent	Low	High
Forest Management	Good	Good	Low	High
Reduced emissions from deforestation and degradation (REDD)	Moderate	Moderate	Moderate	Medium
Harvested wood products	Excellent	Excellent	Low	High
Urban Forestry	Low	Moderate	High	Low

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Manure (CH_4) Emissions Reductions (e.g. anaerobic digesters)	Good	Excellent	High	High
Enteric Fermentation (CH_4) Emissions Reductions	Excellent	Moderate	Medium	Low
Manure (N_2O) Emissions Reductions - manure treatment stages	Good	Moderate	Medium	Low
Biological soil sequestration-grazing practices	Good	Good	Low	High
Manure- Avoided Fossil Fuel Emissions (e.g. electricity generated from digesters and sold to the grid	Excellent	Good	High	High

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Fertilizer (N_2O) Emissions Reductions	Good	Moderate	Low	Medium
Manure (N_2O) Emissions Reductions - field application	Good	Moderate	Low	Low
Biological soil sequestration (e.g. tillage, crop rotations, cover crops)	Excellent	Good	Low	High
Avoided fossil fuel emissions from substitution for fossil fuel combustion (e.g. ethanol or biodiesel for liquid transportation fuels; grasses, woody biomass or cellulose for thermal biopower; grasses, woody biomass or cellulose for renewable electric power).	Excellent	Excellent	Low	High
Avoided fossil fuel emissions from operation efficiency improvements	Good	Excellent	Medium	Medium

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
ADVANCED MICROBIAL SOLUTIONS
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

David Lanciault

Organization(s) you represent

Advanced Microbial Solutions

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

David Lanciault, President and CEO, Advanced Microbial Solutions

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

In a time of economic uncertainty, Congress should be very mindful of the costs of any greenhouse house reduction program on the U.S. economy. Tax credits and incentives should be a key component of any carbon reduction scheme.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Any carbon reduction scheme should be mindful of not only the costs to agriculture, but also the benefits associated with agricultural production including the ability of growers to sequester carbon and the production of green plants that use carbon and produce oxygen. Agricultural and forestry sectors should not be required to buy emissions allowances, but should be encouraged to reduce their greenhouse gas emissions through an offset program in which growers may receive saleable offset allowances if they institute a practice that reduces emissions in a measurable and verifiable manner.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Any new federal program should preempt all other state or regional greenhouse gas programs in the United States. A patchwork of federal, state and regional programs will create confusion and difficulty with compliance.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

The U.S. Department of Agricultural should have primary jurisdiction over issues related to agricultural land use and the development of agricultural offset credits.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

Any type of carbon reduction scheme would lead to greatly increased costs for the agricultural community. Such a scheme would greatly increase the costs of nitrogen fertilizer, as well as increase the cost of gasoline and diesel fuel used in farm machinery, natural gas used for drying and heating, and electricity used throughout the farm – as well as the price of propane, heating oil and any other fossil fuel that may be used. These direct impacts are in addition to the many indirect impacts that will certainly occur, as manufacturers of farm supplies and equipment attempt to pass through their own cost increases. In short, a carbon tax or cap-and-trade program will impose a heavy burden on the agricultural sector.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

In order to offset the costs to growers, Congress should provide meaningful incentives for the use of practices that promote efficiency and reduce greenhouse gases. Growers should receive some type of saleable credit for the sequestration of greenhouse gases, as well as for practices that promote the efficient use of fertilizer or other energy; or that enable greenhouse gas reducing efficiencies.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected

agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

Any carbon reduction scheme should recognize agricultural or forestry practices which reduce or sequester greenhouse gases without significantly reducing crop yields or significantly increasing the cost of food. Such practices may include:
1) practices that increase the efficiency of fertilizer;
2) soil reclamation programs using biological and other technologies to improve soil health and reduce nutrient volatilization and runoff;
3) Enhanced use of biochar (pyrolized waste materials that can be a means of sequestering carbon for use in agriculture);
4) livestock and manure management;
5) forestation of acreage other than existing croplands; and
6) the installation of new areas planted to turf grasses, perennial vegetation, or trees.

In terms of efficient fertilizer practices, there are several additives that can reduce the efficiency of nitrogen fertilizer such as microbial additives or other technologies. These technologies allow growers to reduce their fertilizer use, and the associated greenhouse gas emissions, without reducing crop yield and without jeopardizing the food supply.

Congress should not award offset allowances to projects that take croplands out of service or reduce crop yields by curtailing fertilizer use. Any incentives to take cropland out of production would jeopardize the security of the food supply.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

Congress should not limit the total number of offsets issued annually. Limiting the number of offsets would be counter to the goal of reducing greenhouse gas emissions. All verifiable offsets should receive appropriate credit.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

Since there should not be a limit on the number of offsets, there should be no need for any prioritization. All eligible and qualified projects should receive offsets. In the event that some limit was required, projects from the agricultural sector should be given high priority.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

The U.S. Department of Agriculture should be charged with developing measurement criteria for agricultural offsets. It is appropriate to use third party aggregators for monitoring and verification.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Offset projects should include quantifiable and verifiable emissions reductions.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

The U.S. Department of Agriculture should be charged with designing a system for certifying offset projects.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

The offsets and allowances should be equal; one carbon offset should be tradable for one carbon allowance. In addition all greenhouse gas emissions -- including nitrous oxide and methane -- should be convertible to carbon offset equivalents and should be tradable in a similar manner.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Congress should allow existing offset projects or credits established through a voluntary market system to receive offsets or credits under a new carbon reduction scheme, provided those projects meet any new regulatory criteria.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Landowners should be allowed to stack credits. Early movers who have adopted green house gas reducing practices should be able to receive offset credit for offset practices already established since these practices will continue to reduce emissions. For example, a landowner currently using a conservation practice such as continuous no-till should be able to participate in a carbon sequestration since this practice will continue to sequester carbon in the future. The same is true of practices that promote efficient fertilizer use. A grower currently using a fertilizer additive that reduces greenhouse gas emissions should receive credit for all subsequent production, provided the grower continues the use of the additive during subsequent growing seasons.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Any practice that reduces or sequesters carbon or other greenhouse gases should receive offset credits, regardless of whether or not the practice has been paid for in part by other programs such as the Environmental Quality Incentives Program. The offset credit should further incentivize behavior and should be based on the amount of greenhouse gases sequestered or reduced. Limiting the offset based on any other financial or technical assistance received would only serve to limit new offset projects and therefore potential emissions reductions.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Producers should not be held liable for the failure of offset projects due natural disasters or other events beyond the control of the producer or landowner.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

The U.S. Department of Agriculture should be charged with developing appropriate regulations that govern agricultural offset credits or incentives.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Existing conservation programs focus on many different priority areas including water quality and quantity, nutrient and manure management, and greenhouse gas reductions. However, funding for those programs, with their multiple priorities and limited financial resources, is not large enough to incentivize the desired greenhouse gas reductions. Further, those programs do not account for the financial burdens that will be placed on growers as a result of increased production costs including higher fertilizer and fuel costs. The offset credits in a greenhouse gas reduction scheme must recognize these additional burdens placed on growers.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Use of additives and amendments that increase nutrient use efficiency and thereby reduce GHG emmissions	Excellent	Excellent	Low (may actually reduce net grower input costs)	High
Soil/land reclamation in areas where agricultural production has been impaired by deteriorating soil quality	Excellent	Excellent	Medium (cost may be reduced through the use of biochar, organic matter use (from manure) and biological amendments	High
Use of biochar materials as part of organic matter supplement programs	Excellent	Excellent	Medium to high (but offset by value creation in crop production	High

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
AGRICULTURAL RETAILERS ASSOCIATION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name: Carmen Haworth

Organization(s) you represent: Agricultural Retailers Association

Address:
[Redacted]

Email:
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

I am responding on behalf of the Agricultural Retailers Association as staff for the association. I am ARA's Public Policy Counsel.

Part I: Carbon Reduction Program Design

1. Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?

Congress should enact a carbon tax to address climate change issues. A carbon tax would be the most efficient program for reducing greenhouse gas (GHG) emissions. Under the carbon tax, Congress would set the tax coupled to each ton of carbon dioxide (C02), and the IRS would collect the tax from covered entities.

The benefit of using a carbon tax program is that the governmental infrastructure for administering the program is already in place. Also, a carbon tax is a straight-forward way of controlling greenhouse gas (GHG) emissions that businesses are already experienced in budgeting and dealing with accounting. A cap-and-trade system would bring about a new and complex system of taxing businesses. Next, a carbon tax would ensure that revenue from the program flows directly to the Treasury. This would guarantee that businesses are not taxed on GHG emissions, while speculators have the opportunity to profit at U.S. business' expense. Finally, a carbon tax would give the government long-term flexibility in managing the program. The tax could be adjusted to meet the GHG emissions reductions targets, and be flexible enough to allow flexibility in protecting US businesses from domestic and international market conditions that are unforeseeable.

2. Should the agricultural and forestry sectors be covered under a carbon reduction program? Why or why not?

The agricultural and forestry sectors should not be covered under a carbon reduction program. The measurement and enforcement issues associated with GHG emissions in the agricultural and forestry sectors are simply too complex since these industries rely on biological processes that use GHG. It would be extremely difficult to measure the emissions of a farm and/or ranch. One would need to consider and accurately measure an unlimited number of possible variables- the type and size of livestock, the management of manure, the type of crops, the type and use of fertilizer, the tillage practices that are employed, and the waste and refuse

disposal practices that are used. Correspondingly, forests' GHG emissions depend on a number of difficult to measure factors- the amount of decaying wood, forest fires, and geographic area.

However, the agricultural and forestry industries should be addressed through an offset program (see response no. 14), since the agricultural and forestry sector have the potential to contribute positively to GHG level reductions. Those involved in agriculture and forestry should be encouraged to reduce their GHG emissions by making them eligible for an offset program. Under such a program, a farmer can receive saleable offset allowances if he or she is able to isolate and measure emissions from a particular source on the farm, and then establish a practice that reduces those particular emissions in a measurable, verifiable and non-reversible way.

3. If a cap-and-trade program is chosen, how should emissions allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both?

Emissions allowances should be distributed by a combination of methods- no cost and auction. Industries who sell energy-intensive commodity products in the global market should be eligible for transition assistance. Thus, these industries should be eligible to receive no cost allowances. This will help domestic energy-intensive industries compete in the global market, and encourage them to continue business in the U.S.

The remaining allowances should be distributed through auction. Each covered entity should be able to bid for a number of allowances equal than or less than the number required to cover its own emissions in the previous year. Further, no speculators should be allowed to participate in the auction; thus, limiting fraud and profiteering.

This allocation system would help control the cost of transition and compliance. It would also help ensure that all of the allowance revenue is paid to the Treasury.

4. Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs? If so, which programs and why?

Any federal carbon reduction program should explicitly preempt all other state or regional GHG emissions programs in the United States. Covered entities will have a significant burden complying with a new federal program; they should not be subjected to more than one

carbon reduction program. If a business had to comply with both a Federal program and a regional program, the business would be at a significant competitive disadvantage.

However, in the implementation of any federal program, special notice should be given to established, successful GHG emissions programs. These established programs may provide an easy blueprint for a federal program. For example, if a cap-and-trade system were adopted, the Chicago Climate Exchange has already been established to provide a legitimate marketplace for GHG allowances.

5. If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Existing agencies should pool their strengths in areas of expertise to facilitate a cap-and-trade system. The Environmental Protection Agency (EPA) should oversee areas of the program that relate to science and the framework of the program. The Department of Energy (DOE) should oversee areas of a cap-and-trade system that interact with the energy markets, and DOE should have some control of overall energy supply, demand and security. The U.S. Department of Agriculture (USDA) should have jurisdiction over administering any agriculture and forestry offsets program. Finally, the U.S. Commodities Futures Trading Commission (CFTC) should have oversight of any derivatives or futures market that results from a cap-and-trade program (see response no. 6).

6. If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the CFTC continue its role as the regulator of this derivative carbon market or should there be a different regulator?

The American Heritage Dictionary defines *Commodity* as "an article of trade or commerce, especially an agricultural or mining product that can be processed and resold." The CFTC was created in 1974 with the mandate to regulate commodity futures and option markets and has since reformed to cover a vast array of highly complex financial futures contracts. If the proposed cap-and-trade program results in traded carbon credits over the market, then since carbon falls under the definition of commodity, the trades should be regulated through the CFTC. The CFTC is already established and experienced at regulating the commodities market.

7. Currently, derivatives of energy-based commodities can be traded through: (a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; (b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants; or (c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants. Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?

After experiencing the fluctuations in prices over the past year, it is evident that all commodities should be traded with highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone. Options b and c allow very limited observation and analysis, which leaves many interested parties out in the cold. The more transparent the trades, the easier it is to ensure trading is done ethically and lawfully. Transparency and regulation on exchanges really are our safest routes to honest, legitimate, supply and demand oriented markets. The more light (transparency) cast on a market, the better. Structure, regulation and transparency are our allies. They may not prevent abnormalities, but statistically, the worst anomalies have been found on unregulated, "dark markets" (b and c).

Options b and c also raise issues of counterparty risk, which is not the case in highly structured exchange-traded markets with a *clearing house* setup. Counterparty risk is the reason the federal government felt it could not allow AIG to fail. From a trading perspective, the last thing you want is to spend half your hedging resources on investigating which companies you can or cannot trade with, especially in the existing environment.

However, ARA believes that a better mechanism for distributing allowances is by giving a portion out for free and auctioning the rest of the available allowances to covered entities (see response no. 3).

8. Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community?

Yes, any carbon reduction program will have considerable negative impacts for rural America and populations whose welfare is of special interest to the agricultural community. A carbon reduction program would result in increased input costs for agriculture, especially fuel and fertilizer. The program will increase the price of fossil fuels- gasoline and diesel fuel used in

farm machinery, natural gas, electricity used throughout the farm, as well as the price of propane and heating oil. Populations in rural America must travel greater distances in commerce, so the increased fuel price will be a greater burden to all rural Americans. The cost of fertilizer will be driven up significantly because natural gas is a feed-stock to nitrogen fertilizer. Furthermore, other agricultural costs of production will likely rise- transportation, pesticides, farm equipment, etc. Particularly, the price of fertilizer is especially correlated to the demand and supply of natural gas (see response no. 10).

9. How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Revenue generated under a carbon reduction program should be used in two ways to offset any negative impacts- 1) carbon reduction technology/ process research, and 2) tax relief for end-users of fossil fuels.

Revenue should be used to further research carbon reduction technologies and processes, i.e. carbon sequestration. The cost of complying with any carbon reduction program would be significantly less for those covered under the program if there were technologies and/or processes readily available that would help reduce their GHG emissions without decreasing productivity.

Additionally, revenue from any program should be used to relieve the burden on the end - users of fossil fuels and bi-products of fossil fuels, such as fertilizer manufacturers and consumers. Those covered by the carbon reduction program will pass along the cost of complying with the program to their customers, and ultimately the end-users will be stuck with the cost of the carbon reduction program. Relief should come in the form of tax breaks for this segment of the economy.

10. Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Businesses that fall under the cap-and-trade program should be given transitional assistance in the form of help adopting new technologies that decrease GHG emissions. This would result in achieving the program's purpose- reducing GHG emissions while decreasing the

burden for businesses to adopt new technologies. Also, if there was a market for the new technologies, companies developing them would have greater incentive to increase R & D on the technologies and processes. Some of these businesses should also be helped in the transition by giving them transition assistance in the form of no cost allowances.

Businesses that are affected indirectly, i.e. higher fuel or fertilizer costs, should be given transitional assistance in the form of a tax break for input costs that rose as a result of cap-and-trade (see response no. 9).

11. What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

The agencies responsible for managing public lands should consider using the lands for carbon sequestration and offset projects that would reduce GHG emissions. Before any project begins, the proposed projects should be carefully reviewed and be available for a public comment period. Government revenue resulting from offset projects on public lands should be used to maintain public lands or as suggested previously (see response no. 9).

12. Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Limits on carbon prices should be established. The purpose of a cap-and-trade system is to lower overall GHG emissions, not to closedown businesses. Limits on the carbon prices would allow businesses to make long-term investment decisions and budget. Without limits, businesses will be subjected to the mercy of both a volatile carbon market and a higher fuel price.

13. What, if any, lessons should be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed?

Several lessons should be learned from the European Union's ETS. First, complete and accurate data is needed to properly allocate allowances. In the EU, the lack of accurate data prior to implementing the program resulted in overallocation of allowanced to emitters.

Second, suppliers will quickly factor the price of emissions allowances into their pricing and output behavior (see response no. 9, 10). In the EU, electric power generators passed along the costs of their free allowances based on market value of the allowances, resulting in windfall profits. Since the US is dependent on coal for electricity, it will be important to regulate the energy markets so that the end-users do not suffer.

The third lesson is that an efficient allowance market is made possible by the frequent dissemination of information about emissions and allowance utilization (see response no. 7).

Finally, it should be understood that any carbon reduction program will be highly complex in the manner that it affects the marketplace. To avoid unintended consequences, any carbon reduction program should take into consideration the interaction between allowance allocation, allowance markets, and the energy markets.

Part II: Carbon Reduction Program Administration and Implementation.

14. What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

While agriculture and forestry should not fall under a carbon reduction program, a voluntary offset program with bonus allowances for selected agriculture and forestry activities would be most effective for these industries. Participants in carbon sequestration should be able to voluntarily decide whether they would like to adopt processes to sequester carbon or reduce GHG emissions in their operation. If they do decide to adopt these practices, they should be able to qualify for offsets in the form of "bonus allowances". By this, I mean that an offset would be equal in value to an allowance, and offsets would be in addition to the amount of allowances issued. No agriculture or forestry carbon reduction program should take land out of production because the nation's future food security depends on the continued ability for farmers to meet growing food, fiber, and renewable fuel demands.

15. Should the number of total offsets issued annually by the government be limited? If so, how much?

The number of total offsets issued annually by the government should be unlimited. Offset projects result in a net reduction of GHG, which is the goal of any climate change policy. Carbon reduction projects should be encouraged, and allowing offsets to be unlimited will encourage the adoption of processes that reduce GHG.

An offset should be equivalent to an allowance (1 ton of CO2), so that an offset measurably reduces GHG. Offsets should be measurable and verifiable.

Allowing unlimited offsets will additionally help manage the cost of complying with a cap-and-trade system. If businesses are given access to an additional source of allowances, the total cost of those allowances may decrease, resulting in the target reduction in carbon and lower compliance costs.

16. How should Congress prioritize the distribution of available offsets?

Since the offsets should be unlimited (see response no. 15), anyone who has a verified project should be able to receive offsets.

17. What should the criteria be for measuring (quantification, verification and monitoring) and accounting for the legitimacy of offsets under the program?

All offsets should be issued on a retrospective basis. Projects should be verified by a third party, which is registered with the agency with oversight. The verifiers should be accredited, for instance, by the American National Standards Institute (ANSI) standards. The third-party verifiers should adhere to standardized rules for issuing offsets. Project applicants should demonstrate clear ownership rights of the emission reductions. Offset verification reports should be filled out and filed by the third-party verifier. Then the verification reports should be inspected by the Financial Industry Regulatory Authority.

18. What should be the criteria for assessing offset projects?

Offset projects should be real, measurable, and scientifically- verifiable.

19. How should Congress design a system for verifying offset projects?

The Chicago Climate Exchange (CCX) already has a system in place for verifying offset projects. Much could be learned from CCX's offset verification system. The important part of the system is that there is an established third-party verifier and that the offsets are real, measurable, and scientifically-verifiable.

20. Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?

Congress should establish a project-based approach that measures field results for establishing eligible offsets under the program. The only way to ensure that an offset results in a net reduction in GHG is to actually measure the results. The purpose of an offsets system would be compromised if it were not based on actual results. Also, participants whose projects exceeded projected sequestration targets would be rewarded for their results.

21. What should be the relationship between offsets and allowances?

A set number of allowances distributed, and offsets should be treated as an additional allowance under a cap-and-trade system. For each ton of carbon dioxide that is sequestered, the project owner would be eligible to receive an offset. The offset would be equal to an allowance under the program because they both represent the same amount- a ton of carbon. The offset owner could then sell the earned offset to businesses that fall under the cap-and-trade system. These businesses should be able to purchase limitless offsets to cover GHG emissions which are not already covered by allowances.

22. Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?

23. How should Congress address existing offset projects or credits established through a voluntary market or system (e.g. the Chicago Climate Exchange or an emission registry)?

The existing projects should be verified under any new verification process and/or standards that are created under a federal program. If verifiable under the new standards, the projects should be treated as any other offset project verified under the program. Further, there should be only one market system for the offsets, which federally preempts all other markets.

24. The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?

Early-actors should be able to come into an offset program without issue. The point of the offset program is to reduce GHG emissions; if a project is resulting in a reduction of GHG emissions then the owner should qualify for an offset. Early-actors' participation in carbon sequestration should not be taken for granted. A moral hazard may be created if those already participating in sequestration projects found out that established projects would not qualify for a federal offset program. They may be encouraged to stop their sequestration practices and restart them when the federal program is developed.

Land owners should be allowed to stack credits. If a carbon sequestration project accomplished more than one goal that has been identified as important environmental goals, then the project effectively meets more than one environmental policy goal, and the landowner should be completely rewarded for those efforts.

25. How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not scientifically implemented to address carbon sequestration or greenhouse gas emission reduction?

Offset program participants whose activities are paid for by Federal or state programs should receive a prorated percent of the offsets that resulted from the project. For example, a landowner began an offset project where the state paid for 30 percent of the cost of the project, the federal government contributed 20 percent and the landowner contributed 50 percent; and the project resulted in 100 tons of carbon dioxide sequestration. Then the state would receive 30 offset credits, the federal government would receive 20 offset credits, and the landowner would receive 50 credits.

If the practice results in scientifically measurable GHG reduction, then the project should be eligible for offset credits. The original purpose of the project would not make a difference on the project's net result with regard to GHG emissions or carbon sequestration.

26. Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?

Offsets should be given retrospectively (see response no. 17), so there should be few instances of an offset project not sequestering carbon or reducing GHG emissions. In the event of a natural disaster or other act of God, the project owner should not be required to return revenue already paid for the project. Since revenue would be paid retrospectively, the income received would be for past efforts. However, the government should use revenue generated from the cap-and-trade system to buy the equivalent amount of offset credits that were lost in the event from the market so that there is not a gain in GHGs.

27. Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Authority to develop regulations for the offset program should be delegated to the appropriate government agency. Agencies have staff with expertise in these highly scientific practices and a broad knowledge of the businesses in which they occur. The regulations would

be better written by agency specialists. For agricultural offsets, the US Department of Agriculture (USDA) would be the appropriate agency to develop the regulations. The USDA has expertise in both the farm production and forestry industries. Accordingly, it would be appropriate for the USDA to develop the regulations that involve regulations for the entire agriculture industry.

28. What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Potential obstacles to implement practices and technologies are cost, training, availability of technology, practicality, and education.

29. Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

The Technical Service Provider Program (TSP) could potentially provide technical assistance to speed up adoption and implementation. Farmers could use the TSP to develop nutrient plans, learn new farming methods, and implement carbon sequestration processes and technologies. However, funding for the TSP program is crucial. The program has been underfunded and the definition of "fair and reasonable" should be clearly defined so that farmers can use the TSP program to adopt new practices.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be covered by the questionnaire, such as low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Biofuel and renewable energy incentives play a crucial role in jumpstarting and sustaining the research and development of alternative fuels. The country needs alternative fuels to minimize the pollutants that are released into the air as well as our dependence on foreign born energy resources. However, it is important to note that we also need to utilize domestic supply

of both oil and natural gas. It is important that we expand our domestic oil and natural gas production to meet the immediate energy demands for manufacturers and consumers. ARA is a member of the Ag Energy Alliance that supports domestic fuel production, including offshore drilling.

Since we have not developed the technology to be sustained by renewable energy, the production of fuel and biofuel is important. The development of renewable energy will not be successful without a comprehensive energy plan to support it. ARA has been a proponent of the 25 x '25 initiative. The goal for farms, ranches, forests, and other working lands to provide 25 percent of the United States' energy needs from renewable sources by 2025 would greatly reduce the amount of carbon emissions that are released into the atmosphere. ARA believes that this initiative stands to make the U. S. agricultural and rural economies even stronger than they are today.

RESPONSE TO QUESTIONNAIRE SUBMITTED BY AGRICULTURAL CARBON MARKET WORKING GROUP

April 7, 2009

Mr. Collin C. Peterson
Chairman
House Committee on Agriculture
Room 1301
Longworth House Office Building
Washington, D.C. 20515-6001

Dear Mr. Peterson:

Please find enclosed the questionnaire responses from the Agricultural Carbon Market Working Group (ACMWG). The ACMWG appreciates the opportunity to provide information to help the Agricultural Committee Members better understand the role of agriculture and forestry in the climate change debate.

The ACMWG is unique for the agricultural industry in that it is comprised of national farm leaders from all three major commodities, the biofuels industry, and other key agricultural stakeholders. Together we have spent four years studying and addressing potential carbon offset markets for agriculture that could result from national policy. As a coalition, in addition to working with our representative agricultural organizations, we also work with other entities interested in seeing carbon markets for agriculture, such as nine land grant universities, Consortium for Agricultural Soil Mitigation of Greenhouse Gases (CASMGS) and the Environmental Defense Fund.

Again, thank you for the opportunity to provide information on the role of agriculture and forestry as carbon mitigation options. It is our hope that the AGMWG can be a resource for key policymakers who are interested in the role agriculture can play to mitigate greenhouse gases and develop new value-added carbon markets for agriculture. Together we can work to create the kind of policies that are good for agriculture and rural America. Please don't hesitate to contact me directly with any questions at 307-683-2730 or visit our website at www.agcarbonmarkets.com for more information.

Sincerely,

<electronic signature>

Laura Sands
Coordinator
Agricultural Carbon Market Working Group

www.agcarbonmarkets.com

Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Laura Sands

Organization(s) you represent

Agriculture Carbon Market Working Group

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Coordinator of the Agriculture Carbon Market Working Group

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?

Please respond in 600 words or less.

- We SUPPORT a cap-and-trade program as the most effective way to reduce emissions of greenhouse gases while minimizing the cost to taxpayers and the economy.
- A cap-and-trade program that does not include the agricultural and forestry sector under the cap, but allows for agricultural and forestry based offsets to be traded as credits for compliance, would provide the best method of combating climate change.
- A cap-and-trade program allows for those entities that are regulated, or under the cap, to reduce carbon emissions by using the most cost effective abatement methods. In this way, each entity has a choice to either reduce or incent others to reduce, instead of paying a flat fee or using reduction methods if they are cost-prohibitive.
- Allowing offsets to compliment allowance trading further reduces the cost of complying with the cap, especially in the short term for capped sectors.
- We OPPOSE a carbon tax/fee approach. Carbon taxes/fees do not create a market for capped sectors to meet reduction requirements in the most cost efficient manner possible. Levying a carbon tax also takes away incentive for effective, innovative, and cost efficient offsets to be researched and implemented; limiting possible methods to reduce GHG levels. A tax would also prohibit the agricultural and forestry sectors from participating in a multi-billion dollar offset trading market.
- A carbon tax or fee does not limit GHG emissions to a certain level in the same way as a cap-and-trade program; rather, it levies a penalty in an attempt to change behavior and thus GHG emissions.
- A hybrid of a cap-and-trade program and carbon tax is also unnecessary. Reduction levels can be met by reducing the total number of carbon permits allowed in the marketplace over time. Also, including the sale of offsets in a cap-and-trade program acts as a natural price regulator, because the option of purchasing offsets significantly lowers the cost of complying for capped sectors.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

Please respond in 300 words or less.

- Agriculture and forestry should not be considered a capped sector in a cap-and-trade system. There are too many small sources of GHG emissions within the agricultural and forestry sectors to be tracked efficiently and effectively. The most effective way to address these types of emissions is through voluntary incentive programs.

- Both sectors should be allowed to produce and sell offsets to capped entities, which will lower the overall cost of compliance to the economy. This will also allow farmers and foresters the opportunity to contribute to and take part in new economic growth.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

- At the start of the program a balance should be struck between distributing allowances for free, as transitional assistance, and the auctioning of allowances.
- Distribution can be tapered over time so that fewer allowances are being distributed for free.
- The distribution of free allowances should be prioritized to actions and practices that will result in the lowest cost to the consumer.
- Allowances for the agricultural and forestry sectors should be allocated at no cost, thus incenting carbon reduction and carbon sequestration projects, the availability of which provides the most flexible cost containment opportunity in a cap and trade program.
- A portion of allowances should be distributed to early actors, or 'green pioneers', who have taken steps to reduce or sequester carbon before a cap was enacted, but after an established target baseline.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

- No single mandatory program has developed a comprehensive offset mechanism.
- A newly created nationwide cap-and-trade program should include a robust offset mechanism that includes reduction models for all greenhouse gases.
- Current voluntary markets have limited accountability and may not be stringent enough to meet standards for measuring, monitoring, and verification of offsets.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

- A combination of existing agencies should be used to regulate a newly created cap-and-trade program.

- The program should rely heavily on the USDA to administer the development and implementation of agricultural and forestry offset policies. USDA has scientific expertise, administrative structures and established working relationships with US agricultural and forestry sectors that position this agency to be an effective regulator.
- The USDA has been recognized in legislation such as the Farm Bill to have this type of authority; for example, through the new USDA Ecosystem Services division.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

- The CFTC should continue as the regulator of the derivative carbon market, but should pair with the USDA to ensure that the development of offset policies is designed to maximize credits for carbon sequestration.
- With rigorous market oversight, these agencies should ensure that derivatives and futures markets will perform a legitimate function for all entities involved in the trading market and the economy as a whole

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

- Yes, this system provides the flexibility needed to include all relevant participants in the trading of derivatives of energy-based commodities.
- The system should provide transparency, oversight, and structure that allows for verifiable carbon reductions and economic growth.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

- As in the Lieberman-Warner bill, revenue generated by the sale of allowances should be distributed to communities that could be negatively impacted as a result of this policy. This policy should be kept to protect potentially vulnerable populations.
- A study from Bruce McCarl of Texas A&M showed that an unlimited offsets market created a net positive income for farmers even considering higher input costs, thus negating any potential negative impact on agricultural producers or forest landowners.
- The real question to consider is if climate legislation passes without an offset market, what will be the vulnerabilities of the economy at large (since compliance costs would be significantly higher) and to the rural and agricultural sectors specifically.
- An offset market allows both protection for the larger economy and especially for rural areas that would otherwise be unduly affected by increases in energy costs with no means of making new revenue.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

- Revenue should be provided to sectors and sources that can provide the lowest cost, shortest term reductions of greenhouse gas emissions and/or that have the highest potential to be negatively affected by any increases in energy and input costs. This can be done through the provision of revenue to the agricultural and forestry sectors from the sale of allowances and offsets.
- Allocation should be done using provisions similar to those included in the Lieberman-Warner Bill.
- Early actors should be rewarded with revenue generated from the sale of allowances.
- Any carbon reduction scheme will create some costs to the economy, but a cap-and-trade program is the most cost efficient mechanism available. A cap-and-trade program that includes offsets allows capped sectors to meet reduction requirements in the most cost efficient method available, while also creating a marketplace for carbon credit and offset trading that further stimulates economic growth. A cap-and-trade program is the most economically equitable system for reducing GHG emissions.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

- Yes, businesses that are affected by overall costs should receive transitional assistance.
- A robust and flexible carbon offset program is the most effective tool for keeping those potential costs low.
- Revenue generated from the sale of allowances can be directed to those affected.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

- All available greenhouse gas reduction opportunities should be utilized.
- Some public lands such as State and Federal range and forest lands could be managed to increase carbon stocks through various practices that can sequester carbon as part of a balanced set of uses for that land. Such sequestration could be used to help further reduce compliance costs. This revenue can be a welcome source of supplemental revenue, particularly for state government budgets stressed by economic stresses. State higher education and health support programs could be significant beneficiaries.
- Credit for reduction in greenhouse gases should be given to the owner of the action. Offset credits should be reserved for activities that are additional.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

- There should be no limits on carbon prices. Setting an artificially low price on the value of carbon would limit the opportunities for implementation and innovation in methods to reduce carbon.
- The inclusion of offsets acts as an economic safety valve by reducing the overall cost of compliance.
- Any artificial limit on carbon prices becomes a limit, and in many cases, eliminates the opportunities for farm income from an offsets market.
- Allowing offset prices to be set by the market encourages innovation and motivates potential offset providers to more readily identify and implement a broad array of offset tools.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

- The EU-ETS initially distributed all allowances for free instead of selling or auctioning them. Businesses claimed future emissions based on high projected rates of growth, and the number of carbon allowances distributed was higher than the actual carbon emissions created within the EU. As a result, the system was less successful in reducing greenhouse gas emissions than it could have been, and the price of carbon was lower. In a US domestic cap-and-trade program, allowance credits should be distributed with a balance of auctioned and allocated credits.

- EU-ETS does not include domestic offset programs, only utilizes the Clean Development Mechanism (CDM) aimed at developing countries and Joint Implementation programs (JI). This limited opportunities for EU countries to implement low-cost greenhouse gas reduction strategies, such as for the agriculture and forestry sectors. In a US domestic cap-and-trade program, a robust offset program should be developed to reduce the cost of meeting emission reduction requirements for the capped sectors, and therefore the economy as a whole.
- CDM/JI approves offset projects on a case by case basis, creating a tremendous backlog within the system and a higher cost of implementation. A set of standards needs to be developed to expedite the process of approving offset projects.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

- Options for greenhouse gas reduction should not be limited. Voluntary programs would be more effective than mandatory programs for incentivizing practices in the agriculture and forestry sectors.
- There are a number of effective tools or incentive programs to engage the ag and forestry sector. Assisting in research, developing education programs, promoting economic and environmental benefits from improved land management practices and enhancing financial security encourage farmers and foresters to generate offsets and allow them to be a significant contributor to climate improvement.
- Offset systems should be designed to incentivize farmers to meet performance standards instead of implementing regulations that may restrict innovation in offset development, therefore limiting GHG reduction opportunities.
- A cap-and-trade program with a robust agriculture and forestry offset market should include payments to early actors and those faced with high energy costs with money generated from the sale of allowances.
- Agreed upon protocols for offsets should be created to ensure that quality offsets are being created and sold. A system of offset protocols would also help reduce the costs of measuring, monitoring, and verification for individual farmers.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

- Preference for agriculture is to have unlimited offsets, because it does not restrict opportunities for the reduction of greenhouse gases through the sale of offsets. Modeling on bills considered by the U.S. Senate last year show dramatically lower compliance costs as more offsets are allowed to be used.
- Instead of limiting the number of offsets available on the market, the emphasis should be on the development of rigorous environmental standards that act as a measure for whether an offset project is effective and verifiable. This does not limit potential offsets, and everything that can be done to limit GHGs has the potential of being implemented and credited.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

- Congress should not be in the market of pricing, prioritizing sources, or distributing offsets.
- Offsets can be emissions reductions or emissions avoidance as well as carbon sequestration projects. These projects should be treated differently than the allowances that Congress distributes.
- Because participation in an offsets program would be voluntary, and an offset provider would be creating a commodity, they should be allowed to sell or trade that offset on the market as such. In some cases, it may be that the contract between the offset provider and the offset purchaser is agreed to before a project begins and not afterwards. These are private exchanges that will be guided by federal regulations that define the qualities of an offset and any market mechanisms that are created to regulate the carbon market.
- Congress should not be in the business of distributing these commodities any more than they decide to whom a farmer is selling corn.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

- It is important that offsets be measurable, verifiable, additional, and enforceable. Where measurement uncertainties exist, discount rates should be used to account for this uncertainty.
- Measurement rates for various offset types should be established at the national level using data from field studies and the latest science applied by a carbon advisory board for establishing the rates of sequestration for various soil types and geographical regions. These rates should be continually updated according to the science and backed up by random field sampling.
- Include modeling along with site specific testing to reduce costs for individual farmers.

- USDA should work cooperatively with the land grant universities who have conducted much research on this topic, particularly the Consortium for Agricultural Soils Mitigation of Greenhouse Gases (CASMGS) and USDA-ARS research stations in Pullman, WA and Pendleton, OR. Other important research has been conducted by programs established by the US Farm Bill and the Duke Standard.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

- There should be a certification process for independent third party verifiers regulated by USDA.
- Once certified, these verifiers should inspect offset projects to ensure they comply with the rules prescribed for creating the offset according to its type.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

- Congress should delegate this authority to agencies such as USDA who have the technical expertise and funding to design a system for verifying offset projects.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

- Standards need to be appropriate for a wide array of innovative offset types. For some offset types, such as methane offsets from digesters, project-specific data may be useful for determining the value of eligible offsets.
- For other offset types, such as soil carbon sequestration, Congress should establish a standards-based approach using values derived from the results of field studies and measurements from differing soil types and weather regions. In these circumstances, project-specific data could be used to improve the accuracy of the standards.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

- There needs to be both an offsets market and an allowance set aside for the agriculture industry. Both features are needed to ensure a system that preserves the environmental integrity of offsets while not penalizing early actors who have already stored carbon in the ground.

- The Lieberman-Warner provision of a 5% allowance set aside paired with a robust offset market is the ideal outcome.
- Allowance revenue should be used as a way to compensate early actors and impacted industries; it should avoid creating a perverse incentive to reverse climate friendly land management practices.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?

Please respond in 300 words or less.

- Appropriate contract mechanisms should be put into place to ensure that generated offsets fulfill the contract obligation. Timing and flexibility should be taken into account in designing these contracts.
- Congress should think about this issue from a perspective of managing the risk of reversal and potential liability of an offset project type, rather than ensuring that any land-based activity is "permanent." Some GHG reductions that agriculture can provide are permanent, others can be long lasting and provide an opportunity for carbon leasing. The market can and should be allowed to sort out the value of these different options and players in the market should be directed to structure contracts to insure minimum standards for permanence and risk are met.
- One type of insurance being discussed for carbon soil sequestration is the creation of reserve pools of carbon storage. In the event of a natural disaster that releases offsets that have been bought and used as an emissions reduction, the reserve pool can be substituted.
- Penalties for intentional reversal of offsets could also be included.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?

Please respond in 600 words or less.

- CCX credits and other pre-regulatory offset action could be compensated with revenue from the allowance pool, but should not be automatically accepted as offsets under the new system, because there has been no standard criteria for the creation of those credits. Many of the projects were not and would not be additional; therefore, their inclusion in an offset market would break the regulatory cap.
- To include these voluntary market credits in the new mandatory offset market would weaken the environmental integrity and market value of offsets.
- Regulations must be included to ensure that there is no double counting of offset credits when a nationwide system is created.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse

gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

- Early actors should be awarded with revenue from the sale of allowances.
- Yes, any activity with additional environmental benefit, which also reduces greenhouse gas emissions and has the ability to generate economic returns, should be allowed to be stacked by famers and foresters. Any environmental market activity that meets the requirements of that system should be credited.
- Farmers and foresters should be credited for actions taken subsequent to an emissions reductions baseline.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

- The owner of the activity should be awarded payment from the sale of carbon credits.
- Any activity that meets the requirements for a greenhouse gas reduction should be awarded payment from the sale of carbon credits regardless of the original intent of the activity.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

There are a number of ways to compensate for potential reversals or failure to meet contractual agreements with buyers, whether the liability occurred through producer default, failure to deliver contracted GHG offset tons, or overestimate of projected GHG offset tons. These include:

- Discounts for riskier offsets.
- A carbon reserve, or excess acreage for emission reductions, dedicated as a reserve in case of reversal.
- Development of federal risk management tools such as currently exists within the federal crop insurance program.
- 3rd Party Insurance.
- Allow for a timeframe, or window, before declaring a producer liable for not reducing GHG emissions.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

- The authority to develop protocols and procedures has been delegated to agencies that have the technical expertise to do so.
- The USDA and EPA should work cooperatively to develop protocols and procedures that include forestry and agricultural offsets in a cap-and-trade market.
- Detailing protocols and procedures in legislation could restrict further innovation and discovery of new offset potential.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

- Awareness, education, and access to information for policymakers and the public that lend credibility to the agricultural community's GHG reduction projects are some of the biggest obstacles in the way for the inclusion agricultural and forestry offsets.
- Cultural, religious and social barriers which discourage changes in land management practices.
- The measuring, monitoring, and verification of offsets needs to be made cost effective for individual farmers and foresters.
- Costs of project development (i.e. methane digesters).
- Incentives for early actors also need to be included to ensure all greenhouse gas reductions are properly credited and to encourage continued action.
- How the practices of those renting farm land bind land owners when leases are not continued.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

- No, there are no programs that have standards and incentives on equal footing with a mandatory cap and trade market, which have the potential to create billions of dollars in revenue while significantly reducing greenhouse gas emissions.
- Financial and technical incentives should be included to encourage the adoption and implementation of agricultural and forestry offset projects.

- Further development of measuring, monitoring, and verification systems, which include modeling as well as on-site testing of offset potential, is needed to reduce costs to individual farmers.
- Any program must ensure that early actors are compensated for their efforts to reduce GHG emissions.
- Increased educational funding for disseminating the benefits of including agricultural and forestry offsets in mandatory, nationwide cap-and-trade program.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

The House Agriculture Committee should be taking a legislative lead in including agricultural offsets in cap-and-trade legislation. The benefits of offsets to the agricultural community, the environment and the economy as a whole are clear. Agricultural and forestry offsets provide effective, verifiable, and cost efficient GHG reduction methods as well as include the agricultural community in a multi-billion dollar offset trading market.

Life-cycle analysis: Implementing life-cycle analysis on a project-specific basis would be expensive and time-consuming. A greenhouse gas reduction program should be designed and implemented to reduce greenhouse gas emissions in the most effective and timely way possible.

Deforestation: International deforestation is another important issue with implications for the US agriculture and forestry sectors because it impacts the costs of production (through land values) and the value of products (through perceived lifecycle costs). A cap and trade market would provide incentives through mechanisms such as REDD (Reduced Emissions from Deforestation and Degradation) that would slow deforestation in developing countries.

Additionality: For additionality, creating and designing measurement plans and quantifying true land-based offsets is becoming the widely accepted practice and could be the new standard under a mandatory market. Processes such as proportional additionality evaluate both the baseline and the additional carbon simultaneously. The concept of this process is, in short, to select similar lands or projects and to compare the proportional change in carbon stocks that occurs at the project site versus the comparison site during the timeframe of the project. Proportional additionality could allow all participants to qualify for selling offsets no matter when they started the offset-generating practice by applying a discount on all offset credit corresponding to the number of existing projects in a particular industry. In this way, the system is accounting for "business as usual" but it is also including all those early actors who showed initiative and changed their operations prior to the climate law.

Leakage: Leakage is a more of an issue for the forestry sector than the agricultural sector. Regardless, implementing a nationwide cap-and-trade system would establish baselines and protocols, thus providing solutions to issues such as leakage.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Aforestation/Reforestation	Good	Excellent	Medium	Medium
Avoided Deforestation	Excellent	Excellent	Medium	High
Maintain/Increase Stand-Level Carbon Density	Moderate	Good	Medium	High
Maintain/Increase Landscape-Level Carbon Density	Moderate	Good	Medium	High
Increase Off-Site Carbon Stocks	Good	Good	Low	High

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Improved Handling of Manure	Good	Good	Low	High
Anaerobic Digestion	Excellent	Excellent	High	High
Manure as a Nutrient Source	Excellent	Excellent	Low	High
Specific Agents and Dairy Additives	Good	Excellent	Low	High
Improved Feeding Practices	Excellent	Good	Medium	High

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
No-till/Carbon Soil	Excellent	Excellent	Low	High
Sequestration				
Precision Agriculture	Good	Good	High	High
Set aside land use change	Excellent	Good	Medium	High
Agronomy	Good	Good	Medium	High
Agro-Forestry	Good	Good	Low	High

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
AIR TRANSPORT ASSOCIATION
OF AMERICA, INC.

AIR TRANSPORT ASSOCIATION

JAMES C. MAY
PRESIDENT AND CEO

April 13, 2009

The Honorable Collin C. Peterson
Chairman
House Committee on Agriculture
1501 Longworth House Office Building
Washington, D.C. 20515-6001

Dear Chairman Peterson:

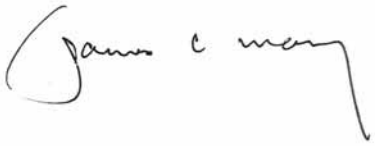
Thank you for your letter of March 11 inquiring about the views of the airline industry on a variety of proposals related to carbon reduction programs. We appreciate your interest and look forward to continuing to work with the Agriculture Committee, and the entire Congress, on identifying the optimal approach to responsibly addressing climate concerns while first restoring and then maintaining a robust national economy.

Given the magnitude of the issues at play in the debate, we are firmly convinced that there will be ongoing opportunities to align agricultural and aviation interest in finding progressive solutions to greenhouse gas concerns. A prime example, of course, is the ongoing work to develop viable, sustainable alternative aviation fuels. Success on this front could be a tremendous victory for both agriculture and aviation – as well as for the environment. We are extremely grateful for the work of the Agriculture Committee, and your leadership, in last year's legislation that made grants and loans available for this valuable and important effort.

As you may be aware, U.S. commercial aviation, which accounts for only 2 percent of domestic greenhouse gas emissions, has a well established record of success in driving down its environmental impact. While pushing aggressively for and investing in technological and operational improvements, the U.S. airlines have improved their fuel efficiency (and correspondingly reduced carbon emissions) by 110 percent since 1978. (The Air Transport Association airlines are committed to at least an additional 30 percent improvement between 2005 and 2025.) Further, as noted above, we are directly involved in efforts to secure the development of environmentally friendly alternative fuels and we are actively committed to pushing this work forward. We also know that a modernized air traffic management system will help to further reduce system congestion and delays, allowing still greater environmental improvements going forward.

With specific regard to your detailed questionnaire, we would like to defer our response at this time, while the airline industry continues to advance its ongoing environmental commitments and efforts. Please be assured, however, of our gratitude for your interest and leadership and of our desire to continue to identify ways for aviation and agriculture interests to work together to find climate change solutions.

Sincerely,



RESPONSE TO QUESTIONNAIRE SUBMITTED BY ALABAMA DEPARTMENT OF AGRICULTURE AND INDUSTRIES

STATE OF ALABAMA

DEPARTMENT OF AGRICULTURE AND INDUSTRIES
1445 Federal Drive
Montgomery, Alabama 36107-1123

Ron Sparks
Commissioner

Mailing Address:
Post Office Box 3336
Montgomery, AL 36109-0336

Committee on Agriculture
U.S. House of Representatives

Name:	**Commissioner Ron Sparks**
Organization(s) you represent	**Alabama Department of Agriculture & Industries**
Address	[Redacted]
Email	[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

David Miller
AgraGate Climate Credits Corp
Iowa Farm Bureau Federation
5400 University Avenue
West Des Moines, IA 50266

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why? *Please respond in 600 words or less.*

Private land owners, be it family farms or private timber land owners, and Farm Bureau members believe that market-based incentives, such as pollutant credit trading, are preferable to government mandates. Our members prefer the development of a practical voluntary market-based carbon credit trading system. To encourage this new market, we also support a USDA pilot carbon credit trading project to develop trading criteria, standards and guidelines. We believe that family farms and timber land owners should be compensated for actively managing their farm and timberland to keep carbon sequestered or help in wood and the soil. We feel that these practices should be fully

recognized in any cap and trade system and should not be limited to a percentage of total offsets.

Reductions in greenhouse gas (GHG) emissions from mobile sources are best addressed by market-based solutions such as a low carbon fuel standard rather than by establishment of state or federal limits on vehicle emissions.

We also support providing incentives to industries seeking to become more energy efficient or reduce emissions of identifiable atmospheric pollution and the means of preventing it; (2) Providing incentives to individuals seeking to reforest fragile lands that are currently in agricultural production; and (3) research that identifies the advantages and disadvantages of carbon credits as it relates to carbon sequestration;

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We oppose imposition of carbon taxes. We also oppose mandatory restrictions to achieve reduced agricultural greenhouse gas emissions; (2) Mandates relating to GHG policies, that would adversely impact the family farm and the private timber land owners; (3) Any attempt to regulate methane emissions from ruminant animals under the Clean Air Act or any other legislative vehicle; (4) Emission control rules for farming practices, farm equipment, cotton gins, grain handling facilities, etc., and urge EPA to re-evaluate the imposition of standards on farm and ranch equipment and other non-highway use machinery; (5) Unilateral mandatory state or federal GHG emission reduction requirements;(6) Including the carbon impacts resulting from indirect land use changes in other countries in the carbon life cycle analysis of biofuels; and (7) the imposition of carbon emission related taxes or fees on horsepower of vehicles and equipment used for agricultural production.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

No. Agricultural and forestry resources exist under a wide variety of environmental and resource management conditions. A top-down regulatory approach is unlikely to produce the desired benefits sought if these sectors are included under a carbon reduction program – i.e. under the cap. The most efficient way to stimulate resource-specific responses of agricultural and forestry units is to allow them to voluntarily select into a cap & trade program through offset protocols. This would allow private, local resource managers to make decisions that are best tailored to that particular resource. The cap & trade program should facilitate stimulation of carbon-reduction activities in the unregulated sectors, but does not need to impose direct limits on emissions from natural resources that are part of the agricultural and forestry sectors.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?

Please respond in 600 words or less.

We strongly recommend that any carbon policy be implemented in a way that does not harm the a the family farm and the private timber land owners. Many of the utility providers for farms, ranches, and timber land owners would experience significant cost increases if all allowances were to be auctioned. Thus, it is likely that the least disruptive approach to emission allowance distribution would be to distribute a large portion of the allowances to utility generators and distributors, fertilizer producers and other entities that would be "under the cap."

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Carbon policy should be established at the national level and once established should preempt any and all state or regional carbon reduction programs. The national program should fully recognize all allowances and offsets from all of the state and regional programs and should also recognize the early-action reductions and offsets from the domestic voluntary carbon reduction programs such as the Chicago Climate Exchange, California Action Registry, The Climate Registry. Early actors should be rewarded and encouraged by the establishment of a federal program, not excluded or penalized for taking such bold and innovative steps in the public's interest. Recognition of early action, whether in organized voluntary programs or through state/regional programs is a "cost" of transition from the current programs to a federal regulatory program that sends the prevents perverse and unintended consequences from occurring during the transaction periods and allows for the smoothest transition to a national program.

While there may be some criticism that these early programs may not be as rigorous the nationally-developed program, to a large degree, it is the knowledge and experience that has been gained because of the pioneering efforts of these early actors that will enable an effective and efficient national program to be developed. These efforts should be fully recognized and the allowances and offsets that are registered as a part of these programs should be grandfathered in to the national program and the contracts for early offsets should be recognized for at least three years after the establishment of the national program so that these projects and efforts are not perversely incented to discontinue so that they can enter the national program.

Many federal conservation programs already have the reputation of "ignoring early adopters and rewarding the bad actors." For a program that is likely to exist for 50 years or more to accomplish its goals, the amount of early action activities will represent a relatively small percentage of total effort, but is vitally important to send the signal that solutions to greenhouse gas reductions are needed from the regulated and non-regulated sectors.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

It is neither necessary nor desirable that a new federal agency be developed to regulate and operate a federal cap and trade program for greenhouse gases. Regulation of the capped sectors should be done within either the Department of Energy (DOE) or The Environmental Protection Agency (EPA). We would highly recommend that the USDA be the primary authority for oversight and administration of agricultural and forestry offsets. USDA, which includes the Forest Service, has the expertise and sufficient regulatory knowledge and administrative infrastructure to set the rules for offsets from biological resources such as agricultural lands, forests and methane digesters. USDA could establish a registry for such offsets that would be fully fungible with the allowance and emission registry program that would be established by DOE or EPA.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

As is being demonstrated by the early action programs, carbon can and is becoming a commodity that can and will be traded just as other commodities. The experience of the Chicago Climate Exchange is proving that markets for carbon can and do work. This market is operating as an exempt exchange. Based on the requirements of the regulated carbon market, contracts and services are being developed to supply projects and products that meet market requirements.

The CFTC should continue in its role as the regulator of derivatives, futures and options contracts associated with carbon trading. Derivatives, futures and options on carbon contracts are not fundamentally different than other derivatives, futures or options contracts. The oversight and regulation provided by the CFTC is adequate for these markets. Similar to corn, soybeans and other agricultural commodities, the transactions between farmers, ranchers and forest landowners should be exempt from direct regulation by the CFTC. There is sufficient state contract and business law to govern these transactions.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.
Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

Yes. The carbon market will function best if it is treated the same as any other commodity. However, the actual registry and retirement of allowances and offsets should be done on regulated, open, transparent markets.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

Agriculture and forestry stand to gain from climate policy just as climate policy benefits from the participation of agriculture and forestry. Biofuels for electricity production represent a very large new market for agricultural and forestry products and payments for soil management and afforestation represent a new source of revenue. Some estimates of the economic gain to agriculture suggest that revenues could *double* due to a combination of higher prices for existing commodities, new markets for biofuels, and payments for soil management and afforestation. The benefits will not be evenly distributed because some sectors can expect a very large increase in the demand (and price) for their product or a new revenue stream (by selling offsets) while other sectors will face increased costs of certain inputs to production without a corresponding increase in revenue.

Whether or not there are negative impacts from the enactment of a carbon reduction program on a regional basis, or on selected special interest groups involved in agriculture and forestry is highly dependent on the nature of the carbon reduction program that is established, how allowances are allocated within such a program, and the ability of regions to adopt low-carbon energy production technologies. The upper Midwest, for example, has very good wind resources that could be developed as low-carbon technologies. Much of the Southwestern US has good solar capabilities. The Southeast US has significant biomass resources or can participate in carbon sequestration projects. Such technologies, however, may not be viable options in other regions of the country. In such cases, there could be substantial negative economic impacts from the implementation of carbon reduction programs.

The enactment of a carbon reduction program will result in increased energy prices and that will impact many of the inputs for agriculture such as fertilizer, fuel, and feed. While low-carbon technologies and production options are likely to be developed over time, it is highly likely that the enactment of a carbon reduction program will increase energy related prices and the prices of all products and goods for which energy is a significant input.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Farmers, ranchers and rural residents will likely be best served if any revenues generated under a carbon reduction program are used to mitigate the increased costs of electricity, fertilizer, fuel and other essential elements of crop and livestock production. Refundable tax credits based on energy use or would be an effective way to distribute such funds to affected persons. In addition, grants could be used to help farmers, ranchers and rural residents do energy audits and install new technologies that would result in reduced carbon emissions or energy use.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

Yes. Affected business should receive assistance in dealing with the higher costs that are likely to occur due to a carbon reduction program. Failure to include businesses in programs to mitigate higher costs will result in a loss of jobs in both urban and rural areas. Refundable tax credits and transitional grant programs would be an effective means of providing such assistance.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Public lands such as federal grazing lands can be used to demonstrate sustainable management practices and provide examples of practices that ranchers can use on private lands. Likewise, federal and state forest lands can be exemplary sites for sustainable managed forestry practices and reforestation. The federal government already has the authority to establish environmental standards for use of such lands by private entities and should take the lead in environmental performance.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Market forces are likely to establish carbon prices that will best allocate resources to the function of carbon reductions. However, in the early stages of market development, the federal government could provide a level of stability to the market through allowance allocation and auction policy as well as through offset policy. The existence of a robust offset development sector will provide substantial stability to the market. The federal government should be a market leader by taking actions to reduce or offset the emissions from its activities.

Highly variable carbon prices will discourage or delay some of the capital investments that will be required to achieve the carbon reductions necessary to stabilize atmospheric greenhouse gas concentrations. One of the most effective ways to assure that carbon prices do not go "too high" is to authorize a wide array of carbon offsets including those from agricultural practices and forestry. If the government determines that some level of

minimum carbon prices is desirable, then the federal government could increase its level of reductions by purchasing more offsets. Strict price limits established by legislation are not desirable. This would include either a price floor or a price ceiling. If prices go "too high" Congress could grant the regulating agency the authority to issue more allowances.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

The lack of agricultural and forestry offset protocols is a great weakness of the ETS. The absence of recognition for these carbon emission reduction and sequestration options results in higher than necessary costs for carbon reduction results within the ETS and little stimulation of carbon reduction by these sectors in Europe. The Province of Alberta has implemented offset protocols for agriculture and forestry within their carbon emission reduction program. Existence of agricultural and forestry offsets provides more liquidity in the market and helps reduce the cost of carbon emission reduction.

The Chicago Climate Exchange (CCX) has provided the greatest example of how to structure and operate an affective and efficient carbon reduction program. The experience of the CCX shows that offset protocols must be allowed to be modified and improved as new technologies develop and as new scientific data is discovered and documented. The CCX experience also demonstrates the capability of agriculture and forestry biological sequestration projects to deliver quality offsets from large, aggregated areas that guarantee performance according to statistically performance standards. Fields and forests are not pipes where a single measuring point can be attached. But, large aggregations of fields and farms, by definition, will produce carbon emission reductions at the mean (or average) for the area. Highly controlled research plots operated by the Land Grant Universities provide high quality data about the average carbon emission/sequestration response of biological resources to various production practices. Requiring individual farms to do field sampling of carbon levels in the soil provides the "illusion of accuracy" but, in reality, will not change the actual results that are being achieved by large-scale participation by many farmers over thousands (or even millions) of acres.

Part II: Carbon Reduction Program Administration and Implementation
The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

Agriculture and forestry resources exist within a wide diversity of environmental and ecological conditions and are managed with a wide variety of management practices. It is likely that the greatest amount of greenhouse gas reduction can be accomplished in the agricultural and forestry sectors through the use of a combination of approaches. Establishment of workable offset protocols is likely to achieve the greatest results with respect to carbon emission reductions or sequestration from agriculture and forestry. Offset protocols should require that offsets be real, verifiable, enforceable and meet appropriate levels of duration and additionality. The offsets of the Chicago Climate Exchange provide valid examples that meet these requirements. But, there are a number of agricultural and forestry production practices that can result in reductions of carbon emissions, but may either be difficult to document and verify or for which the scientific knowledge is yet insufficient to grant offsets. For these types of activities, a program similar to the Conservation Stewardship Program (CSP) may be the most effective way to stimulate and reward such actions.

We urge caution in establishing performance standards for segments of the agricultural and forestry sectors that would be imposed on all producers or landowners. The reality is that such standards are likely to have a number of perverse, unintended impacts on agriculture and forestry producers. The nature of biological resources is such that local, adaptive management that is initiated by the person with an economic interest in the asset will result in the greatest utility for both individual farmers, ranchers, and landowners as well as for society.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

No. We do not support establishment of a limit on the issuance of offsets nor the amount of offsets that can be used to satisfy compliance requirements. Market forces will adequately control the amount of offsets that will enter the market. Artificially limiting offsets will only serve to increase the costs of carbon emission reductions and result in dis-incentives for maximum development of emission reduction activities in the non-capped sectors. Full fungibility of allowances and offsets will result in the most effective and efficient environment-wide carbon reduction program. The focus of the cap & trade program needs to be on total improvement on the environment, from both capped and uncapped sectors, not just on how much of the improvement comes from the capped sector.

Establishing limits on the amount of offsets that agriculture and forestry can provide within a cap and trade system, sends the signal that such offsets are inferior to other actions that may be taken, and therefore of lesser social value. It is our belief that the offsets available through agriculture and forestry can provide significant, immediate reductions that can help stem the rate of atmospheric carbon build-up. The protocols of the Chicago Climate Exchange provide statistically-valid quantification methodologies

that farmers and ranchers are adopting now. We urge policy makers to support and encourage these measures and to provide the necessary public support to develop additional protocols and quantification methodologies that those involved with the land can employ.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Congress does not need to "distribute" offsets. Congress simply needs to authorize a full set of offset opportunities and then allow the market to work. Congress does need to determine how allowances will be distributed.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Offsets must be real, verifiable, enforceable and meet defined levels of duration so that they do not compromise the integrity of the cap-and-trade program.

1. Real – Offsets must represent actual emission reductions and not artifacts of incomplete or inaccurate accounting. The effects of a project on GHG emissions must be comprehensively accounted for, and "leakage" in emissions must be factored into the quantification of emission reductions, although leakage determinations may be done as a sectoral assessment rather than at the project level. Conservative assumptions should be used where there are uncertainties in quantifying emission reductions or removals.
2. Additional – To be eligible for offsets, offset projects cannot be required by law or regulations, and must exceed baseline criteria. The baseline should use standardized criteria (including but not limited to, performance standards, financial feasibility criteria, market penetration, and project start date) that serve to exclude "business as usual" projects from eligibility. Receipt of government revenue should not inherently disqualify project on the basis of additionality. While certain types of government programs are adequate to tip the scales in favor of project development, or require actual project development, this is not true for all programs. Therefore, offset project evaluation criteria should be responsive to these differences, and should consider the actual nature of the government program when determining whether to reward, discount, or disapprove projects for offsets.
3. Verifiable – Offsets must result from projects or programs whose performance can be readily monitored and verified, and whose effects can be measured with reasonable precision and certainty.
4. Permanent – For emission reductions or sequestration activities that can be reversed, adequate safeguards should be established to minimize the risk of reversal, or a mechanism should be provided for the replacement of those tons.

As a general matter, offset projects should result in the permanent reduction, avoidance, or sequestration of greenhouse gases. However, since no biological process is permanent, it is imperative that it be acknowledged that there may be an interest in pursuing project types for which it is not possible to ensure the permanence of the sequestration. Offset projects involving biological sequestration should utilize reserves, insurance or guarantees.

5. Enforceable – Offsets must be consistent with regulations and administrative rules that define their creation, provide for transparency, and meet defined standards of ownership to avoid double counting.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

We recommends the adoption of a standards-based approach to offsets. Under a standards-based approach, protocols for evaluating whether a project meets the Carbon Offset Requirements are established up-front. This is in contrast to a project-based approach such as that employed by the Clean Development Mechanism (CDM), whereby applicants propose their own offset protocols. The standards-based approach front-loads the administrative burden allowing projects to be reviewed more quickly than under a project-based approach. Furthermore, a standards-based approach offers greater certainty to potential project developers before they begin the application process.

To jumpstart the offsets program, we recommends that initial offset project categories and evaluation criteria be established before program launch. We also recommend providing a mechanism to incorporate additional categories and evaluation protocols over time to encourage innovation in the marketplace, and thus reduce program costs.

Proposals should initially be reviewed and modified as appropriate by a Technical Committee comprised of subject-matter experts. Technical Committee membership should change from protocol to protocol to ensure that the appropriate subject-matter experts are on staff. Those proposals that are approved by the Technical Committee should be reviewed by a Scientific Committee. The Scientific Committee is a standing body of scientists and experts with an in-depth understanding of climate science and offset program principles and implementation challenges. The Scientific Committee would accept, reject, or suggest modifications to the offsets protocol that is reported out of the Technical Committee.

In developing these protocols, the Technical and Scientific Committees should consider the offset program design principles, offset requirements, and other guidelines or requirements established by Congress. Protocols for quantification of emission reductions/removals and for project monitoring should be as standardized to the extent possible, while ensuring accuracy. In the interest of promoting transparency, protocols approved by the scientific committee should be made available for public comment.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Offset projects should be verified by an independent party. Such verifiers should be approved by a private company such as an ISO Registrar or an organization approved under the USDA Guide 65 Program. Oversight will be provided through an annual quality audit. Aggregators will continue to hire verifiers from a group of approved companies that compete for business based on cost and services provided.

A verifier shall meet the following requirements as established by the offset program guidelines. These should include:
(a) Minimum financial requirement as demonstrated through
(i) Net worth; or
(ii) Performance bond
(b) Evidence of adequate technical expertise and capability through
(i) background, education & training; and
(ii) experience; or
(iii) performance history; or
(iv) certification by a certification agency approved by the regulatory agency or accredited by the USDA under their Guide 65 program

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

A standards-based approach that relies on solid scientific underpinnings and aggregation of offsets from large land bases will provide the most accurate assessment of the full basket of offsets from agricultural practices and other activities designed to result in sequestration of carbon in the soil.

A quantification method shall: (a) Determine net change in primary greenhouse gases in accordance with prevailing conventions for accuracy, precision of measurement and statistical validity. The quantification methods shall be robust to operate over an appropriate range of soils, cropping practices and environments, and scalable over the scope of the carbon offset. The methodology shall be replicable and thoroughly documented; and (b) Be validated by an approved domestic or international body, which shall include those organizations that can demonstrate no conflict of interest and whose work processes are accredited by appropriate national and/or international accreditation agencies. The methodology for quantification shall conform with prevailing principles of quality management.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

There should be full fungibility between offsets and allowances. Any "discounting" of offsets should be done within the process of quantification of the offset through the imposition of an implicit reserve or the requirement for and explicit reserve of registered

offsets. Capped entities should be allowed to meet compliance requirements with either allowances or offsets. Offsets that are registered and available to the market should have full fungibility and accorded full compliance value.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

For emission reductions or sequestration activities that can be reversed, adequate safeguards should be established to minimize the risk of reversal, or a mechanism should be provided for the replacement of those tons. As a general matter, offset projects should result in the permanent reduction, avoidance, or sequestration of greenhouse gases. However, since no biological process is permanent, it is imperative that it be acknowledged that there may be an interest in pursuing project types for which it is not possible to ensure the permanence of the sequestration. Offset projects involving biological sequestration should utilize reserves, insurance or guarantees.

Offset projects involving annual crop production practices should have a contract length of 5 years. Offset project participants should be fully accountable for any intentional reversals that occur during this 5-year period and should be required to hold 10 percent of registered credits in an explicit reserve to mitigate such reversals during the contract. An implicit reserve of 20 percent of the scientifically-established crediting rate should be sufficient to account for system-wide reversals that might occur after the expiration of the contract.

Forestry offset projects should have a contract length of 15 years with full accountability for any intentional reversals within the contract period. An implicit reserve of 10 percent of the scientifically established crediting rate should be sufficient to account for system-wide reversals that might occur after the expiration of the contract.

An additional explicit reserve of 10 percent of registered credits should be held by the offset registry until the end of the contract period to account for catastrophic or unintentional reversals. If these were to occur, the offset project holder would forfeit the explicit reserve offsets which would be retired by the offset registry to account for such reversals.

The use of implicit and explicit reserves for offsets based on biological sequestration should provide sufficient certainty that registered offsets can be treated on an equal compliance basis with allowances.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

The national program should fully recognize all allowances and offsets from all of the state and regional programs and should also recognize the early-action reductions and

offsets from the domestic voluntary carbon reduction programs such as the Chicago Climate Exchange, California Action Registry, The Climate Registry, etc.. Early actors should be rewarded and encouraged by the establishment of a federal program, not excluded or penalized for taking such bold and innovative steps in the public's interest. Recognition of early action, whether in organized voluntary programs or through state/regional programs is a "cost" of transition from the current programs to a federal regulatory program that sends the prevents perverse and unintended consequences from occurring during the transaction periods and allows for the smoothest transition to a national program.

The CCX is a U.S.-based voluntary emissions trading system for GHGs. Participants take legally binding commitments to reduce their emissions and can do so through the purchase of carbon offsets certified under CCX protocols. The types of offset protocols that are related to agriculture and forestry sectors are: manure management (agricultural methane), agricultural soil carbon, forestry carbon and rangeland soil carbon.

Most of the CCX's protocols are standardized. For example, there are pre-specified crediting rates for eligible projects. The CCX has developed standardized rules for issuing Carbon Financial Instruments (i.e. emission allowances) contracts for the following types of projects: agricultural methane, coal mine methane, landfill methane, agricultural soil carbon, rangeland soil carbon management, forestry, renewable energy and ozone depleting substance destruction. Other project types, to be approved on a project-by-project basis, may include: energy efficiency and fuel switching and any eligible projects under the Clean Development Mechanism. Permanence for forestry projects is addressed by requiring a commitment to long-term maintenance of carbon stocks, as well as setting aside a 20 percent buffer to compensate for reversals. A similar insurance buffer or reserve pools are applied to soil carbon projects for any cases of loss of previously credited carbon storage, but the owners of projects need to commit for five years.

Additionality requirements are primarily performance-based. Additionality criteria are incorporated into the eligibility criteria of the project types. The CCX requires that projects are new, beyond regulation and involved in highly unusual "best in class" practices. The baseline methodologies for calculating emission reductions are defined for each project type. All projects are subject to independent verification by approved verifiers and the overall offset registration process is audited by FINRA.

While there may be some criticism that these early programs may not be as rigorous as the nationally-developed program, to a large degree, it is the knowledge and experience that has been gained because of the pioneering efforts of these early actors that will enable an effective and efficient national program to be developed. These efforts should be fully recognized and the allowances and offsets that are registered as a part of these programs should be grandfathered in to the national program and the contracts for early offsets should be recognized for at least three years after the establishment of the national program so that these projects and efforts are not perversely incented to discontinue so that they can enter the national program.

Many federal conservation programs already have the reputation of "ignoring early adopters and rewarding the bad actors." For a program that is likely to exist for 50 years or more to accomplish its goals, the amount of early action activities will represent a relatively small percentage of total effort, but is vitally important to send the signal that solutions to greenhouse gas reductions are needed from the regulated and non-regulated sectors. We recommend that offsets be bankable forward for at least 5 years in any national program and would suggest that offsets from programs such as the Chicago Climate Exchange be recognized for a similar time frame.

Companies that have undertaken emission reduction activities as a part of these early action voluntary actions should not be penalized for "doing good." Any reductions that they accomplish as a part of these programs should become the basis for additional allowance allocations to reward and recognize early action.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

The issue of additionality as posed in this question is really one of baseline definition. The practice of continuous no-till is a relatively rare practice. While some reports indicate that 35 to 40 percent of land is no-till annually, the amount of land that is in continuous no-till is likely to be less than 10 percent of the 350 million annual crop acres. In Iowa, for instance, survey data indicates that about 45 percent of the land is no-tilled each year. But this is because about 90 percent of the soybeans acres are no-tilled and about 10 percent of the corn acres. Continuous no-till is between 8 to 12 percent of the land. We believe that early adopters of the eligible practices that would be the basis for offsets should not be prevented from participation in the offset program. They should be encouraged to participate and should be held up as the example to get others to participate.

Strict additionality is neither necessary nor desirable for agricultural and forestry offsets. It is desirable for producers to get some experience with a practice like no-till before they make multi-year commitments to the practice in a contract. Strict additionality would result in much more risk of failure of the offsets and would discourage carbon reduction activity rather than encouraging the non-capped sectors from participating.

Stackability refers to the concept of receiving funding or credits for multi-functional practices. We believe that renewable energy credits should not be stackable with carbon credits. Likewise, we would suggest that carbon credits not be stackable on credits from

a low carbon fuel standard or credits for renewable fuel standards since both of these programs are specifically designed to result in lower carbon emissions.

We would support stackability of carbon credits with traits such as wildlife management, nutrient management, water quality and with the assortment of USDA and state cost-share programs. The use of grants or cost-share funding for installation or adoption of technologies and/or practices that reduce carbon emission or increase sequestration should be encouraged rather than penalized.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

We believe that the source of funding for a project in the non-capped sector should be irrelevant to the eligibility of that project for carbon offset crediting. Many agricultural practices have multi-functionality and it would be a nearly futile, and unnecessary, activity to try to correlate the funding sources to the many economic and social functions that can arise from practices and projects that result in carbon emission reductions. We believe that additionality tests that try to ascertain the reasons why a project is undertaken have little relevance and are fraught with problems. They are based on assumptions that what a producer has done in the past will dictate that the producer will do those practices in the future. Most such assessments are exercises in justification and not valuable for determining qualifications for offset crediting.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

First, we believe that soil offset projects should use crediting protocols based on practices and not on field level sampling which is fraught with significant error due to sampling variability and the problem of detecting annual changes with limited samples. Second, we believe that soil offsets should have full accountability for carbon reversals during the required contract period and that the protocol should use implicit reserves to account for any post-contract reversals that might occur on a sector-wide basis.

Explicit reserves should be required for soil and forestry projects during the term of the contract. Reversals due to natural disasters and other unintended reversals beyond the control of the producer should be mitigated through these reserves. The liability of producers for catastrophic events and unintended reversals should be limited to the credits set aside in the explicit reserve. We recommend a 10 percent explicit reserve for handling these catastrophic losses. The experiences to date of the CCX would suggest that a 10 percent reserve is more than sufficient.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

The protocols and procedures for the offset program should NOT be detailed in the legislation. The legislation should authorize the offset program and establish general guidelines for offset program performance. We believe that USDA should be delegated the authority to develop the offset program for agriculture and forestry.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

The primary impediments to implementation of practices and technologies that reduce carbon emissions or sequester carbon are economic barriers, local resource adaptability, contract length, and sufficient confidence in the carbon-reducing practice or technology. Some carbon reducing practices and technologies are perceived to reduce net farm income due to reduced yields or the costs of implementing the technology are greater than the potential revenues from the project. In some cases, the local resource is not well suited for carbon reducing activities. Hydric soils, for example may be too wet to effectively sequester carbon. Some soils are prone to compaction and need intermittent tillage to enable proper root development. Other soils may be in areas where insufficient rainfall exists for significant carbon sequestration. The requirements for multi-year commitments to practices when most farm land is leased on annual rental agreements injects more risk that most farmers are willing to accept.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Existing conservation and forestry programs provide some incentive for some producers to adopt and implement practices that mitigate climate impacts, sequester carbon or reduce greenhouse gases, but they are insufficient for the vast majority of farmers, ranchers and timber landowners to adopt the practices that result in the greatest amount of carbon mitigation. Many, if not most, agricultural producers use some level of conservation tillage for their annual crop production. Research shows that continuous these production systems that utilize some amount of tillage, albeit much less than was common 15 to 20 years ago, results in no net loss or gain in soil carbon. It takes adoption of the more stringent continuous no-till production regimes to end up with actual increases in soil carbon. Cost-share programs and programs like the CSP are helping to get these technologies adopted. Afforestation cost-share and the ability to do

afforestation and reforestation under CRP programs are effective for some farmers and timber landowners, but it will take much higher levels of incentives for most cash-tent farmers to make the changes that would result in the most reduction of greenhouse gases.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

It is important that the Low Carbon Fuel Standard (LCFS) be careful in its regulatory approach if it is to fulfill its expectations of fostering sustainable fuel production. The argument in favor of including Indirect Land Use Calculation (ILUC) in the LCFS is based on the belief that biofuels have significant indirect land use impacts The argument against including ILUC in the LCFS is based on the belief that direct quantification of ILUC is by its very nature impossible, and that indirect impact modeling in general – is too uncertain to use as the basis for regulation at this time.

The public policy decision to extend the scope of the LCFS from direct to indirect, market-mediated effects is a monumental one. This is true for land use change, or any other indirect effect. Direct impacts are relatively certain, verifiable and attributable to specific types of fuels. This is true because these effects are directly related to and traceable to the production, transportation and combustion of those fuels, including upstream land use change attributable to fuel production, such as the conversion of pasture to corn or other biofuel feedstock.

Indirect impacts, on the other hand, occur as a result of a combination of drivers that may be market-related, policy-related, or as a result of a myriad of societal variables that have no connection to biofuels policy. They are, in essence, the ripple effects of any, and all, given decision in the global economy. It is arrogant and capricious to assume that cropping decisions in the United States which may occur in response to U.S. biofuels demand are responsible for cropping and land use decisions that have negative environmental impacts in foreign lands. Sovereign nations control land use decisions within their borders. While it may be appropriate to hold U.S. biofuels accountable for indirect land use changes within the United States if an accurate appraisal of such changes can be determined, it is totally inappropriate for the LCFS to ascribe land use changes in other sovereign nations to U.S. biofuels.

Indirect impacts have not been enforced by any regulatory agency against any product in the world. Indirect impacts, whether applied to biofuels or any other fuel, occur as a consequence of a myriad of nested, policy and socio-economic variables. An article published in *BioScience* magazine captures the complexity of indirect effects, as they relate to deforestation: "[a]t the underlying level, tropical deforestation is … best explained by multiple factors and drivers acting synergistically rather than by single-factor causation, with more than one-third of the cases being driven by the full interplay of economic, institutional, technological, cultural and demographic variables."[1]

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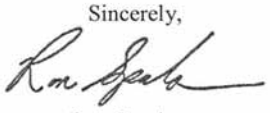
[1] Helmut J. Geist & Eric F. Lambin, *Proximate Causes and Underlying Driving Forces of Tropical Deforestation,* BioScience Magazine, Volume 52, No. 2 (Feb. 2002).

While it may be possible to model these impacts over time, the fact is that there is no model today that comes close to capturing the interplay of economic, institutional, technological, cultural and demographic variables inherent with quantifying the indirect impact of any fuel. In fact, the economic equilibrium models being offered as the mechanisms to enforce ILUC in the LCFS were not designed for regulatory use – i.e. to assign specific compliance metrics to specific fuels. They were designed to analyze the impacts of policies in more general terms and the discovered impacts are a result of model design and the limited choice of variables used within the model.

The fundamental assumption of the current ILUC argument – that using an acre of land in the U.S. for fuel will require almost an acre of crop development somewhere else – produces questionable results when applied to "good" public policy initiatives. For example, under the same assumption it is possible that setting aside land for the Conservation Reserve Program (CRP) creates more carbon emissions, because it takes agricultural acreage out of domestic food and feed production, which results in grassland and rainforest cultivation abroad. It is possible that other land protection policies, including national parks and wilderness areas, also fail the "zero sum" land use assumption because they take timber and agricultural land out of traditional production.

Thank you for allowing comments concerning this matter.

Sincerely,



Ron Sparks
Commissioner

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
ALABAMA FARMERS FEDERATION

April 10, 2009

JERRY A. NEWBY
PRESIDENT

Mr. Collin C. Peterson
Chairman
House Committee on Agriculture
Room 1301, Longworth House Office Building
Washington, DC 20515-6001

Re: Comments on the Carbon Reduction Program for Agriculture

Dear: Mr. Peterson:

As responsible environmental stewards, farmers protect natural resources and strive to minimize the impact of their operations on the environment. We support responsible, effective policies that balance environmental benefits with compliance costs and economic impact.

We believe that cap-and-trade legislation will raise US energy cost disproportionately on regions and industries that are heavily dependant on coal for the electricity and those businesses that are energy intensive in general. Since Alabama utilizes coal for over 55% of its power needs, local energy companies have indicated that the cost of a carbon reduction will be a great burden on our energy consumers in Alabama. Our energy cooperative's information shows if a $50 per ton carbon tax were imposed today, consumers would see bills increase by 31.3% and if a higher rate of $100 per ton carbon tax was imposed today, consumers would see bills increase by 62.6%.

One of our major concerns is how new regulations would negatively effect the poultry industry in Alabama, since total poultry production generated $2.40 billion in income for Alabama's poultry farmers. Broiler chicken production accounted for 51.36 percent of Alabama's farm total commodity income in 2007. Today, the total economic impact of the poultry industry on Alabama exceeds $9 billion, which is about 10% of the state's economy. In total, over 55,000 Alabamians are employed directly in the poultry industry or in industries that support the poultry industry.

Consider how this type legislation might affect the average poultry farmer in Alabama. For example the average poultry farm has (four) 40 foot wide by 500 foot long poultry houses, that use about 152,000 kilowatts hours per year at 11 cents per kilowatt hour. This results in the average farm using $16,720 of electricity per year. If the carbon reduction program causes power rates to increase 31.3% to 62.6%, the average poultry producer would pay $5,232 to $10,464 more dollars per year for each farms power usage.

Alabama's poultry industry is making great strides in carbon reduction by increasing the efficiency of production through improved genetics, environmental control, disease prevention, and nutrition. Increases in costs of this magnitude will drive many producers out of business in this state eventually putting us in the same position with our food as we are with oil. We must not allow this to happen.

Sincerely,

Guy Hall

Guy Hall, Director
Alabama Poultry Producers

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
AMERICAN AGRICULTURE
MOVEMENT, INC.

The American Agriculture Movement, Inc

Strength From The Land

April 10, 2009

The Honorable Collin C. Peterson, Chairman
Committee on Agriculture
U.S House of Representatives
Washington, DC 20515-6001

Dear Chairman Peterson,

In March, the Agriculture Committee sent out a questionnaire asking for quite a bit of information on a carbon reduction program design. Unfortunately, I would tell you that most of the questions contained within the questionnaire are well above my pay grade. I am sure that there are many from the land grant universities and USDA that have spent years studying ways in which carbon sequestration can be done and ways in which agriculture can play a major role. So there are those submitting information to you that is far more valuable than anything I could on most of the technical questions about Cap and Trade legislation.

We must reduce our dependence on foreign energy and seek all that American agriculture can provide from our ability to produce vast amounts of biomass.

I would also tell you that the American Agricultural Movement does firmly believe that if there is a Carbon Cap and Trade Program, it must benefit agriculture. Not just because we want to be benefited but because of two more important reasons for America: agriculture provides the lowest possible cost system to actually allow this country to reduce its carbon footprint and agriculture can be the greatest single contributor to the reduction of greenhouse gases. Agriculture must receive a fair price for carbon offsets with minimum price protection to assure CO2 reduction.

We believe that this actually could be a tremendous opportunity if the program were designed properly to maximize creation of good green jobs in rural America. It could be a great renaissance and rebirth in the rural economy. We would encourage you to make sure that all facets of the program develop in the best possible way to maximize the job creation benefits and the economic return to agriculture. American agriculture has too long had an over capacity to supply food and fiber to this nation and much of the world. That over capacity has caused us to send our young people off to the city to seek good jobs only to see them shipped overseas. We can build a new green economy that can create good non exportable jobs in America's heartland.

As far as some specific ways that agriculture can contribute, certainly dedicated energy crops will be a big part of the future in reducing our greenhouse gas emissions. I would like to point out the easiest and fastest way American agriculture can mitigate greenhouse gases. We have millions of acres throughout the United States that will continue to be crops that produce our major commodities. As documented by the USDA Billion Ton Report, there are millions of tons of crop residue that can be removed in a sustainable way if we are planting cover crops to protect against wind and water erosion. This method maximizes our ability in three ways to mitigate the greenhouse gas emissions. **One**, millions of tons of crop residues can be used directly to displace fossil fuel usage for heat and power applications, cogeneration and cellulose ethanol to eliminate that additional carbon entering the atmosphere. **Two**, we are stopping millions of tons of methane and CO2 from decaying into the atmosphere from those crop residues. **Three**, planting a cover crop turns carbon sequestration into a year round soil activity as opposed to a seasonal one.

If we utilize crop residues we can make dramatic reductions in greenhouse gas emissions and create millions of new jobs, a real win for all of America. Realizing we must enhance the soil fertility to the best of our ability, we may want to return the remnants of that energy production to the land. It is imperative that we develop a system of cover crop plantings. Research being done at the University of Nebraska has shown that we have a carbon net loss every year from continuous corn production because of the crop residue decaying. That loss is even greater when it is a corn/soybean rotation because corn is better at sequestering carbon than soybeans.

Sustainability is a buss word that is driving much of the debate about how to deal with climate change. I wish to make it clear that the **economic sustainability** of **American agriculture** is perhaps the most important sustainability goal of all.

AAM has worked for years with ACORE and 25x'25 to develop sound policies for renewable energy from farms and forests. We support the policy recommendations of both groups and the recommended government incentives to achieve those policy goals. AAM applauds your efforts on behalf of American farmers and ranchers and if we can be of any assistance do not hesitate to ask!

Respectfully,

Larry W. Matlack

Larry Matlack
President

Cc: Members of the U.S. House Committee on Agriculture

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
AMERICAN BAKERS ASSOCIATION

American Bakers Association

Serving the Baking Industry Since 1897

April 10, 2009

The Honorable Collin C. Peterson
Chairman
House Committee on Agriculture
United States House of Representatives
Washington DC 20515

Dear Mr. Chairman:

The American Bakers Association (ABA) is pleased to provide the following response to the House Committee on Agriculture as it considers a range of climate change options. As a processor of agriculture products in the grain chain, ABA members have a critical interest in the development of a carbon reduction program, particularly as it may affect the Nation's food prices. The ABA has represented the interests of bakers before the U.S. Congress, federal agencies, state legislatures and international regulatory authorities. ABA advocates on behalf of over 250 companies, both baking companies and their suppliers. ABA members produce bread, rolls, crackers, bagels, sweet goods, tortillas and many other wholesome, nutritious baked products for America's families. The baking industry generates over $70 billion in economic activity annually and employs close to half a million highly skilled people.

ABA does not oppose a scenario where an agricultural producer could receive emission allowances or offset credits to reflect sequestration or reductions in greenhouse gases under a carbon reduction program. This could assist in maximizing the agricultural sectors participation in this debate. Further, we emphasize the need for pragmatic solutions that will avoid negatively impacting medium and smaller size businesses, such as bakeries, that are already hard hit by the current economic climate.

Impact of Climate Change to the Baking Industry

The ABA has begun looking more closely at the climate change issue and we believe we our industry could be impacted in this debate depending on what legislative or regulatory approach is used for climate change. As we learn about this issue and assess its potential impact to the baking industry, we believe it is important for Congress to consider approaches other than the Clean Air Act for the implementation of a climate change program. In July 2008, the Environmental Protection Agency (EPA) published an Advanced Notice of Proposed Rulemaking (ANPR) entitled "Regulating Greenhouse Gas Emissions under the Clean Air Act." (73 Fed. Reg. 44,354) In this notice, the Agency acknowledges limitations of the current statutory structure that could cause regulatory burdens, including Title V permitting implications and preconstruction permits. Our concerns are that including greenhouse gases in the federal operating permit, for example, will impose permitting requirements on previously unpermitted sources that neither Congress nor the states have found necessary to regulate to date. Through ABA's

participation in the Food Industry Environmental Council (FIEC)[1] we submitted comments urging EPA to work with Congress to develop and enact a comprehensive amendment to the Clean Air Act that avoids the adverse consequences of these programs, while at the same time implementing an economy-wide greenhouse gas regulatory program that is well balanced and focused on the unique national and international challenges of greenhouse gas emissions.

At the same time, Congress must proceed carefully when designing a greenhouse gas program so as to not overly burden the food processing industry, and thereby impose price burdens on the Nation's food supply at a time when the economy is already negatively impacting businesses' livelihood. For example, if a small bakery with only two bread lines at 25,000 tons of CO2 emissions a year were a "covered facility" under a cap-and-trade proposal, that small business would have to pay $500,000 in carbon fees with allowances at only $20/ton. Such cost impacts could drive small businesses to close their doors.

Impact to Baking Industry's Costs

Over the past few years ABA's membership has increasingly looked for means of becoming more sustainable and efficient by evaluating its energy and water use, as well as packaging. These solutions have been viewed as part of their voluntary sustainability initiatives that some baking companies have undertaken. We believe these initiatives and early reductions should be credited towards minimizing our energy and carbon footprint at the appropriate time by either Congress or the regulators. Recognizing that larger sources, such as energy producers, may be encouraged to seek "greener" options of meeting the nation's energy needs leads one to consider natural gas as an option. The ABA is concerned that climate change initiatives may have a significant impact on our industry's ability to continue bringing cost effective products to the market for consumers. For example, natural gas fuels our ovens providing the necessary heat to bake our products. While we continue to explore the cost and technical feasibility of co-generation, it is difficult for us to find "greener" ovens to bake our products. If there are significant energy costs to the baking industry it may be difficult for our industry to absorb these costs and we may be forced to pass our increased costs along to the American consumer.

The baking industry's profit margins are very narrow yet we often absorb costs to minimize the impact to the consumer. This was demonstrated last year during the extremely volatile commodity market that resulted in many bakers' wheat prices increased 173% in a short period of time. Many bakers were forced to evaluate their employee structure and employee benefits as their commodity prices skyrocketed. While poor global weather conditions, an uncertain economy and increased demand for corn-based ethanol played into this situation, ABA believes Congress should consider all of the effects any new climate change program may have on the Nation's economy. As noted, because we already use natural gas to heat our ovens and make the baked goods it will be difficult or impractical to transition to a "greener" energy.

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[1] FIEC is a coalition of over sixty national food trade associations and companies that together represent more than 15,000 facilities across the country, employing approximately 1.5 million people. FIEC represents a large number of small- and medium-sized facilities nationwide

Conclusion

The baking industry, like other sectors of the food industry, has small profit margins and bakers have limited ability to quickly respond to changing feedstock and commodity pricing changes as we have already locked into certain pricing arrangements with our customers and suppliers for designated time periods usually lasting no shorter than six months. Bakers have already sought ways to increase efficiency and lower energy use. ABA is also exploring ways in which to engage our supply chain on these critical issues. Yet we continue to be challenged as energy prices increase and the commodities market, while currently more stable, has been exceptionally volatile in the past year. To date wheat plantings are down another 7 percent - flooding in the Midwest and potential frost further may impact the wheat supply and send prices soaring again this year. The baking industry will likely feel the downstream cost impacts of a climate change program on the different sectors of the American economy and we seek pragmatic solution.

Instead of regulating agriculture producers and the food sectors in general, it would be far better to incentivize further voluntary reductions in energy use and carbon-content of food through programs such as carbon offsets for agricultural lands sequestration, low-carbon fuels, and grant programs for innovation and capital investment in the low-carbon economy. ABA would welcome the opportunity to meet with you to discuss these significant issues in greater detail, and thank you for the opportunity to provide ABA's valuable input as climate change policy evolves.

Sincerely,

Lee Sanders
Senior Vice President,
Government Relations & Public Affairs

Rasma I. Zvaners
Senior Manager,
Government Affairs

RESPONSE TO QUESTIONNAIRE SUBMITTED BY AMERICAN CARBON REGISTRY™ (ENTERPRISE OF WINROCK INTERNATIONAL)
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Julia A. Philpott

Organization(s) you represent

American Carbon Registry, an enterprise of Winrock International

Address
[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Director, Market and Business Strategy

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

We recommend a cap-and-trade program with the ability to use project-based carbon offsets. Cap-and-trade allows for a market-based approach to reducing greenhouse gas (GHG) emissions, and project-based offsets can serve as a cost containment strategy under an emissions cap.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

No opinion at this time.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Auctioned for all sectors; at a minimum, there should be a limit on the number of no-cost allowances for all sectors.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Yes -- we would like to see a two-category system in which 1) projects certified under state-established programs would be able to get retroactive offset credits; and 2) projects certified under certain private programs that have third-party verification to get allowances set aside from an emissions cap. Such projects would have to end up meeting the ultimate federal offset standards in order to get retroactive offset credits (in exchange for the allowances). Qualifying programs would include the American Carbon Registry (ACR) and the Voluntary Carbon Standard (VCS). The ACR believes that important criteria for evaluating such programs are whether each: (i) requires independent third-party verifications of projects and emissions reductions/removals; (ii) registers and tracks emissions reduced/removed; and (iii) makes use of formal bodies for developing offset

project rules, standards, and methodologies, and such bodies consist of parties with substantial knowledge and expertise in evaluating the environmental integrity of offset projects.

Finally, we would assert that verified early projects receive offset allowances instead of early action allowances set aside from the emissions cap. Unlike set-aside allowances, offset allowances are additional to the emissions cap and therefore can contribute to cost containment for capped entities.

The ACR acknowledges that there may be reluctance to award offset allowances to projects that have not been verified under the eventual governmental standards. A set-aside approach reflects a compromise, and the ACR agrees with this approach. Awarding allowances from a set-aside provides certainty and therefore a flow of investment into early projects. It also recognizes and rewards the efforts of early movers. Yet, there is no risk to the integrity of the emissions cap with the emissions cap as the source of allowances.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

An existing government agency, e.g., U.S. EPA or USDA. We do not see the value in creating a new agency when existing ones can do the job, and have been working on the issue for years already.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

We do not have an opinion on this issue at this time, except to say that it is imperative to regulate any and all derivative carbon markets.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

For project-based carbon offsets, generated in the voluntary market for use in the compliance market as a cost containment strategy, we would recommend trade through highly structured instruments on regulated, transparent futures markets accessible to anybody and everyone. Reason: to ensure environmental integrity, particularly additionality.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

That depends on how the carbon reduction program is implemented, i.e., if the ag and forest sectors fell under a cap.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Revenues could be used by communities to transition to different technology and farming practices, e.g., CAFOs could use revenues to finance a change in manure management practices.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

Yes, although it depends on how you would distribute, monitor, and manage transition financing.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

Public lands provide some of the lowest risk carbon removal projects (through improved forest management, afforestation & reforestation, and deforestation avoidance) because land title is less risky than on private lands. They have an important role.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

We are opposed to limits on carbon prices; we would like to see market forces govern the price of allowances and offsets. What is important is to communicate with markets on the issue of offset quality in order to ensure environmental integrity (e.g., additionality, permanence) and market confidence (clear title-counting).

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

No, the government should let market forces determine the supply, as well as the demand, for offsets.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

For quantification, the baseline determination is the most important. The tools and methods used to determine the baseline need to be accepted, valid approaches. Verification

must be an independent, third party with no interests in the project. Monitoring relates to the crediting period, i.e., the finite period during which the baseline is valid and a project may generate carbon offsets. In terms of monitoring, one important criterion is to monitor whether the project continues to be additional.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

The critical components of quality for offsets are that they be real, measurable (baseline), verified, traceable, permanent, additional, unique (title), and have no leakage. Among these criteria, the baseline, additionaliy, and title determination are the first criteria to review. If a project fails on these criteria, there is no point in going further into an analysis of quality. Start date and crediting period are also important to review.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Not sure, but the cost of verifier accreditation is an issue for verifiers. Transaction costs and business cycle are also important elements in designing a verification program.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

A hybrid approach is necessary, i.e., one in which there is a sector standard with guidance on values and an industry performance benchmarks which is especially important for additionality, but calls for as much site specificity and field measurement as possible.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Please see Part 1, number 4

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

The risk analysis related to permanence evaluates four types of risk: project, economic, regulatory and social, and environmental/natural disturbance. Among the most important risk criterion relates to land title, i.e., the rights and interests to the land over time. The analytical outcome is the basis for determining the size of the buffer.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

There are two aspects for consideration. The first aspect to consider is the quality of the issuer, i.e., the voluntary market body or system. The ACR believes that important criteria for evaluating programs are whether each: (i) requires independent third-party verifications of projects and emissions reductions/removals; (ii) registers and tracks emissions reduced/removed; and (iii) makes use of formal bodies for developing offset project rules, standards, and methodologies, and such bodies consist of parties with substantial knowledge and expertise in evaluating the environmental integrity of offset projects. The second aspect to consider is the quality of the project-based offsets themselves. The critical components of quality for offsets are that they be real, measurable, verified, traceable, permanent, additional, unique, and have no leakage.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Early-actors should be able to benefit from any qualifying activities. In regard to stacking, what is important is to unbundle any multiple environmental benefits that arise from a qualifying activity, and package each environmental benefit as a separate commodity. For instance, a single project may have a GHG emissions reduction benefit, and a renewable energy benefit. Consider a centralized biodigester facility on a dairy farm. It can create both carbon offsets from reducing methane emissions, and from being able to generate electricity from the methane captured. In this scenario, there are both carbon offsets and renewable energy credits (RECs) that may be sold in the market separately. The key here is that the REC does not claim a GHG emissions reduction benefit. The Inland Empire Utilities Agency in Chino Hills, California provides the proof of concept for this.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Such assistance should not de facto eliminate the possibility that the project is additional.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

There must be a mechanism in place to deal with the permanence issue, either through a buffer pool or an insurance product. A buffer pool is preferable because it comprises reductions or removals that already exist. Dependence on an insurance product is more risky because a) it assumes that there is always a supply of offsets available on the market to replace any just lost; and b) what happens if the insurance company goes out of business?

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Congress should delegate authority to the appropriate government agency.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

There are not sufficient incentives yet because the price of carbon is still so low. Once market demand increases, prices will go up and in turn that will create the incentives. There is also uncertainty as to whether forest-based and ag-based offsets will be acceptable in a compliance market.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Improved forest management				
Afforestation and reforestation				
Deforestation avoidance				

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Manure management	excellent	excellent	Depends (medium)	Depends (medium)

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

The American Carbon Registry™ Forest Carbon Project Standard

March 2009
Version 1

The American Carbon Registry's™ requirements and specifications for the quantification, monitoring, and reporting of greenhouse gas forest project-based emissions reductions and removals, methodological acceptance, project verification and verification renewal, and registration and issuance of offsets by the Registry for trade in the U.S. voluntary and pre-compliance carbon markets.

An enterprise of Winrock International

American Carbon Registry™
Forest Carbon Project Standard

March 2009 – v.1

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Acronyms

ACR	American Carbon Registry™
ALM	Agricultural Land Management
AR	Afforestation/Reforestation
C	Carbon
CCAR	California Climate Action Reserve
CCBA	Climate, Community and Biodiversity Alliance (standards)
CDM	Clean Development Mechanism
CH_4	Methane
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
EB	Executive Board (of the CDM)
"ERT"	Emissions Reduction Tonne (Registry unit of exchange for verified offsets)
ERT	Environmental Resources Trust (a business unit of Winrock International)
FCPS	Forest Carbon Project Standard (standard, Registry)
GHGs	Greenhouse gases
GWP	Global warming potential
HFC	Hydrofluorocarbon
ISO	International Standardization Organization
IFM	Improved Forest Management
IPCC	Intergovernmental Panel on Climate Change
JI	Joint Implementation
MRV	Monitoring, reporting, and verification (protocol)
N_2O	Nitrous oxide
PD	Project document (documentation for registration on Registry)
PFC	Perfluorocarbon
REDD	Reducing Emissions from Deforestation and Degradation
SF_6	Sulfur hexafluoride
UNFCCC	United Nations Framework Convention on Climate Change
VCS	Voluntary Carbon Standard

Key Terms

Additionality
A project results in carbon benefits additional to business-as-usual and as a direct result of the carbon project transaction.

Afforestation
The direct human-induced conversion of land that has not been forested for a period of at least 50 years to forested land through planting, seeding and/or the human-induced promotion of natural regeneration.

Afforestation/Reforestation (AR)
Increasing carbon stocks by establishing, increasing and restoring vegetative cover through the planting, sowing or human-assisted natural regeneration of woody vegetation. AR is one of the three eligible forest project activities on the American Carbon Registry.

American Carbon Registry (ACR)
The American Carbon Registry™ (the Registry) is a voluntary, online greenhouse gas registration and emissions trading system used by Registry members to transparently register verified emissions reductions and removals as serialized offsets; record the purchase, sale, banking and retirement of tradable offsets, branded as Emission Reduction Tons ("ERTs"), and report (in a separate account) verified GHG inventories. Winrock International, a non-profit organization, owns and operates the American Carbon Registry.

Annual Quality Assurance Attestation Statement
The statement that Project Proponents shall provide annually to the American Carbon Registry relating to the additionality, ownership, and overall environmental integrity of the project.

Baseline scenario
The scenario that represents the sum of the changes in carbon stocks (and where significant, N_2O and CH_4 emissions) in the carbon pools within the project boundary that would occur in the absence of the project activity. The baseline is no longer than the duration of the project but can be less, particularly for projects related to projecting land use change (e.g. deforestation) where projecting a baseline deforestation rate much beyond ten (10) years would not be realistic.

Biological emissions
Biological emissions are GHG emissions released from forest biomass, both live and dead, and forest soil.

Buffer
American Carbon Registry insurance mechanism whereby the Project Proponent is required to contribute an adequate number and type of offsets, as determined by the Registry, to a buffer pool held by the Registry in order to replace unforeseen losses in carbon stocks. The buffer contribution is a percentage of the project's reported offsets; the percentage is determined through an assessment of project risk.

Carbon dioxide-equivalent (CO_2e)
Carbon dioxide equivalence relates to global warming potential (GWP). CO_2 is the baseline unit to which one compares the GWP of all other GHGs. The comparison is the amount that any one gas contributes to global warming compared to the same amount of CO_2 over the same period of time. For instance, methane has a GWP of 25 over 100 years; one metric ton of methane has a CO_2e of 25 metric tons. The Registry registers offsets using CO_2e calculations based on 100-year GWPs.

Carbon offsets
A carbon offset is the net carbon benefit that a project generates after accounting for leakage. The number of ERTs the Registry will issue to a project equals the total number of carbon offsets the project generates minus the number of offsets the Project Proponent holds as a buffer reserve.

Carbon pools
A carbon pool is a reservoir of carbon that has the potential to accumulate or lose carbon over time. Common forest carbon pools are aboveground biomass, belowground biomass, litter, dead wood and soil.

Carbon stock
The quantity of carbon held within a pool, measured in metric tons of CO_2-e

Clean Development Mechanism (CDM) – Is a mechanism established by Article 12 of the Kyoto Protocol for project-based emission reduction activities in developing countries. The CDM is designed to meet two main objectives: to address the sustainable development needs of the host country, and to increase the opportunities available to Treaty Parties to meet their reduction commitments.

Climate , Community & Biodiversity Alliance (CCBA)
The CCBA has methods intended to address community and biodiversity concerns and are designed for a Project Proponent to use them in conjunction with a separate carbon accounting standard such as CDM or VCS.

Communities –Groups of people including Indigenous Peoples, mobile peoples and other local communities, who live within or adjacent to the project area as well as any groups that regularly visit the area and derive income, livelihood or cultural values from the area. This may include one or more groups that possess characteristics of a community, such as shared history, shared culture, shared livelihood systems, shared relationships with one or more natural resources (forests, water, rangeland, wildlife etc), and shared customary institutions and rules governing the use of resources.

Community and/or environmental impacts
Community and environmental impacts refer to the effects that project activities may have on the socio-economic or environmental landscape.

Completeness
Completeness implies complete accounting for changes in carbon stocks across all carbon pools, landscape units, and time periods.

Crediting period
Crediting period is the finite length of time during which the project's GHG Project Plan or MRV Project Protocol is valid, and the finite length of time during which a project can generate offsets for registration on the American Carbon Registry based on the current published GHG Project Plan or MRV Project Protocol

GHG emissions reduction or removals
Reductions of emissions of GHGs released into the atmosphere, or removals from the atmosphere, measured in metric tonnes carbon dioxide equivalent (CO_2e), as converted per the 100-year Global Warming Potential for such gases established in the *IPCC Fourth Assessment Report*.

Emission Reduction Tonne (ERT) Unit
The "ERT" is the American Carbon Registry's unit of exchange for tradable, project-based carbon offsets. Registry issues one ERT for each metric ton of CO_2e emission reduction or removal verified against a Registry-approved standard.

Forest Entity
The basic unit of participation in the Registry, which includes a private individual, corporation or other legally constituted body, city or county, or a federal, state, and local government agency that owns forest/trees.

Forest
The Registry uses the Kyoto Protocol definition: A minimum area of land of 0.05 – 1.0 hectares with a minimum tree crown cover (or equivalent stocking level) of between 10 – 30 per cent with trees, and with the potential to reach a minimum height of 2 – 5 meters at maturity in situ. A forest may consist either of closed forest formations where trees of various heights and undergrowth cover a high portion of the ground or open forest. The definition includes young natural stands and all plantations that have yet to reach a crown density of 10 – 30 per cent or tree height of 2 – 5 meters, as are areas that usually form part of the forest area but that are temporarily unstocked because of human intervention (e.g., harvesting) or natural causes, but likely will revert to forest.

Greenhouse Gas (GHG)
A greenhouse gas refers to any gaseous compound that absorbs infrared radiation in the atmosphere and contributes towards the warming of the atmosphere. The six Kyoto greenhouse gases (GHGs) regulated under the Kyoto Protocol are carbon dioxide (CO_2), nitrous oxide (N_2O), methane (CH_4), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). The Registry requires projects to account for any significant source of CO_2, N_2O, and CH_4 as a result of project activities.

Global Warming Potential (GWP)
Global warming potential is a relative scale and its value depends on how the gas concentration decays over time in the atmosphere. CO_2 is the baseline unit to which one compares the GWP of all other GHGs. The comparison is the amount that any one gas contributes to global warming compared to the same amount of CO_2 over the same timeframe. By definition, CO_2 has a GWP of one (1). For instance, methane has a GWP of 25 over 100 years. Thus, one metric ton of methane has a CO_2e of 25 metric tons. The Registry registers offsets using CO_2e calculations based on 100-year GWPs as described in the IPCC *Fourth Assessment Report* (AR4), Working Group 1, Chapter 2, Table 2.14.

Improved Forest Management (IFM)
Activities related to improved forest management (IFM) are those implemented on forest lands managed for wood products such as saw timber, pulpwood, and fuel wood and are included in the IPCC category "forests remaining as forests". Only areas that are legally designated, sanctioned or approved for such activities (e.g., private timber lands, logging concessions or plantations) by national or local regulatory bodies are eligible for crediting under the IFM category. Project Proponents can change various forest

management activities that could increase carbon stocks and/or reduce GHG emissions, but only a subset of these activities make a measurable difference to the long-term increase in GHG benefits compared to business-as-usual practices. This includes the following eligible activities: conversion from conventional logging to reduced impact logging, conversion of managed forests to protected forests, extending the rotation age of evenly aged managed forest, and conversion of low-productive forests to high-productive forests. IFM is one of the three eligible forest project activities on the Registry.

Intergovernmental Panel on Climate Change (IPCC)
The IPCC provides assessments to policymakers of the results of ongoing climate change research. The IPCC is responsible for providing the scientific and technical foundation for the United Nations Framework Convention on Climate Change (UNFCCC), primarily through the publication of periodic assessment reports. The IPCC reflects existing viewpoints within the scientific community; the basis for its information and reports is scientific evidence.

Leakage
Leakage refers to a decrease in sequestration or an increase in emissions outside the project boundaries as a result of project implementation. Leakage may be due to the shifting of the activities of people present in the baseline, or due to market effects whereby emission reductions are countered by emissions created by shifts in supply and demand of the products and services affected by the project.

Methodology
A systematic explanation of how a Project Proponent established the project baseline, and estimates and monitors emissions reductions or removals by following scientific good practice. Good practice entails that a Project Proponent be conservative, transparent, and thorough. To generate an ERT unit, the Project Proponent must apply the FCP Standard to estimate and monitor its net GHG emissions reductions/removals.

Monitoring, Reporting, and Verification (MRV)
A GHG monitoring, reporting, verification (MRV) plan (a.k.a. protocol) defines how, what, and when a Project Proponent should measure, monitor, and report the forest project in order for an independent third party to verify project outcomes. In the project development cycle, the MRV is a component of the broader project design document.

Net Emissions Reductions
Net emissions reductions refer to the removal or reduction of GHG emissions by the project activity minus the baseline scenario and leakage.

Non-biological emissions
GHG emissions not released directly from plant-based biomass. GHGs from fossil fuel combustion qualify as non-biological emissions.

Non-permanence risk analysis
The process by which a Project Proponent assesses the risk that a project's offsets are not permanent. The analytical outcome is the basis for determining the size of the buffer. The impermanence risk analysis evaluates four types of risk: project, economic, regulatory and social, and environmental/natural disturbance.

Permanence
The longevity of a carbon pool and the stability of its stocks, given the management and disturbance environment in which it occurs. A feature of land-based carbon projects is the possibility of a reversal of carbon benefits from either natural disturbances (e.g., fires, disease, pests, and unusual weather events), or from the lack of reliable guarantees that the original land use activities will not return after the project concludes.

Project boundaries
Refers to the geographical implementation area, the types of GHG sources and sinks considered, the carbon pools considered, and the project duration.

Project Proponent
Entity or individuals organizing, proposing or advocating a particular carbon offset project. The Project Proponent could be the project designer(s), developer(s) and/or investor(s), or other parties working on behalf of the project.

Reducing Emissions from Deforestation and Degradation (REDD)
The reduction in GHG emissions from the reduced conversion of forests (growing on upland or wetland, including peat swamp areas), to cropland, grassland, and settlement. REDD is one of the three eligible forest project activities under the Registry.

Reforestation
The direct human-induced conversion of land that has not been in forest for a period of less than fifty (50) years to forested land through planting, seeding and/or the human-induced promotion of natural regeneration.

Standard
A standard is an established norm or requirement in a formal document that establishes uniform engineering or technical criteria, methods, processes and practices. The Registry uses only its own standards.

Tools
A tool can be a *component of a methodology* (i.e., a stand-alone methodological module to perform a specific task) or a *calculation tool* (i.e., spreadsheets or software that perform calculation tasks).

Verification
The act of confirming that the Project Proponent collected, quantified, and submitted the GHG emissions reductions data in accordance with the guidelines put forth in the Registry eligibility criteria and sector standard.

Verifier
The individual responsible for ensuring that a project complies with the Registry standard, and complies with Registry eligibility criteria.

Verified Emissions Reduction
An emissions reduction from a project action or a reduction against a corporate inventory that a verifier has verified as compliant with the Registry standard and eligibility criteria for quality and environmental integrity.

Wood products
Products derived from harvested wood from a forest, including solid, panel, and fiber.

Foreword

The *American Carbon Registry™* is an enterprise within Winrock International's Environment Group, and is a sister enterprise of the Environmental Resources Trust. Winrock International works with people in the U.S. and around the world to empower the disadvantaged, increase economic opportunity, and sustain natural resources. The American Carbon Registry™ developed the *Forest Carbon Project Standard* to provide a robust, innovative, and business-friendly standard for Project Proponents and market participants to originate, register, and trade high quality, low risk project-based forest carbon offsets for the U.S. carbon markets.

The *Forest Carbon Project Standard* is one of several standards developed by the American Carbon Registry (the "Registry"). The *Forest Carbon Project Standard* (FCPS) is part of the broader American Carbon Registry enterprise. The *American Carbon Registry Standard* describes the overall requirements, eligibility criteria, and specifications for all GHG inventories and GHG projects, as well as registration and issuance. The *Registry Operating Guidelines* provide additional guidance related to the role, activities, and services of the American Carbon Registry, the rules that regulate it, and the Registry's operating procedures.

The Registry's intent with these documents (available at http://americancarbonregistry.org/carbon-accounting) is to support the development of the voluntary and pre-compliance U.S. carbon markets. The requirements in ISO14064, Parts 2-3:2006 and ISO 14065:2007 are the foundation for all of the Registry's standards. In 2009 the Registry will apply for approval by the International Organization for Standardization (ISO) for the *Forest Carbon Project Standard*. In advance of this

release, Project Proponents shall use this document to develop Registry-compliant forest projects.

Development of the *Standard* would not have been possible without the support, loyalty, and commitment of the American Carbon Registry's Founding Members from whom Registry staff has learned so much about the U.S. carbon markets. The Winrock International Board of Directors has been indispensable to the *Standard's* development. In the absence of their support, guidance, and insight, little if any of this would have been possible.

In particular, Registry staff wishes to thank Winrock CEO Frank Tugwell and the members of the special Board Task Force, a subset of Winrock's larger board comprising the following four members who have volunteered considerable time, insight, and dedication to the Registry's growth and successes: Brooks Browne, Christiana Figueres, Will Ketcham, and Paul Savage.

The American Carbon Registry extends its thanks and appreciation to the following individuals who contributed their time, academic expertise, and field expertise to develop this Standard: Wiley Barbour, Sandra Brown, Mary Grady, Nancy Harris, Bill Howley, John Kadyszewski, Gary Kaster, Jonathan Klavens, Ken MacDicken, Tim Pearson, Julia Philpott, and Gordon Smith.

Finally, the American Carbon Registry recognizes the value of, and has cited throughout this document, the following organizations upon whose contributions to the GHG emissions trading field the Registry relied to develop the core of the *American Carbon Registry Standard*:

- Clean Development Mechanism (CDM, http://cdm.unfccc.int/methodologies/PAmethodologies/approved.html) for its baseline, additionality determination, and monitoring tools and methodologies;

- Climate Group (http://www.theclimategroup.org/major_initiatives/vcs) for its tools and methodologies on permanence risk assessment and buffer mechanism and its Agriculture, Forest and Other Land Use (AFOLU) standard under its Voluntary Carbon Standard Program.

- International Organization for Standardization (ISO, http://www.iso.org/iso/home.htm) for its materials under ISO 14064-1-3:2006 and ISO 14065:2007;

- U.S. Environmental Protection Agency (U.S. EPA, http://www.epa.gov/climateleaders) for its sector and project tools and methodologies, and GHG inventory monitoring and reporting guidance under the Climate Leaders Program; and

- Voluntary Carbon Standard (VCS, http://v-c-s.org/) for its baseline, risk buffer determination tools and methodologies;

- World Resources Institute/World Business Council for Sustainable Development (WRI/WBCSD, http://www.ghgprotocol.org/)for the GHG accounting guidance materials for GHG project and for GHG inventories under the GHG Protocol Initiative.

The appropriate citation for this document is Winrock International (2009), *American Carbon Registry Forest Carbon Project Standard*, American Carbon Registry™, Arlington, Virginia. Project Proponents can view the current FCP standard for the Registry at http://www.americancarbonregistry.com/carbon-accounting.html

SECTION I: INTRODUCTION

The American Carbon Registry™ (the Registry) is a voluntary, online greenhouse gas (GHG) registration and emissions trading system used by Registry members to transparently register verified emissions reductions and removals as serialized offsets; record the purchase, sale, banking and retirement of tradable offsets, branded as Emission Reduction Tons ("ERTs"), and report (in a separate account) verified GHG inventories.

The purpose of the American Carbon Registry's *Forest Carbon Project Standard* document is to detail for the carbon marketplace the minimum quality level that every forest carbon project must meet, if not exceed, in order for the American Carbon Registry to transform the project's GHG emissions reductions and removals into tradable and fungible environmental assets within the existing U.S. voluntary and emerging pre-compliance carbon markets.

The *Forest Carbon Project Standard* details the requirements and specifications for the quantification, monitoring, and reporting of project-based greenhouse gas (GHG) emissions reductions and removals, project verification, and registration and issuance of offsets by the Registry for trade in the U.S. voluntary and pre-compliance carbon markets. The Registry provides flexibility for a Project Proponent to use a wide range of methodologies and tools from the Clean Development Mechanism (CDM) and the Climate Group – Voluntary Carbon Standard in order for its project to meet the *American Carbon Registry Standard* (2009) for offset registration and bring its offsets to market as quickly as possible.

The *Forest Carbon Project Standard* (FCPS) includes requirement and specifications for afforestation and reforestation (AR); improved forest management (IFM); and reducing

emissions from deforestation and degradation (REDD) projects. The FCPS does not include agriculture land use projects; the forthcoming (in early 2009) Registry Agriculture Carbon Project (ACP) Standard will capture this project type. The Registry's *Forest Carbon Project Standard* requires that every offset from each project be real, measurable, permanent, additional, and be the result of a verified emissions reduction and/or removal, i.e., the basics of high quality and low risk.

The following four sections address the forest sector's dual capacity to store and emit CO_2. Section II discusses project eligibility requirements that apply to all forest projects, with some variation by project type. Section III details Registry accounting concepts. Section IV describes the Registry-approved methodologies and quantification tools that Project Proponents shall use for forest projects. Section V outlines the Registry's approach to additionality determination. Section VI details the Registry accounting requirements.

SECTION II: ELIGIBILITY REQUIREMENTS

Forest projects must meet the American Carbon Registry™ eligibility criteria in Table 1 below. Project Proponents shall describe and document in the Project Document (PD), i.e., either the GHG Project Plan or MRV Project Protocol, how the project meets the criteria in order to enter the Registry system for project verification, registration, and offset issuance. In addition, the Project Proponent shall demonstrate in the PD that it has met all relevant regulations, legislation, and project approvals (e.g., environmental permits). Table 1 identifies the Registry's eligibility criteria for forest projects, provides a definition of the criterion, and articulates the Registry requirement for that criterion.

The Registry reserves the right to remove offsets from the Registry on a case-by-case basis.

Table 1 - Eligibility Criteria for Forest Carbon Offset Projects

Criteria	Definition	Requirement
Project Document	A project document (PD) defines how, what, and when a Project Proponent shall measure, monitor, and report the project in order for an independent third party to verify project outcomes. The PD is either a GHG Project Plan or a MRV Project Protocol, depending on whether the project uses an existing and/or Registry-approved methodology within a sector standard, or a new methodology for a new project type that is not	The Registry requires a GHG Project Plan for projects using existing and Registry-approved tools and methodologies, and based on an existing Registry sector standard, as applicable. The Registry requires a MRV Project Protocol for projects using a new methodology and/or tool (but validated by the Registry) and not based on a Registry sector standard, as applicable. All PDs shall address each of the following eligibility criteria in this table, and in accordance with ISO

	under an existing sector standard.	14064-2:2006, Clause 5.2.
Start Date	The Registry defines the start date for forest projects as the date by which the Project Proponent began the project activity on project lands.	The Registry accepts forest projects with a Start Date no earlier than 01 January 1990. The Registry will evaluate forest project start dates on a case-by-case basis based on the original intent of the project. Start date definitions per project type are: AR project start is when the Project Proponent began planting; IFM project start date is when the Project Proponent began to apply the land management regime; REDD is when the Project Proponent implemented the project-action physically and/or legally.
Real	A real project-based offset is the result of a project action that yields after-the-fact, quantifiable and verifiable GHG emissions reductions/removals. Real offsets yield atmospheric benefit.	Offsets shall exist prior to issuance. The Registry will not forward issue nor forward register a projected stream of future offsets.
Direct Emissions	An emission or removal is a "direct emission" if the Project Proponent owns or has control over the source of the emissions (e.g., equipment) or the emissions sink (e.g., project lands).	Project Proponent shall own or have control for the life-of-project over the GHG sources and/or sinks from which the reduction or removals originate.
Additional	Additionality is a test intended to ensure that project offsets are "in addition to" reductions and removals that would have occurred without carbon	Every project shall pass through a test of the project's additionality along three dimensions: 1) projects must meet or exceed regulatory requirements; 2) go beyond common practice; and 3) overcome

	market incentives.	implementation barriers (institutional, financial or technical).
Offset Title	Title is a legal term representing rights and interests in an offset, a future stream of offsets, or a project delivering offsets.	Project Proponent shall provide documentation and attestation of undisputed title to all offsets prior to registration. Title to offsets shall be clear, unique, and uncontested.
Land Title	Title is a legal term representing rights and interests in project lands.	Project Proponent shall provide documentation and attestation of undisputed land ownership to all project lands.
Project Baseline	The project baseline is a counterfactual scenario that forecasts the likely stream of reductions/removals to occur if the Project Proponent does not implement the project, i.e., the "business as usual" case.	Project Proponents shall use appropriate tools and methodologies to estimate and update forest project baselines. Project Proponents shall estimate the baseline for all forest projects at the project start. Baseline will be verified by a Registry-approved verifier at time of offset issuance. At the time of project verification, verifiers shall review and verify that the minimum project contribution to the Registry buffer pool is valid.
Permanence	Permanence is in reference to the longevity of terrestrial carbon stocks, i.e., carbon that is stored (sequestered) in biomass. Fire, disease, pests, and human disturbances can reduce carbon stocks and result in the reversal of carbon removal, i.e., the atmospheric benefit is not permanent. In such a case, the offset is not permanent, thus the need to address	Project Proponents shall identify, assess, and address in the PD the risk of reversal by using Registry-approved methodologies and tools (e.g., the VCS permanence risk assessment and buffer determination tool). Relative risk of reversal will determine buffer values, and therefore contribution to the Registry buffer pool. Alternatively Project Proponents shall provide evidence of sufficient insurance coverage to recover any future reversal.

	non-permanence and mitigate reversal risk.	*The Registry reserves the right to reject the risk assessment method and findings either at the time of project screening or verification acceptance.*
Carbon Buffer Pool	A buffer pool is a type of risk management mechanism whereby the Project Proponent maintains a reserve of project-based offsets in order to mitigate reversal risk by having the capacity to replace unforeseen losses in carbon stocks.	Project Proponents shall participate in the Registry buffer pool unless the option to maintain insurance coverage is selected. Project Proponents shall use the "Tool for AFOLU Non-Permanence Risk Analysis and Buffer Determination" in order to address risk permanence and buffer determination. The offsets held in the buffer pool shall be under the management and sole control of the Registry. Project Proponents shall undergo every five (5) years, counting from the first project verification, a review by an independent verifier of the minimum project buffer values to ensure that a positive, safe, and balanced buffer pool exists for the project at all times.
Leakage Controlled	Leakage is the increase in GHG emissions outside the project emissions boundaries that occurs because of the project action.	Project Proponents shall include leakage in the GHG Project Plan or MRV Project Protocol, and shall deduct all leakage that reduces the GHG emissions reduction/removal benefit of the project. The Registry assesses leakage on a case-by-case basis.
Crediting	Crediting period is the finite length of time for which the project baseline is valid,	AR projects will have a crediting period of thirty-five (35) years or less, with opportunities for

Period	and during which a project can generate offsets for registration in the Registry.	baselines validation renewal. IFM and REDD projects will have a crediting period of ten (10) years or less, with opportunities for validation renewal. Project Proponents shall use the current baseline methods and factors that are in effect with Registry-approved tools and methodologies at the time of crediting period renewal. If the independent verifier does not issue a positive baseline validation after thirty-five (35) years for AR projects, and ten (10) years for IFM and REDD, it will provide a written explanation and list corrective actions for the Project Proponent to take within a specified timeframe at the discretion of the Registry. If the Registry determines at any time that there is no longer regulatory surplus, the Registry reserves the right to nullify the crediting period and no longer issue offsets from the project.
Independent Verification	Verification is the independent assessment of GHG emissions reduction and removal by a qualified third party. The outcome is a verification statement that provides an opinion on the relevance, completeness, accuracy, reliability, and transparency of the quantification data and methods.	The Registry requires independent verification, as scheduled in the project's GHG Project Plan or MRV Project Protocol by a Registry-approved verifier. Verifiers shall use transparent and replicable verification methods against the relevant Registry project eligibility criteria and forest sector standard.

		The Registry reserves the right to reject a verification statement from a Registry-approved verifier.
Community & Environmental Integrity	Projects have the potential to generate both positive and negative community and environmental impacts.	Project Proponents shall take steps to mitigate negative community and environmental impacts prior to registration. Project Proponent shall provide the Registry an Annual Qualitative Review and Attestation statement of any claims that arise during the project about negative community and environmental impacts. If impacts arise during project implementation, Project Proponents shall report them to the Registry, and mitigate negative impacts prior to Registry issuance of new reductions/removals from the project. *The Registry reserves the right to remove offsets from the Registry on a case-by-case basis.*

A. Additional Requirements

Land Eligibility

Project Proponents shall provide documented evidence in the GHG Project Plan or the MRV Project Protocol that no AR project areas experienced anthropogenic clearing of native ecosystems within the ten (10) year prior to the proposed Project Start Date. AR project areas may have experienced loss of forest cover within ten (10) years if the loss

was caused by natural disturbance and it can be demonstrated that natural recovery is not occurring.

Tools and Methodologies

Project Proponents may use:

- CDM or VCS tools and methodologies for AR projects;
- VCS tools and methodologies for IFM and REDD projects;
- VCS "Guidance for Agriculture, Forestry and Other Land Use Projects (2007.1, 2008)" for all other forest project types;
- VCS "Tool for AFOLU Methodological Issues" for the determination of project type and land eligibility, project boundary, carbon pools, baseline, leakage and the net project GHG benefits; and
- VCS "Tool for AFOLU Non-Permanence Risk Analysis and Buffer Determination" to assess non-permanence risk, prepare a risk analysis, and determine the buffer.

SECTION III: ACCOUNTING CONCEPTS

A. Forest Carbon Project

A forest carbon project is a defined project action, or set of actions, to reduce greenhouse gas (GHG) emissions/remove GHGs from the atmosphere by conserving and/or increasing forest carbon stocks in a defined geographic area.

B. GHG Emissions Accounting

Project Proponents shall account for any significant source of GHGs in the GHG Project Plan/MRV Project Protocol (a.k.a. the Project Document or PD) by using Best Practice accounting methods. The Registry affirms a set of guiding principles that shape its work in the U.S. carbon markets and carbon markets internationally. Clause 3 in the ISO 14064-2:2006 Standard is the basis for the American Carbon Registry's project-level accounting requirements, and the GHG Protocol, Corporate Inventory Guidance (2005) is the basis for the GHG inventory accounting principles. Please see *American Carbon Registry Standard* (2009), Accounting Principles, p. 36 available at www.americancarbonregistry.org.

C. Project Baseline

The baseline scenario is a long-term projection of the forest management practices or activities that would have occurred (or the absence thereof) within the project's physical boundaries in the absence of the project. The project baseline is a counterfactual scenario that depicts the likely stream of emissions or removals expected to occur if the Project Proponent does not implement the project. Change in carbon stocks or emissions of GHGs over time relative to the baseline is the basis for GHG reductions and removals. The quantity of offsets that a project generates is the difference between actual emissions or removals and the baseline emissions or removals resulting from the project action.

D. Measurement Accuracy and Precision

The American Carbon Registry requires that the 90% statistical confidence interval of sampling be no more than 10% of the mean estimated amount of emission reduction/removal. If the Project Proponent cannot meet the targeted +/- 10% of the mean at 90% confidence, then the reportable amount shall be the mean minus the lower bound of the 90% confidence interval.

E. Completeness

Project Proponents shall consider all relevant information that may affect the accounting and quantification of GHG reductions/removals, including estimating and accounting for any decreases in carbon pools and/or increases in GHG emission sources. If a project action increases use of inputs, Project Proponents shall count as project emissions expected emissions from production of those inputs. Project Proponents should not count downstream emissions, except for non-economic downstream emissions. For example, vehicles emit oxides of nitrogen and some of these oxides become nitrous oxide in the atmosphere. Project Proponents shall not count emissions involved in economic uses of project outputs (unless the economic uses are a direct component of the project activities). For example, if a project grows grain then sells it, and the grain buyer then feeds the grain to cattle, the Project Proponent would not estimate and count as project emissions the methane emissions from the cattle.

F. Leakage

Leakage is the displacement of GHG emissions from inside the project's physical boundaries to locations outside of the project's boundaries as a result of the project action. Leakage includes the carbon in wood that a forest entity removes from project lands and subsequently stores in harvested wood products. The Registry will register only those offsets from forest projects that account for leakage in the GHG Project Plan or MRV Project Protocol pursuant to this standard and based on CDM and VCS methodologies as

appropriate. All Project Proponents shall address the requirements in Table 2 in the GHG Project Plan or MRV Project Protocol.

The Registry reserves the right to assess leakage on a case-by-case basis.

Table 2 – Registry Requirements for Leakage Assessment & Quantification

Leakage Category	Assessment	Quantification
Activity shifting	Required	Required
Market	Required	Required
Other	Not required	Not required

G. Permanence

Permanence is a reference to the longevity of terrestrial carbon stocks. Events such as forest fire, disease, pests, and illegal logging can harm carbon stocks and result in the reversal of carbon reduction/removal, i.e., the atmospheric benefit is not permanent.

Project Proponents shall identify, assess, and address permanence by a Registry-approved mechanism. Project Proponents have the option to use of one of the following to address the risk of reversal:

- Project contributions of offsets to the Registry buffer pool;
- Insurance policy guaranteeing replacement price for offsets;
- Donated, non-forest offsets that meet the Registry Standards.

H. Buffer

To address risk of reversal, the Registry uses a buffer, i.e., a contribution of an adequate number and type of offsets, as determined by the American Carbon Registry, to a buffer pool to cover any future reversals. Buffer size is determined through a risk assessment completed by the verifier and the Registry.

I. Socioeconomic and Environmental Impacts

Projects have the potential to generate socioeconomic and environmental impacts, including impact on the integrity of existing forests, biodiversity, clean water, poverty alleviation, and respect for the rights of indigenous peoples and other local communities. [1] The Registry requires written disclosure in the Annual Qualitative Review of any claims that arise during the project about negative environmental and socio-economic impacts. Project Proponents shall take steps to mitigate them prior to generation of emissions reductions and removals. The Registry reserves the right to remove offsets from the Registry on a case-by-case basis.

The Registry reserves the right to assess the disclosure on a case-by-case basis.

J. Biomass Energy

Over time, GHG emission reductions from displacement of fossil fuel could make a net GHG benefit for a project, even if displacement of fossil fuel reduces terrestrial carbons stocks temporarily. Project Proponents must calculate GHG emissions from displaced fossil fuel by using energy project protocols. If biomass energy projects reduce terrestrial carbon stocks, Project Proponents must count these reductions as project emissions. Project Proponents may calculate terrestrial carbon stock change over periods of up to ten (10) years. That is, a Project Proponent does not need to count as a project emission in year one (1) the removal of biomass for fuel if the biomass carbon stock returns to at least the original stock by the end of year ten (10).

[1] ACR will count as evidence but does not require certification from the Forest Stewardship Council (FSC) (www.fsc.org) as well as completion of, or conformity with, the Climate, Community & Biodiversity Alliance approval process for forest projects under the Climate, Community & Biodiversity (CCB) standard (www.climate-standards.org).

SECTION IV: TOOLS AND METHODOLOGIES

The American Carbon Registry recommends the adoption of and compliance with Registry methodologies where they exist. The Registry accepts pre-existing, approved methodologies and tools from the following other GHG emissions systems: the Clean Development Mechanism (CDM), U.S. Environmental Protection Agency (U.S. EPA) Climate Leaders Program, and the Climate Group Voluntary Carbon Standard (VCS) to the extent they use IS0 14064, Parts 1-3: 2006 Standards, are industry Best Practice, and comply and are in no way in conflict with the American Carbon Registry Standard (2009) and Eligibility Criteria (2009).

The *American Carbon Registry Standard* supersedes all other standards, and all non-Registry standards, methodologies, and tools are subject to clarification by Registry standards, criteria, and operating guidance. Project Proponents may use the following tools and methodologies for afforestation and reforestation (AR) projects, improved forest management (IFM) projects, and reducing emissions from deforestation and degradation (REDD) projects:

- CDM or VCS tools and methodologies for AR projects;
- VCS tools and methodologies for IFM and REDD projects;
- VCS - "Guidance for Agriculture, Forestry and Other Land Use Projects (2007.1, 2008)" for all other forest project types;
- VCS - "Tool for AFOLU Methodological Issues" for the determination of project type and land eligibility, project boundary, carbon pools, baseline, leakage and the net project GHG benefits; and
- VCS - "Tool for AFOLU Non-Permanence Risk Analysis and Buffer Determination" to assess non-permanence risk, prepare a risk analysis, and determine the buffer

Table 3 below provides the links to each of the tools and methodologies, as well as tools and methodologies to fossil fuel-based direct emissions, sources and sinks significance testing, additionality determination, baseline quantification, land eligibility, project boundary, leakage assessments, non-permanence and buffer determination, and global warming potential factors.

Table 3 – Accepted Tools, Methodologies, and Factors

CDM – All baseline and monitoring tools and methodologies (projects)	http://cdm.unfccc.int/methodologies/PAmethodologies/approved.html
CDM – Afforestation and reforestation tools and methodologies (projects)	http://cdm.unfccc.int/methodologies/ARmethodologies/approved_ar.html
CDM – GHG sources and sinks significance test	http://cdm.unfccc.int/EB/031/eb31_repan16.pdf
CDM – *Tool for the Demonstration and Assessment of Additionality* (version 04) (projects)	http://cdm.unfccc.int/EB/036/eb36_repan13.pdf
IPCC – *Guidelines* (2006) for ex-ante determination and quantification of the baseline and project scenario, including leakage assessment (projects)	www.ipcc-nggip.iges.or.jp/public/2006gl/vol4.htm
IPCC – *Fourth Assessment Report* (2007) global warming potential factors (projects and inventories)	http://ipcc-wg1.ucar.edu/wg1/Report/AR4WG1_Print_Ch02.pdf
U.S. EPA – Direct Emissions from Mobile Combustion Sources (2008) (projects)	http://www.epa.gov/climateleaders/documents/resources/mobilesource_guidance.pdf
U.S. EPA – Direct HFC and PFC Emissions from Use of Refrigeration and Air Conditioning Equipment (2008)(projects)	http://www.epa.gov/climateleaders/documents/resources/mfgrfg.pdf
VCS – Guidance for Agriculture, Forestry and Other Land Uses (2008) (projects)	http://www.v-c-s.org/docs/Guidance%20for%20AFOLU%20Projects.pdf

VCS – *Tool for AFOLU Methodological Issues* for land eligibility, project boundary, and carbon pools (2008) (projects)	http://www.v-c-s.org/docs/Tool%20for%20AFOLU%20Methodological%20Issues.pdf
VCS – *Tool for Non-permanence Risk Analysis and Buffer Determination* (2008) (projects)	http://www.v-c-s.org/docs/Tool%20for%20AFOLU%20Non-Permanence%20Risk%20Analysis%20and%20Buffer%20Determination.pdf

The Registry reserves the right to reject a specific methodology and/or tool.

A. Community Impacts Assessment

The American Carbon Registry recognizes the Climate, Community & Biodiversity Alliance's (CCBA) definition of community. The Registry does not require compliance with the CCB Standard (2008), or completion of the CCB verification process. The Registry does recommend, however, that Project Proponents choose among the CCB's published list of preferred tools and methodologies to identify, assess, and report on community and environmental impacts. CCBA's definition (and by extension the Registry's accepted definition) of community is:

> "A community includes all groups of people including Indigenous Peoples, mobile peoples and other local communities, who live within or adjacent to the project area as well as any groups that regularly visit the area and derive income, livelihood or cultural values from the area. This may include one or more groups that possess characteristics of a community, such as shared history, shared culture, shared livelihood systems, shared relationships with one or more natural resources (forests, water, rangeland, wildlife, etc.), and shared customary institutions and rules governing the use of resources." Source: CCB Standards, *Project Design Standards*. Second Edition (2008).

Project Proponents shall make a credible estimate of impacts in a signed attestation letter confirming that it has mitigated any and all negative community and environmental impacts prior to registration in the Registry.

A credible estimate of impacts must include changes in community well-being due to project activities and an evaluation of the negative impacts by the affected groups. Project Proponents shall base these estimates on defined and defensible assumptions about how project activities will alter social and economic well-being, including potential impacts of changes in natural resources and ecosystem services identified as important by the communities over the duration of the project. Project Proponents shall:

- Describe how the 'without project' reference scenario would affect communities in the project zone, including the impact of likely changes in water, soil and other locally important ecosystem services. Compare to the 'with project' scenario.
- Describe how the 'without project' reference scenario would affect biodiversity in the project zone (e.g., habitat availability, landscape connectivity and threatened species). Compare to a 'with project' scenario.

B. Community Impacts Assessment Tools

The difference between the 'with' and 'without' scenarios (i.e., the community benefit) shall be positive for all community groups in order for the project to qualify for registration on the Registry. Table 4 below provides a list of resources, taken from the CCBA that Project Proponents may use to develop their statement.

Table 4 – Community Impacts Assessment Resources per the CCBA

The International Council on Mining and Metals (ICMM) indicators on community engagement.	http://www.icmm.com/page/629/community-development-toolkit
World Resources Institute (WRI). 2003. *Assessing Access to Information, Participation, and Justice for the Environment: A Guide*.	http://pubs.wri.org/pubs_description.cfm?PubID=3814

Stec, S. 2003. *Handbook on Access to Justice under The Aarhus Convention*. REC, Szentendre	http://www.elaw.org/system/files/aarhus.Access.Justice.pdf
Livelihoods Connect: *Sustainable Livelihoods ToolBox*, Learning Guide, Key Documents	http://www.livelihoods.org/info/info_toolbox.html
The Sustainable Livelihoods Approach	www.ifad.org/sla/
Pasteur, K. *Tools for Sustainable Livelihoods: Livelihoods Monitoring and Evaluation*. IDS, 2001	http://www.livelihoods.org/info/tools/Pas-ME01.rtf
Case Studies of Monitoring Livelihoods Impact	http://www.livelihoods.org/lessons/lessons.html
Smith, J., Scherr, S.J. 2002. *Forest carbon and local livelihoods: assessment of opportunities and policy recommendations*. CIFOR Occasional Paper. No. 37. 45p.	http://www.cifor.cgiar.org/publications/pdf_files/OccPapers/OP-037.pdf
Rezende, D. and S. Merlin. 2002. *Social Carbon: Adding value to sustainable development*. Instituto Ecológica, Palmas, Brazil	http://www.ecologica.org.br/downloads/publicacoes/livro_social_carbon.pdf
CARE. 2002. *Household Livelihood Security Assessments. A Toolkit for Practitioners*	http://pqdl.care.org/pv_obj_cache/pv_obj_id_8A7F2883250B950EFE54587EE785726E169E2B00
PROFOR Program on Forests -The World Bank: The Poverty-Forest Linkages Toolkit	http://www.profor.info/content/livelihood_poverty.html

SECTION V: ADDITIONALITY

The Registry accepts only forest projects that demonstrate a discernable project action that is additional with respect to the project baseline. Additionality is a test intended to ensure that project offsets are "in addition to" reductions/removals that would have occurred without carbon market incentives. It is the metric by which a project demonstrates its results are a real and measurable reduction in atmospheric levels of GHGs. In essence, the question the additionality test seeks to answer is, was GHG emissions mitigation and/or carbon market incentives part of the rationale for project design and implementation?

A. General Requirements

The American Carbon Registry evaluates forest project start dates on a case-by-case basis. The table below describes the Registry's approach in more detail.

B. Hybrid Approach

The demonstration of additionality can be difficult. No single test is best for all circumstances because projects may differ by type as well as by site-specific characteristics and anomalies. The Registry uses an approach that combines three key tests for determining project additionality, i.e., the "project " approach. These three tests help the Registry to identify in particular whether realizing a GHG emissions reduction / removal goal was a reason, even if only one among many. Table 5 describes in more detail the three (3) tests under the "project additionality", which are:

- Regulatory Surplus
- Common Practices
- Implementation Barriers

Table 5 - Hybrid Additionality Test

Test	Key Questions
Regulatory Surplus	Is there an existing law, regulation, statute, legal ruling, or other regulatory framework in effect now or as of the project start date that mandates the project or effectively requires the GHG emissions reductions? **Yes = Fail; No = Pass**
Common Practice	In the field or industry/sector, is there widespread deployment of this project, technology, or practice within the relevant geographic area? **Yes = Fail; No = Pass**
Implementation Barriers	*Choose one (1) of the following three (3):*
Financial	Does the project face capital constraints that carbon revenues can potentially address; *or* is carbon funding reasonably expected to incentivize the project's implementation; *or* are carbon revenues a key element to maintaining the project action's ongoing economic viability after its implementation? **Yes = Pass; No = Fail**
Technological	Is a primary reason for implementation of the technology in question its GHG reduction capabilities or benefits, *and* is the reduction/removal of GHGs one of the goals of the project at the start date? **Yes = Pass; No = Fail**
Institutional	Does this project face significant organizational, cultural, or social barriers to GHG emissions reduction/sequestration that the accrual of benefits from a GHG emissions reduction/removal project action will help to overcome? **Yes = Pass; No = Fail**
If the project passes the Regulatory Surplus and Common Practices tests, and at least one Implementation Barrier test (i.e., financial, technological, or institutional), REGISTRY considers the project additional.	

C. Regulatory Surplus Test

The regulatory surplus test involves existing laws, regulations, statutes, legal rulings, or other regulatory frameworks that directly or indirectly affect GHG emissions associated with a project action or its baseline candidates, and which require technical, performance, or management actions. These legal requirements may involve the use of a specific technology, meeting a certain standard of performance, or managing operations according to a certain set of criteria or practices (e.g., forest management practices). The Registry does not consider mandatory those voluntary agreements without an enforcement mechanism, proposed laws or regulations, or general government policies.

D. Common Practices Test

The common practices test represents the predominant technology(ies) implemented or industry practice(s) undertaken in a particular industry sector and/or geographic region, as determined by the degree to which those technologies/practices have penetrated the market (in a specific geographic area). The proposed offset project must reduce GHG emissions below levels produced by common practices technologies within a comparable environment (e.g., regulatory framework, investment climate, access to technology/financing, etc.).

The level of penetration that represents common practice may differ between sectors and geographic areas, depending on the diversity of baseline candidates. The common practice penetration rate or market share for a technology or practice may be quite low if there are many alternative technologies and practices. Conversely, the common practice penetration rate or market share may be quite high if there are few alternative technologies or practices. Projects that are "first-of-its-kind" are not common practice.

E. Implementation Barriers Test

An implementation barrier represents any factor or consideration that would prevent the adoption of such a practice/activity proposed by the project action. Baseline candidates each may face multiple barriers. Generally, there are no barriers to the continuation of current activities, with the exception of regulatory or market changes that force a shift in a project activity, or the end of equipment's useful lifetime. Under the implementation barriers test, Project Proponents shall choose at least one (1) among three (3) barrier assessments: i) financial, ii) technological, and iii) institutional. The Registry does not require passing all three (3) barriers. These are:

- *Financial* - Financial barriers can include high costs, limited access to capital, and high risks such as unproven technologies or business models, poor credit rating of project partners, and project failure risk.
- *Technological* - Technological barriers can include R&D deployment risk, uncorrected market failures, lack of trained personnel and supporting infrastructure for technology implementation, and lack of knowledge on practice/activity.
- *Institutional* - Institutional barriers can include institutional opposition to technology implementation, limited capacity for technology implementation, lack of management consensus, aversion to upfront costs, and lack of awareness of benefits.

Box 1 - Project Approach vs. Performance Approach

The Registry may consider the "performance" approach in the future once there is an approved CDM, U.S. EPA or VCS methodology, or the Registry has developed its own methodology. The performance test would require that Project Proponents shall pass the regulatory surplus test and the emissions generated per unit output by the project shall be below the level defined as business-as-usual by the CDM, U.S. EPA, VCS or the American Carbon Registry for the product, service, sector or industry.

SECTION VI: ACCOUNTING REQUIREMENTS

A. Baselines

Below is a description of the different issues that arise depending on project type:

Baseline for AR

The AR baseline is the carbon stock present shortly prior to site preparation or the most likely carbon stock in the absence of project implementation. AR Project Proponents need to document that the project lands were not in forest use immediately prior to the project, and should provide at least qualitative evidence that the forest entity did not convert to non-forest use in order to implement an AR project. Demonstrating that the lands had been in non-forest use for several years is often sufficient to show that the forest entity did not convert from forest in order to prepare for an AR project. Trees may be present within the project boundary at the time of the start of the project; the Registry will only count sequestration of pre-existing trees as offsets if growth of the trees is also projected in the baseline. Project Proponents must quantify removal using forest management project accounting methods.

Baseline for IFM

IFM includes both avoided degradation projects and projects that increase carbon stocks in existing forests. The IFM baseline is the legally-permissible harvest that would maximize net present value of wood product harvest; the harvest schedule is the baseline management. Required inputs include the results of a recent timber inventory of the project lands; current published prices for wood products of grades that the project could produce; current costs of logging, reforestation and related costs; projections of changes in wood prices and logging costs (in real terms), and carrying costs.

Project Proponents shall include roading and harvesting costs as appropriate to the terrain and unit size. Project Proponents should model growth of existing forest stands. Project Proponents should use an optimization program that calculates the maximum net present value for the harvesting schedule. The discount rate for modeling shall be 4% per year, in real (without inflation) terms. Project Proponents should calculate and include decomposition of logging slash, stumps and roots in the baseline.
Wood products must be accounted.

Baseline for REDD

A differentiation exists for REDD projects between planned legally sanctioned deforestation and illegal unsanctioned deforestation. Planned deforestation can be directly calculated while unplanned deforestation must be modeled.

To determine the appropriate scale for setting a baseline for a REDD project, consider the cause of deforestation that the project will address. Then consider the geographic range over which that activity is occurring. The scale might be the entire country. The goal is to determine emissions from deforestation that have occurred across the entire area in which the project might have an effect.

Avoiding deforestation or forest degradation generally displaces some use of the forest, often clearing of land for market or subsistence agriculture, or for developed uses such as buildings and roads. Typically, deforestation is not the result of removal of wood for wood products, but it is possible for timber harvest to facilitate conversion to non-forest vegetation. Utilization of wood products may be ancillary to deforestation. Project Proponents must count in avoided deforestation project baselines the carbon stored in wood products. Excluding carbon stored in wood products would set baseline emissions too high, estimating more credits than justified.

B. Leakage Issues

AR Leakage Issues

If the AR project displaces people from project lands, the Project Proponent shall survey a sample of displaced people and their activities in order to determine whether they have shifted their activities to new locations in ways that displace emissions. The Project Proponent shall apply to the project the observed rate of displacement of emissions. If the project displaces people, and the Project Proponent does not complete a survey, the Registry assumes that displaced people are continuing their pre-project activities on other locations.

In terms of market-leakage and a decrease in supply of emitting goods, given uncertainty about the accuracy of econometric modeling, the Registry does not apply modeled market leakage rates. If there are multiple, peer-reviewed studies on market leakage rates that establish certainty within the forestry industry, the Registry may choose to validate a methodology and adopt those leakage rates.

In terms of market-leakage and an increase in supply of emitting goods, *and* given uncertainty about what constitute a carbon emitting good that a forest project might generate, the Registry does not apply modeled market leakage rates to this category of leakage. If there are multiple, peer-reviewed studies on market leakage rates that establish certainty within the forestry industry, the Registry may choose to validate a methodology and adopt those leakage rates.

IFM Leakage Issues

The Registry will register only those offsets from IFM projects that can account for leakage pursuant to this standard, as included in the GHG Project Plan or MRV Project Protocol, and based on CDM and VCS methodologies as appropriate. The Registry reserves the right to assess on a case-by-case basis.

If a forest management project, over time, results in constant or increasing yield of wood products, the project is not reducing the supply of goods produced from project lands. Even if there is some shifting of production in time, and some change in the types of products produced, the Registry will not assign leakage to forest management projects that maintain wood production. If a forest management project decreases harvesting, then the Project Proponent must quantify the leakage. If a forest management project reduces production of wood products, averaged over the life of the project, the Registry will apply to the project leakage provisions for reduced timber production in the project area.

REDD Leakage Issues

The Registry will register only those offsets from REDD projects that can account for leakage pursuant to this standard, as included in the GHG Project Plan or MRV Project Protocol, and based on CDM and VCS methodologies as appropriate. The Registry reserves the right to assess on a case-by-case basis.

To establish and quantify REDD projects, the Project Proponent must first establish the cause of the deforestation. The most reliable approach to quantifying leakage from an avoided deforestation project is to track change in national carbon stocks over time. Second, is to determine the scale at which displacement is likely to occur. For subsistence use, the range of likely displacement might be only a few miles or few tens of miles. A Project Proponent must seek to displace production of market goods to a location suitable for production. Thus, if a project does not replace the entire displaced supply, it should monitor the entire portion of the country that is suitable for production of the displaced good.

The Registry will register sub-national scale avoided deforestation projects if they satisfy demands displaced by the project activity. For example, if the underlying reason for deforestation is to provide subsistence agriculture, the Project Proponent must establish alternative sources of income for local subsistence farmers. If a project intends to reduce deforestation for market agriculture, the most reliable approach to avoiding leakage is to calculate the production that would have occurred if the Project Proponent deforested the land, and provide that amount of new production on forested lands to provide the same level of production.

C. Buffer Pool

The Registry requires that the Project Proponent shall contribute an adequate number of offsets to the buffer pool that is commensurate with its risk of reversal to cover unforeseen losses in carbon stocks. The basis for the number of buffer offsets that a Project Proponent shall deposit in the Registry buffer pool is a case-by-case assessment of a project's potential for future carbon loss. The Registry requires the verifier to evaluate the project's risk and adjust it as appropriate, if necessary, before confirming the project's required buffer values. The buffer must be high enough to cover the project's risk.

The Registry has sole management and operational control over the offsets in the buffer pool. Project Proponents shall use the VCS buffer tool: http://www.v-c-s.org/docs/Tool%20for%20AFOLU%20Non-Permanence%20Risk%20Analysis%20and%20Buffer%20Determination.pdf

D. Annual Qualitative Review

Each year the Registry conducts a qualitative review of each GHG project. Project Proponents shall submit (along with all other documents necessary, and as defined by

the Registry) a signed Attestation Letter that addresses the project action, additionality, ownership, permanence, and socio-economic and environmental impacts.

A key purpose is to ensure that the Project Proponent is maintaining the project action. Another purpose is to ensure that there is no undisclosed, significant change in external conditions that would affect the quality of a GHG project or a GHG inventory in an adverse way that would affect its environmental integrity. If at any time during the course of the project the project activity changes, the project may be subject to termination and the project's offsets subject to cancellation. The Project Proponent will need to establish a new project based on the requirements for that project type, undergo the standard project verification, and offset registration process.

The Registry schedules the first Qualitative Review three months after the one year anniversary of the Registry issuance and deposit of ERTs in the Project Proponent's account. The Registry conducts a desktop review of the Attestation Letter and if there are no issues or questions, the Registry will re-certify the project as eligible for twelve (12) subsequent months, continue listing the project as registered, and issue new offsets generated by the project for the twelve (12) months.

E. Crediting Period Renewal

The Registry requires for all forest carbon projects a verification renewal at the end of every fifth (5^{th}) calendar year after observation of initial project conditions, and subsequently at regular five-year intervals. The verification renewal includes a re-measuring, an updated assessment of risk of reversal, and an updated buffer determination. For example, if there is a tree measurement in June 2010, a calculation of carbon stocks in August 2010 and an offset verification in September 2010, the Registry will consider the forest offsets as valid through the end of December 2015. Verification renewal can demonstrate the project's longevity and through subsequent

verification renewals, some risks may decline. The Project Proponent shall comply with all other requirements for crediting period renewal as described in the *American Carbon Registry Standard* (2009).

Table 6 illustrates how the Registry would reduce the buffer value (i.e., the amount of offsets the project contributes to the buffer) over time for a project starting with, for example, a 20% buffer. The Registry will review every five years the minimum project buffer values to ensure that a positive, safe, and balanced buffer pool exists for the Registry's forest project offsets portfolio at all times. The total number of carbon offsets that a project generates will always be greater than the total number of tradable offsets that the Registry issues for the project.

The GHG Project Plan or MRV Project Protocol shall be the ultimate arbiter of the buffer's structure, provided that structure conforms to Registry standards, and is subject to a case-by-case review by the American Carbon Registry.

Table 6–Buffer Values Over Time

Years since initial project verification	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70
	First Crediting Period							Second Crediting Period							
Total buffer (% from project's total offsets)	20.0	17.0	14.5	12.3	10.4	8.9	7.5	6.4	5.4	4.6	3.9	3.3	2.8	2.4	2.1

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CONTACT:

American Carbon Registry™
c/o Winrock International
1621 N. Kent Street, Ste 1200
Arlington, Virginia 22209 USA
Tel: 1+ (501) 280-3069

info@americancarbonregistry.org
http://www.americancarbonregistry.org

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
AMERICAN ENTERPRISE
INSTITUTE
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Kenneth P. Green

Organization(s) you represent

American Enterprise Institute

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

I am responding as a Resident Scholar at the American Enterprise Institute. This document reflects only my opinion, and does not reflect any official position of the American Enterprise Institute or any other researcher at AEI.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
   Please respond in 600 words or less.

If Congress decides to adopt legislation to mitigate the emission of greenhouse gases, they would be best off implementing a revenue-neutral carbon tax beginning at a modest level, and increasing over time until an optimal level of affordable emission reduction has been secured. They should eschew carbon-emission trading regimes, which are deeply and irremediably flawed:

1. Emission trading is the wrong model for the pollutant at hand. Emission trading presumes there is cost-effective mitigation technology available in the market. Without this, the only options are efficiency measures (limited & costly), relocation, or decreased production.

2 If the cap is tight and permits auctioned, costs skyrocket, government gets into the exemption game, and the system is gamed from end to end, distorting markets horrendously and promoting corruption in one of the largest sectors of the economy.

3. Permit and energy price volatility will be severe, as a temperate year will reduce energy demand, dropping permit prices, while intemperate years (which we expect more of due to climate change) will drive permit (and energy) prices up.

4. Incentives to lie about emission reduction technology and "offset" value will be strong. Most offset projects have been shown to be fraudulent. If foreign offsets are allowed, monetary transfers abroad will be significant.

5. If caps are binding, they become a regulator of economic growth, as energy demand rises with economic growth. Such growth will quickly be strangled by rising permit prices in a carbon-constrained market.

6. The costs of energy, goods, and services in the American economy will increase, suppressing demand, leading to job losses and lost competitiveness in trade.

7. Unless levied far upstream, with full auctioning, and no offsetting (unlikely), cap-and-trade will massively expand government which must authenticate technological abilities, regulate trade in a new carbon-backed currency, authenticate offsets, prevent securitization of carbon permits, etc. Many thousands of businesses will incur compliance costs for reporting emissions, as well as permit acquisition. Costs of compliance will further hike prices for energy, goods, and services.

10. Cap-and-trade is self-entrenching, self-tightening, and will tend to be exclusionary of replacement approaches.

By contrast, a modest revenue neutral carbon tax:

1. Would generate revenues that could be used to offset economic damages of higher energy costs, particularly if used to reduce distortionary taxes like the corporate tax or payroll taxes.

2. Would be easily adjustable, and could be tied to a timeline of emission reduction targets to address the issue of quantity based controls.

3. Is transparent, simple to administer, and lets the public vote every few years on whether they feel they're paying too much for carbon mitigation.

4. Has pre-existing institution to levy and monitor compliance with the tax.

5. Will be relatively predictable, and easily worked into long-term planning of firms.

6. Levied far upstream, the number of entities facing tax compliance costs is few.

7. Actually stabilizes energy prices because the cost of the input fuel becomes a smaller part of the total cost of energy provision. Thus, modest fluctuations in feedstock price cause smaller swings in price.

8. Will be less prone to corruption, as government has incentives to enforce compliance, and the only way to game the system is for the government to find ways to exempt groups or subsidize them in other ways, behavior which would, in theory, be checked by both political checks and lobbying against favoritism by competing firms.

If mitigation measures are required in the near-term for political reasons, then a revenue-neutral carbon tax is superior to cap-and-trade (including hybrid forms) on all counts. (See Green, Hassett, and Hayward (2007) "Climate Change: Caps Vs. Taxes."(appended))

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

Please respond in 300 words or less.

The entire point of both cap-and-trade and carbon taxes are to create incentives for help society to find the most efficient ways to reduce greenhouse gas emissions. No one has that knowledge a priori -only a functioning, preferably undistorted market can discover such opportunities. To allow the market to function and reveal those most-efficient reduction opportunities, all possible sources and sinks that can be included in an emission reduction program should be, and distortionary exemptions should be rigorously avoided. By any

measure, the agriculture and forestry sectors exert a significant impact on carbon flows in the environment and would have to be included in any greenhouse gas emission control regime. The agriculture sector accounts for approximately 6 percent of US greenhouse gas emissions, while the forestry sector is a significant carbon sink. In addition, the agriculture and forestry sectors might have significant opportunities for economic gain in the production of offset credits or emission reduction credits, and will almost certainly want to participate. (More in a trading system than a tax, where there is only opportunity to lower the bite of the tax, not reap windfalls in getting permits allocated to them in a political process that has long favored farm subsidies).

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

To reiterate, a cap-and-trade program would be highly inadvisable as a mechanism for the control of greenhouse gases. Most economists have recognized this, and a considerable body of literature supports the contention that revenue-neutral carbon taxes are vastly superior.

Nevertheless, should Congress decide to implement cap-and-trade despite its shortcomings, it is critical that permits be auctioned, preferably 100%, up front, and the revenues be fully rebated to consumers via reduction of distortionary taxes in order to offset the economic harms of higher energy prices. Free allocation opens up the Pandora's box of special-interest politics, with favored groups and politically connected businesses being given more permits than they warrant, while stiffing disfavored groups (such as anything related to coal and oil) with a larger shortfall in permits that they must buy on the permit market. As for the agricultural and forestry sectors, they are no different than any other sector, and should be required to buy their permits at auction, or demonstrate actions that generate permits they can sell on the market after the initial auction. Giving certain sectors (such as the aforementioned agriculture and forestry sectors) free allowances simply transfers the onus of reducing greenhouse gas emissions onto a smaller section of the American economy which would then have to achieve even greater reductions than they would if the system covered all emitting facilities.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Folding existing trading markets into a U.S. national program would simply add another layer of complexity to an already complex challenge. Regional market players who currently hold permits will want the value of those permits to transfer over to the new system, essentially claiming credits for actions already taken to mitigate greenhouse gas

emissions. National regulators would have to assess whether those actions will comply with whatever standards are set for validating emission reduction credits in the national program. Awarding credits to the existing trading programs will introduce significant regional inequalities as well, as RGGI, for example consists only of 10 Eastern states with significant access to hydro electricity and imported low-carbon energy from Canada. The Western Climate Initiative consists of 10 Western states, many of which have switched to natural gas power to control conventional air pollutants. The 30 states not participating in either market are largely those in the middle of the country, where coal-power is extensive, and where economic harms of a trading system are already expected to be severe. Granting equivalency to permits purchased under RGGI or the WCI will lead to these already strapped "middle" states buying permits from coastal states that are wealthier, and have easier access to alternative forms of energy. In addition, trying to give credits for actions already taken, or equivalency for permits would require validation by some regulatory entity to determine whether reductions under RGGI or WCI were real, and were genuinely additive emission reductions over the business-as-usual case of normal equipment replacement and upgrade that happens over time.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

It is doubtful that any existing agency has the necessary range of capabilities to manage and regulate a cap-and-trade program encompassing a major fraction of US carbon emissions.

The necessary activities range from the scientific (verifying emission reduction actions, certifying technology, validating emissions) to the financial (creation of trading rules and regulations involving banking, borrowing, commodity trading, and derivative trading). This latter will be important to insure that carbon permits do not become the vehicle for an economy-wide carbon bubble through being securitized, collateralized, speculated in, and so forth.

It would seem to me that the US would have to establish some kind of hybrid agency, or divide the efforts among several pre-existing agencies, which would most likely need significant expansion of staff and resources.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

Several colleagues, more knowledgeable than I about the CFTC, convinced me that, with its extensive experience in regulating the trading of commodity futures and derivatives the Commission is likely to be as good a regulator as any other extant regulatory entity (such as the SEC). They further convinced me that the CFTC will almost certainly be superior to

having regulation of the new commodity and derivative carbon market performed by groups historically uninvolved in such regulation, such as the EPA or the DoE. There is nothing that would make carbon permits so different from what the CFTC currently regulates as to warrant another entity. And, the CFTC currently regulates the Chicago Climate Futures Exchange and it uses the National Futures Association to perform its self-regulatory duties.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

Colleagues more knowledgeable about derivatives markets were somewhat divided on this question. Some of my colleagues favored the first option, for carbon-based derivatives - that is, allowing trade through "highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone. The sentiment expressed was that such an arrangement would likely be the least subject to abuse, and most subject to the discipline of the entire market acting on readily available, validated data.

On the other hand, some of my colleagues observed that lighter levels of regulation lend themselves to greater entrepreneurialism which carries both potentially higher gains, and potentially higher levels of risk. Only Congress can decide what level of risk they are willing to allow in the new carbon reduction derivatives market, and make the trade-offs of predictability versus entrepreneurialism.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

Enactment of a carbon reduction program, whether cap-and-trade or carbon taxation is almost certainly going to impose costs in a highly non-uniform way. Regions and populations dependent on coal-based electricity will experience higher costs than regions endowed with major hydroelectric resources. Populations using home-heating oil will be impacted more heavily than populations that heat with natural gas. Populations living in climates with more intense seasonal and diurnal temperature variations will be impacted more heavily than populations living in more temperate climes. States with significant levels of heavy industry, particularly steel, concrete, glass, automobiles, and heavy machinery production will be far harder hit than states that are dominated by the service

sector or tourism. In general, the poorer population will feel a disproportional impact of higher energy costs compared to the wealthier, as energy expenditures constitute a larger portion of their spending. Unless great care is taken, a carbon reduction program will be highly regressive. With regard to agriculture, one would expect costs to rise for fertilizer and fuel used in shipping product from field to factory and to consumers. The same would hold true for forest products: increased costs for chemicals and transport would be likely under any carbon taxation regime, whether a straight tax, or a tax imposed via cap-and-trade.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

The best use of carbon reduction program revenues involves rebating it to the public in the form of reductions in more distortionary taxes, such as corporate taxes, income taxes, and payroll taxes. Doing so could make the entire economy more efficient, and increase overall economic productivity to offset some or all of the economic harms that will stem from increased costs of energy, goods, and services throughout the economy.

The temptation to steer funding to favored research projects, favored industries, and favored constituencies must be avoided as much as possible, since the more revenue that is siphoned away from taxpayer rebates, the more economically damaging a carbon tax (whether levied as a tax, or imposed as cap and trade) will be.

Unless the funds are rebated in this way, cap-and-trade will be an economically punishing, regressive regulatory regime that will slow American economic growth, result in less job creation in the economy, transfer industry overseas, and impair our ability to compete in export markets.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

The entire purpose of a price-based carbon reduction program is to inspire behavioral and technological changes by raising the price of energy, and energy-derived goods and services. Any effort to soften that effect, such as transitional assistance, will soften the incentive to change quickly, and, if it slows the pace of technological adoption or behavioral change, will result in missed emission reduction targets during the transition, that must be recouped in later trading periods.

Another problem with such assistance is that, in a broad carbon price regime, virtually all businesses will be affected by higher overall costs - that's the purpose of the regime. Awarding transition assistance to some businesses rather than others will open the system to special interest politics, even more than it would otherwise be.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

Private entities that use public lands, and generate carbon emissions should be part of whatever price-based system is put into place. Public lands could be managed to increase carbon retention in soils and timber, generating emission reduction credits that could be sold to permit buyers on the market. Government revenue from those sales could be used to support the carbon-retention activities on public lands, and surplus revenues could be rebated to tax-payers to offset the pain of higher prices which are an inevitable outcome of carbon reduction programs.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

Ideally, carbon prices (in a trading system) should be determined by market actors trading in an undistorted market. This is highly unlikely to be the case, since energy markets are highly distorted as a result of governmental policy at local, state, and federal levels. In addition, putting price floors or ceilings on a carbon trading system reduces the efficiency of the system. A price-cap essentially converts the system into a tax, and would, if too low, lead to firms deciding not to mitigate emissions, but simply to pay the tax. A price floor would punish consumers by denying them the savings that a free market would have given them as a reward for having mitigated emissions. Both the price floor, and the price ceiling would prevent the market from doing what it supposed to do: find least cost options for mitigating carbon emissions.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

The European Union's Emission Trading System holds the most cogent lessons for US policymakers as they set about the task of implementing a greenhouse gas cap-and-trade regime in the United States.

Among the lessons from Europe are that free allocation of permits leads to over-allocation, and extensive political gaming of the allocation process, steering free permits to favored industries and special interests. The over allocation led to significant permit-price and permit-market instability, with repeated rises and crashes as companies revealed they had considerably more permits than they needed, and flooded the market once they saw an opportunity to capture rents. In the onset of auction, the lesson from the EU is that auctioning perpetuates, rather than terminates the favoring of special interests and core industry groups seen as "vital interests" to the country at hand. Thus, in the current phase of the EU's trading program, groups lobbing for exemption from auction include the

automobile sector, steel, concrete, and heavy industries across the EU. This is certainly going to be the case for the US, whether allocations are given freely, or auctioned as part of a US cap-and-trade program

Another lesson is that offsets should be scrutinized with great care, as the offset market was rife with corruption. The Chinese, in particular, gamed the system, making windfall profits at the expense of the EU traders.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

One begins with the assumptions that two fundamental goals of implementing a carbon reduction program are maximizing carbon emission reductions, and minimizing costs. Achieving that optimal outcome is facilitated by having all possible participants in the market participate on an equal footing: that is, if permits are allocated freely, they should be allocated freely in a uniform way. If they are auctioned, the same holds true: the permits should be auctioned in a uniform way. For this to work, one does have to have a defined value for either an allowance or an offset, in terms of carbon emissions avoided, or carbon emissions captured/offset by other activities.

While the agriculture and forestry sectors would no doubt seek credits for voluntary actions, and actions already taken, not to mention "bonus" allowances" for segments of the sectors, such activities undermine the two fundamental goals mentioned above. Any distortion of the carbon market will, by definition, lead to less than efficient allocation of permits, and sub-optimal performance both in terms of maximizing emission reductions, and minimizing the price of such reductions as revealed in a freely-trading, undistorted market.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

Ideally, yes, the number of offsets issued annually by the government should be limited, as close to zero as possible. That is, the government should not be in the business of determining what the best way to reduce emissions happens to be. If the government knew that de novo, there would, after all, be no need for a trading market, If the market decides that validated emission offsets are a superior way to reduce overall societal emissions of

greenhouse gases, that should be what is done. If market players decide that they can achieve greater reductions for less cost without offsets, then a lower number of offsets would be the optimal outcome.

The more that the government interferes in the new carbon market being created, the less that market will achieve its stated goals of maximizing carbon reductions while minimizing the overall cost to society of achieving those emission reductions. If the government is bound to create a market in carbon permits, that market must be kept as free of governmental distortion as is possible, in order to deliver maximum benefits to society.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

See above, with one caveat: if anything would be worse than an independent agency or entity determining the number, or allocation of carbon offsets, it would be allowing Congress to do so. This would open the door to the most rank special interest politicking imaginable, leading, almost certainly, to drastic underperformance of the entire carbon-market concept.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

In essence, for an offset to be meaningful, it has to meet several tests. First, it has to remain in existence for the atmospheric lifetime of the carbon dioxide that would have otherwise been emitted in the year the offset was generated. Second, it has to be something that would not have been done anyway. That is, if a person has land they were going to fallow because it was not economically viable to farm it, you would not want that person to be able to sell offsets for something they were going to do regardless of a regulatory framework aimed at bringing down the concentration of greenhouse gases in the atmosphere. The same is true of a person running a very old coal-fired boiler who would have to replace it because it has reached the end of its economic life. The verification of such offsets would be critically important, and would require analysis of the methodology by scientifically trained regulators who could assure the viability of the methodology.

This is part of the problem with cap-and-trade, the many thousands of technologies, engineering innovations, agricultural practices, forestry practices, equipment upgrades, and all of the other actions that will be taken in pursuit of generating surplus carbon emission permits will require a veritable army of scientifically trained auditors and investigators to ensure that there is validity to offsets, and that their validity is maintained over time.

18) What should be the criteria for assessing offset projects?

Please respond in 300 words or less.

See above.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Congress is not the best institution to design such a system. The right institution for designing a system for verifying offset projects would be either EPA, or EPA working in conjunction with the regulatory body that will supervise trading in carbon permits and derivative financial instruments. Congress would be better off leaving the fine details of designing systems to verify offset productions to a relevant agency of the Federal Government.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

See above. Congress really lacks the expertise to set up either approach. This should be left to the agency or entity that will actually implement the trading system.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

If they are genuine offsets, that meet the criteria I discussed above, the relationship should be one-to-one. If the offsets can only secure or avert the emissions of carbon for part of its atmospheric life, the offset/allowance ratio would have to be adjusted accordingly. As all offsets will not be alike, and will evolve over time, this will require constant adjustment by the implementing authority it is one reason why Congress would be ill suited to design offset validation/accrediting rules.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

See above.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

First, this would be unwise: existing offset projects or voluntary exchange actors are simply rent-seekers who invested trivial sums of money to pluck a bit of low hanging fruit they had readily available to generate credits they hope to monetize under a federal scheme. They were preparing themselves to gain a competitive advantage over others who could not

easily enter into such a scheme by amassing 'early action credits' that they hope to sell to those who already face higher mitigation costs once a federal trading system is established, often abetted by generous state and federal tax credits.

The best thing to do with a new cap-and-trade system will simply be to auction off all permits, and disregard existing offset projects or "credits" established through so-called "voluntary" markets.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

This was addressed earlier. Actions that would simply be 'business as usual' for a profit making entity should not be considered "additional" activities that count for the generation of carbon offsets. Such normal gains in efficiency are generally included in the business as usual case from which the needed reduction trend is derived when setting the declining cap of a cap-and-trade system. Those who took early actions and wish to claim offset credit for their activities would have to demonstrate that the actions they took were truly non-economic, that is, they lost the company money, and were not driven by economic dynamics within the company itself.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

If the government contributes money for projects that reduced carbon emissions, then the taxpayers should receive credit by having the government trade those permits on the market, rebating revenues gained from the sale of carbon permits to the taxpayer. Whatever percentage of the funding for a project is governmental would translate into a share of emission reductions, and thus, an allocation of permits. Activities that were not specifically implemented to sequester or avoid greenhouse gas emissions should not be given carbon credits: as mentioned above, even in a cap-and-trade regime, it is anticipated that the normal evolution of technology and replacement of old equipment will lead to greenhouse gas emission reductions. It is not these activities that the market aims to inspire, but rather, the purpose of cap and trade is to generate new, net emission reductions above the baseline of business as usual.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Absolutely. The entire predicate of the "offset" market is that the avoided emissions or sequestered carbon will endure for the same time as it would have if the emissions were still in the atmosphere. This is why offset projects must be eyed with great skepticism, as in the case of carbon dioxide, we must assure carbon remains locked up for 200 years or more, and we have little experience, as a country, in maintaining anything for 200 years, much less maintaining climatically vulnerable caches of carbon, or technologies such as windmills that are supposed to displace the carbon emissions of stationary power plants.

If an offset does not hold its carbon, the producer should be held responsible for the return of the revenue. They will have to insure against this, most likely, which will add a cost to the sequestration/offsetting activity, but that will also make the permit price more reflective of real costs of sequestration/offset. If producers of offsets that fail are not forced to return revenue, or be held liable, they would essentially be rewarded for failure, and an incentive would be created, in fact, to build projects that looked good on paper, but were destined to fail in a few years, after the initial carbon-reduction permits were sold..

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

As mentioned previously, the vast array of potential offset projects, each of which will contain both economic and scientific components will be far outside of the expertise of the Congress, the executive, or any one particular agency. The only entities that will be able to assess the legitimacy of offset projects will be bodies with scientific, auditing, and monitoring capabilities, such as the EPA. Even the EPA will likely fall short of having sufficiently diverse expertise to draft cogent protocols and procedures for a cap and trade offset program, and will have to work in conjunction with the DoE, and the EIA.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

This is outside my area of expertise.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

This is outside my area of expertise

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Respondent did not complete the chart at the end of the questionnaire.

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Climate Change: Caps vs. Taxes

By Kenneth P. Green, Steven F. Hayward, and Kevin A. Hassett

As the Kyoto Protocol's 2012 expiration date draws near, a general theme dominates the global conversation: leadership and participation by the United States are critical to the success of whatever climate policy regime succeeds the Kyoto Protocol. Two general policy approaches stand out in the current discussion. The first is national and international greenhouse gas (GHG) emissions trading, often referred to as "cap-and-trade." Cap-and-trade is the most popular idea at present, with several bills circulating in Congress to begin a cap-and-trade program of some kind. The second idea is a program of carbon-centered tax reform—for example, the imposition of an excise tax based on the carbon emissions of energy sources (such as coal, oil, and gasoline), offset by reductions in other taxes. In this paper we will address the strengths and weaknesses of both ideas and the framework by which legislators should evaluate them.

The framing of a global climate regime presents a classic chicken-and-egg problem: the United States does not wish to enter into a regime of economically costly emission caps or taxes that would have the effect of driving industry and jobs to nations such as China and India that do not participate in such caps. China and India, however, are unlikely to enter into a restrictive regime unless the United States goes first, and even then, only so long as the policy regime does not threaten serious constriction of their economies. It is often assumed that if the United States goes first, developing nations will eventually follow, but this is by no means assured. Both China and India have repeatedly declared that they are not prepared to make even a delayed commitment at this time.

Given these policy uncertainties—and other uncertainties about the eventual impacts of climate change in terms of severity, distribution, and timing—there are two guideposts policymakers should keep in mind. The first is that the United States can only effectively impose a national regulatory regime (though such a regime could eventually be harmonized with international efforts). The second is that, given the current uncertainty, policy should conform as much as possible to a "no regrets" principle by which actions undertaken can be justified separately from their GHG emissions effects in the fullness of time, such that nonparticipation by developing nations will disadvantage the United States in the global marketplace as little as possible.

While the United States may wish to join with other nations in setting a post-Kyoto emissions goal, it should be wary of joining an international emissions-trading or other regulatory regime. One of the less-remarked-upon aspects of the Kyoto Protocol, and any prospective successor treaty on that same model, is that it represents an unprecedented kind of treaty obligation for the United States. Most treaties involve direct actions and policies of governments themselves, such as trade treaties that bind nations' tariff levels and affect the private sector of the economy only indirectly. Kyoto and its kin go beyond government policy to affect the private sector directly or require the

Kenneth P. Green is a resident scholar, Steven F. Hayward is the F. K. Weyerhaeuser Fellow, and Kevin A. Hassett is a senior fellow and director of economic policy studies at AEI. This *Environmental Policy Outlook* is available online at www.aei.org/publication26286/.

government to control the private sector and the investment decisions of the private sector to an unprecedented degree. It is not governments that emit GHGs, after all. Between the asymmetries of legal and regulatory regimes across nations, the United States should think hard about the dilution of sovereignty that a binding GHG treaty represents, even if the United States agrees with the basic objective of reducing carbon emissions.

Problems with Emissions Trading for GHG

Some economists favor the idea of emissions trading for its elegance in achieving least-cost emissions reductions while avoiding the manifold difficulties of prescriptive "command-and-control" regulation from a centralized bureaucracy. But this is something of a false choice, as such regulation is a deeply troubled policy option. While trading may be superior to command-and-control, it is not necessarily superior to other alternatives, such as carbon-centered tax reform.

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There are a number of emissions-trading success stories that, upon inspection, suggest significant limitations to the applicability of emissions trading for GHG emissions. Enthusiasts for cap-and-trade point first to our sulfur dioxide (SO_2) trading experience under the 1990 Clean Air Act Amendments. It is claimed that the costs of SO_2 abatement through trading turned out to be dramatically lower than economists had forecast for a prescriptive regime, wherein the Environmental Protection Agency (EPA) would have mandated control technologies on individual coal-fired power plants. But a closer look shows this success to have been uneven. There has been significant volatility in emission permit prices, ranging from a low of $66 per ton in 1997 to $860 per ton in 2006, as the overall emissions cap has been tightened, with the price moving up and down as much as 43 percent in a year.[1] Over the last three years, SO_2 permit prices have risen 80 percent a year, despite the EPA's authority to auction additional permits as a "safety valve" to smooth out this severe price volatility.

Several other aspects of the SO_2-trading program are of doubtful applicability to GHGs. First, SO_2 trading was only applied to a single sector: initially, only 110 coal-fired power plants were included in the system, but it subsequently expanded to 445 plants. While coal-fired power plants account for roughly one third of U.S. carbon dioxide (CO_2) emissions and will therefore be central to a GHG cap-and-trade program, a comprehensive GHG emissions-trading program will have to apply across many sectors beyond electric utilities, vastly complicating a trading system.

Second, SO_2 and CO_2 are not comparable targets for emissions reduction. Reducing SO_2 emissions did not require any constraint on end-use energy production or consumption. Coal-fired power plants had many low-cost options to reduce SO_2 emissions without reducing electricity production. Some switched to low-sulfur coal (abetted in large part by railroad deregulation in the 1980s, which made transport of Western low-sulfur coal more economical than previously). The cost of "scrubbers"—industrial devices which capture SO_2 and sequester it—turned out to be lower than predicted. Other utilities emphasized more use of natural gas. The impact on ratepayers and consumers was modest.

CO_2 is different: it is the product of complete fuel combustion. There is no "low-CO_2 coal," and the equivalent of SO_2 scrubbers does not yet exist in economical form.[2] At the margin there is some opportunity for GHG emissions reductions through substitution—increased use of natural gas (which emits less CO_2 per unit of energy than coal) and possibly nuclear power—but the inescapable fact is that any serious reduction in CO_2 emissions will require a suppression of fuel combustion. This is going to mean lower energy consumption and higher prices, at least in the intermediate term.

Even though confined to a segment of a single sector of energy use, the SO_2 emissions-trading regime was far from simple. There were complicated allocation formulas to distribute the initial emissions permits. Despite the best efforts to create objective criteria, at the end of the day, the allocation of emission permits involves some arbitrary discretion. For political reasons there were special subsidies and extra allowances for the benefit of high-sulfur coal interests. Most trading in the early years took place between power plants within the same company.

Establishing allowances and accounting systems for GHG emissions across industries is going to be vastly more difficult and highly politicized. The forest products industry, for example, will reasonably want credits for creating carbon sinks in the trees it plants and

harvests, but the manufacturing sector that uses these wood products as a raw material will want credit for sequestering carbon. The difference will have to be split in some arbitrary manner that will surely introduce economic distortions in the marketplace. The auto industry will want credits for GHG innovations, while industries and businesses of all kinds will lobby for credits for reducing mobile source emissions from changes to their auto and truck fleets. There are going to be winners and losers in this allocation process. Multiply this problem across sectors and industries and it becomes evident that a GHG emissions-trading system is going to be highly complex and unwieldy, and too susceptible to rent-seeking influence in Washington. The problem of politically adjusting competing interests will be compounded on the international scale. The long-running diplomatic conflicts that can be observed over purported subsidies for aircraft (i.e., Boeing versus Airbus) and the European Union's agricultural subsidies and trade barriers are examples of the kinds of conflicts that will be endemic to any international emissions-trading scheme.

The favored solution to these problems is to over-allocate the number of initial permits both to ease the cost and to encourage the rapid start-up of a market for trades. This was the course the European Union took with its Emissions Trading System (ETS), and it has very nearly led to the collapse of the system. Because emissions permits were over-allocated, the price of emissions permits plummeted, and little—if any—emissions reductions have taken place because of the ETS. The over-allocation of initial permits merely postpones both emissions cuts and the economic pain involved. Economist Robert J. Shapiro notes:

> As a result of all of these factors and deficiencies, the ETS is failing to reduce European CO_2 emissions. . . . [T]he European Environmental Agency has projected that the EU is likely to achieve no more than one-quarter of its Kyoto-targeted reductions by 2012, and much of those "reductions" will simply reflect credits purchased from Russia or non-Annex-I countries [developing countries], with no net environmental benefits.[3]

As economist William Nordhaus observes:

> We have preliminary indications that European trading prices for CO_2 are highly volatile, fluctuating in a band and [changing] +/- 50 percent over the last year. More extensive evidence comes from the history of the U.S. sulfur-emissions trading program. SO_2 trading prices have varied from a low of $70 per ton in 1996 to $1500 per ton in late 2005. SO_2 allowances have a monthly volatility of 10 percent and an annual volatility of 43 percent over the last decade.[4]

Nordhaus points out the ramifications of such volatility, observing that "[s]uch rapid fluctuations would be extremely undesirable, particularly for an input (carbon) whose aggregate costs might be as great as petroleum in the coming decades," and that "experience suggests that a regime of strict quantity limits might become extremely unpopular with market participants and economic policymakers if carbon price variability caused significant changes in inflation rates, energy prices, and import and export values."[5]

Nordhaus is not alone in this concern about price volatility. Shapiro similarly observes:

> Under a cap-and-trade program strict enough to affect climate change, this increased volatility in all energy prices will affect business investment and consumption, especially in major CO_2 producing economies such as the United States, Germany, Britain, China and other major developing countries.[6]

Additional pitfalls and dilemmas of emissions trading can be seen through a review of the spectacular trading failure of the RECLAIM (Regional Clean Air Incentives Market) emissions-trading program in Southern California. Launched in 1994 after three years of development, RECLAIM set in motion an emissions-trading program targeting SO_2 and nitrogen oxides (NO_x) emissions, and eventually hoped to expand to include volatile organic compound (VOC) emissions. All three types of emissions are important precursors to ozone formation in the greater Los Angeles air basin. RECLAIM, for the first time, offered swaps between stationary and mobile sources: stationary sources such as oil refineries could help reach their emissions reduction targets by purchasing old, high-polluting automobiles and trucks and taking them off the road—a cost-effective measure in a voluntary demonstration program. The South Coast Air Quality Management District (SCAQMD) estimated that SO_2 and NO_x would be reduced by fourteen and eighty tons per day, respectively, by the

year 2003, at half the cost of the usual prescriptive method of regulation.[7] There was great public support and enthusiasm for the program at the outset.

RECLAIM never came close to operating as predicted, and was substantially abandoned in 2001. Between 1994 and 1999, NO_x levels fell only 3 percent, compared to a 13 percent reduction in the five-year period before RECLAIM. There was extreme price volatility aggravated by California's electricity crisis of 2000. NO_x permit prices ranged from $1,000 to $4,000 per ton between 1994 and 1999, but soared to an average price of $45,000 per ton in 2000, with some individual trades over $100,000 per ton. Such high prices were not sustainable, and SCAQMD removed electric utilities from RECLAIM in 2001. SCAQMD also dropped its plan to expand RECLAIM to VOCs. Despite the hope that RECLAIM would be simple and transparent, there were serious allegations of fraud and market manipulation, followed by the inevitable lawsuits and criminal investigations.

One particular problem with RECLAIM that is likely to plague any international GHG emissions-trading regime is the lack of definite property rights to the emissions allowances the program creates. A cliché of the moment is that industry would like some clarity and certainty about any prospective GHG regulatory regime. A cap-and-trade program, however, cannot provide certainty precisely because emissions allowances are not accorded real property rights by law.[8] The government can change the rules at any time, making emissions allowances worthless. This is exactly what happened to electric utilities in Los Angeles: their allowances were terminated, and the utilities were subsequently required to install specified emissions-control technologies and to pay fines for excess emissions. In effect, some Los Angeles firms had to pay three times over for emissions reductions.

A GHG emissions-trading scheme on an international level will be even more vulnerable to these kinds of unpredictable outcomes. To the extent that a GHG emissions-trading program results in international cross-subsidization of the economies of trading partners, it is going to be politically unsustainable in the long run. An international emissions-trading program is also unlikely to survive noncompliance by some of its members.

There are two final, overriding reasons to be doubtful about global emissions trading. It is possible that the defects of previous emissions-trading programs could be overcome with more careful design and extended to an international level, though this would require an extraordinary feat of diplomacy and substantial refinements of international law. Even if such improvement could be accomplished, it would not provide assurance against the prospect that the cost of such a system might erode the competitiveness of the U.S. economy against developing nations that do not join the system.

If warming is either less pronounced than some current forecasts predict or if emissions reductions have limited effect in moderating future temperature rise . . . a severe global emissions-reduction policy through emissions trading could turn out to be the costliest public policy mistake in human history, with the costs vastly exceeding the benefits.

The second reason for skepticism about global emissions trading is that it fails the "no regrets" test. It is considered bad form nowadays to express doubt or skepticism about the scientific case for rapid and dangerous global warming in the twenty-first century. If warming is either less pronounced than some current forecasts predict or if emissions reductions have limited effect in moderating future temperature rise, however, a severe global emissions-reduction policy through emissions trading (on the order of a minimum 50 percent cut by 2050) could turn out to be the costliest public policy mistake in human history, with the costs vastly exceeding the benefits.

Could instituting a tax on the carbon emissions released by fuel use, as part of a revenue-neutral tax reform package, pass these two tests? We believe it could.

Advantages of a Revenue-Neutral, Carbon-Centered Tax Reform

Most economists believe a carbon tax (a tax on the quantity of CO_2 emitted when using energy) would be a superior policy alternative to an emissions-trading regime. In fact, the irony is that there is a broad consensus in favor of a carbon tax everywhere except on Capitol Hill, where the "T word" is anathema. Former vice president Al Gore supports the concept, as does James Connaughton, head of the White House Council on

Environmental Quality during the George W. Bush administration. Lester Brown of the Earth Policy Institute supports such an initiative, but so does Paul Anderson, the CEO of Duke Energy. Crossing the two disciplines most relevant to the discussion of climate policy—science and economics—both NASA scientist James Hansen and Harvard University economist N. Gregory Mankiw give the thumbs up to a carbon tax swap.[9]

There are many reasons for preferring a revenue-neutral carbon tax regime (in which taxes are placed on the carbon emissions of fuel use, with revenues used to reduce other taxes) to emissions trading. Among them are:

- **Effectiveness and Efficiency.** A revenue-neutral carbon tax shift is almost certain to reduce GHG emissions efficiently. As economist William Pizer observes, "Specifically, a carbon tax equal to the damage per ton of CO_2 will lead to exactly the right balance between the cost of reducing emissions and the resulting benefits of less global warming."[10] Despite the popular assumption that a cap-and-trade regime is more certain because it is a quantity control rather than a price control, such a scheme only works in very limited circumstances that do not apply to GHG control. The great potential for fraud attendant on such a system creates significant doubt about its effectiveness, as experience has shown in both theory and practice in the gyrations of the European ETS.

  The likelihood of effectiveness also cannot be said for regulations such as increased vehicle fuel economy standards. In fact, such regulations can have perverse effects that actually lead to increased emissions. By making vehicles more efficient, one reduces the cost of a unit of fuel, which would actually stimulate more driving, and, combined with increasing traffic congestion, could lead to an increase in GHG emissions rather than a decrease.

  As Harvard researchers Louis Kaplow and Steven Shavell point out, "The traditional view of economists has been that corrective taxes are superior to direct regulation of harmful externalities when the state's information about control costs is incomplete," which, in the case of carbon emissions reductions, it most definitely is.[11] And when it comes to quantity controls (as a cap-and-trade system would impose), Pizer found that

  > My own analysis of the two approaches [carbon taxes vs. emission trading] indicates that price-based greenhouse gas (GHG) controls are much more desirable than quantity targets, taking into account both the potential long-term damages of climate change, and the costs of GHG control. This can be argued on the basis of both theory and numerical simulations.

  Pizer found, in fact, that a carbon-pricing mechanism would produce expected net gains five times higher than even the best-designed quantity control (i.e., cap-and-trade) regime.[12]

- **Incentive Creation.** Putting a price on the carbon emissions attendant on fuel use would create numerous incentives to reduce the use of carbon-intensive energy. The increased costs of energy would flow through the economy, ultimately giving consumers incentives to reduce their use of electricity, transportation fuels, home heating oil, and so forth. Consumers, motivated by the tax, would have incentives to buy more efficient appliances, to buy and drive more efficient cars, and to better insulate their homes or construct them with more attention to energy conservation. A carbon tax would also create incentives for consumers to demand lower-carbon power sources from their local utilities. A carbon tax, as its cost flowed down the chains of production into consumer products, would lead manufacturers to become more efficient and consumers to economize in consumption. At all levels in the economy, a carbon tax would create a profit niche for environmental entrepreneurs to find ways to deliver lower-carbon energy at competitive prices. Finally, a carbon tax would also serve to level (somewhat) the playing field among solar power, wind power, nuclear power, and carbon-based fuels by internalizing the cost of carbon emission into the price of the various forms of energy.

- **Less Corruption.** Unlike carbon cap-and-trade initiatives, a carbon tax would create little incentive or opportunity for rent-seeking or cheating. As William Nordhaus explains:

  > A price approach gives less room for corruption because it does not create artificial scarcities, monopolies, or rents. There are no permits transferred to countries or leaders of countries, so they cannot be sold abroad for

> wine or guns. . . . In fact, a carbon tax would add absolutely nothing to the instruments that countries have today.[13]

Without the profit potential of amassing tradable carbon permits, industry groups would have less incentive to try to get credits for their favored but non-competitive energy sources. That is not to say that tax-based approaches are immune from corruption, for they certainly are not. If set too far down the chain of production or set unevenly among energy sources, carbon taxes could well lead to rent-seeking, political favoritism, economic distortions, and so on. Foreign governments might have an incentive to undermine a trading scheme by offering incentives to allow their manufacturers to avoid the cost of carbon trading. A tax on fuels proportionate to their carbon content, levied at the point of first sale, should be less susceptible to corruption, and by delivering revenue to the government rather than to private entities, should create incentives more aligned with the government's objective.

A carbon tax, as its cost flowed down the chains of production into consumer products, would lead manufacturers to become more efficient and consumers to economize in consumption.

- **Elimination of Superfluous Regulations.** Because a carbon tax would cause carbon emissions to be reduced efficiently across the entire market, other measures that are less efficient—and sometimes even perverse in their impacts—could be eliminated. With the proper federal carbon tax in place, there would be no need for corporate average fuel economy standards, for example. California's emissions-trading scheme, likewise, would be superfluous, and its retention only harmful to the Golden State. As regulations impose significant costs and distort markets, the potential to displace a fairly broad swath of environmental regulations with a carbon tax offers benefits beyond GHG reductions.

- **Price-Stabilization.** As the experiences of the European ETS and California's RECLAIM show us, pollution-trading schemes can be easily gamed, resulting in significant price volatility for permits. Imagine one's energy bill jumping around as permits become more or less available due to small changes in economic conditions. A carbon tax would be predictable, and by raising the overall price of energy to include the tax, the portion of energy cost per unit that stems from fluctuation in market rates for fossil fuels shrinks as a percentage of the whole. That shrinkage makes the price of a given form of energy less susceptible to volatility every time there is a movement in the underlying production costs.

- **Adjustability and Certainty.** A carbon tax, if found to be too stringent, could be relaxed relatively easily over a timeframe, allowing for markets to react with certainty. If found too low to produce results, a carbon tax could easily be increased. In either event, such changes could be phased in over time, creating predictability and allowing an ongoing reassessment of effectiveness via observations about changes in the consumption of various forms of energy. A cap-and-trade system, by contrast, is more difficult to adjust because permits, whether one is the seller or the buyer, reflect significant monetary value. Permit traders would demand—and rightly so—compensation if what they purchased in good faith has been devalued by a governmental deflation of the new "carbon currency." In addition, sudden changes in economic conditions could lead to significant price volatility in a cap-and-trade program that would be less likely under a carbon-tax regime.

- **Preexisting Collection Mechanisms.** Whether at local, state, or federal levels, carbon taxes could be levied and collected through existing institutions with extensive experience in enforcing compliance, and through ready-made statutes to back up their actions. The same cannot be said for emissions-trading schemes that require the creation of new trading markets, complete with new regulations and institutions to define and enforce the value of credits.

- **Keeping Revenue In-Country.** Unlike an international cap-and-trade regime, carbon taxes—whether done domestically or as an internationally agreed-upon value—have the advantage of keeping tax payments within individual countries. This could strongly reduce the opposition to international action that has, until this point, had a strong

implication of wealth redistribution overlaid on the policy discussion.

This dynamic leads to a second reason why a carbon tax is a better fit for U.S. climate policy: it offers an international analogue to our federalist approach to public policy innovation within the United States. As we have seen, there is reason to doubt the long-run effectiveness and sustainability of the EU's emissions-trading program. If the United States adopts a carbon tax approach, we will be able to compare the effectiveness of tax versus emissions trading in short order.

- **Mitigation of General Economic Damages.** As energy is one of the three most important variable inputs to economic production (along with labor and capital), raising the cost of energy would undoubtedly result in significant economic harm. Using the revenues generated from a carbon tax to reduce other taxes on productivity (taxes on labor or capital) could mitigate the economic damage that would be produced by raising energy prices. The most likely candidates for a carbon tax tradeoff would be the corporate income tax (the U.S. rate is currently among the highest in the industrialized world) and payroll taxes, the latter of which would lower the cost of employment and help offset the possibly regressive effects of higher energy prices on lower-income households. But across-the-board income tax rate cuts and further cuts in the capital gains tax could also be considered.

  Few other approaches offer this potential. Regulatory approaches such as increasing vehicle efficiency standards do not because they mandate more expensive technologies and allow the costs to be passed on to consumers without offsets (unless they are subsidized), in which case it is the general taxpayer whose wallet shrinks. Emissions-trading would allow for this if one auctioned all initial permits and used the revenue to offset other taxes. The vast majority of trading systems, however, begin with the governing entity distributing free emission credits to companies based on historical emission patterns rather than having an open auction for permits that would produce such revenue streams. Without an auction, the revenues in a trading scheme accrue only to private companies that trade in carbon permits, while the companies buying permits would pass the cost on to consumers. International emissions-trading approaches such as Kyoto's clean development mechanism are worse still: the beneficiaries of the scheme are likely to be foreign governments or private entities that can reduce (or pretend to reduce) carbon emissions more efficiently, leaving Americans with higher energy prices and no revenue stream to offset the negative impacts on productivity.

Exploring the Parameters of Carbon-Centered Tax Reform

Published estimates of an initial optimal carbon tax on fuels are in the range of $10 to $20 per ton of CO_2 emitted (in 2005 dollars). Nordhaus, for example, estimates the optimal rate for a tax implemented in 2010 to be $16 per ton of carbon and rapidly rising over time.[14] We will focus primarily on a tax rate of $15 per ton of CO_2, while also providing enough information to allow a reader to consider the likely impact of a range of possible taxes.

- **Background on Emissions.** According to the U.S. Energy Information Administration, emissions of CO_2 in the United States in 2005 equaled 6,009 million metric tons (MMT) of CO_2, an increase of twenty MMT over 2004.[15] Emissions have grown at an annual rate of 1.2 percent between 1990 and 2005. Recently, the rate has slowed, with the average annual rate between 2000 and 2005 equaling 0.5 percent.

- **Price Impacts.** Table 1, on the following page, shows the price impacts of a $15 per ton CO_2 tax under the assumption that the tax is fully passed forward. The price shown for gasoline is not in addition to that on crude oil (i.e., it is not a double-tax). It is included to show how the price levied on crude oil would change the price of the refined product.[16] This provides a rough guide to the excise tax equivalent price impacts of a tax on CO_2. We can scale the tax rates to evaluate different carbon taxes. For example, a $10 per ton tax on CO_2 would raise the price of coal by $28.55 x 0.66 = $18.84.

  A $15 CO_2 tax would raise the price of gasoline by 14¢ per gallon. A similar calculation can be made for coal-fired electricity. Using the most recent data from EPA's Emissions & Generation Resource Integrated Database (eGRID), we calculate that the average emission rate for coal-fired power plants is 2,395 pounds of CO_2 per megawatt-hour (MWh) of electricity. A $15 per ton CO_2 tax would raise the price of coal-fired electricity by 1.63¢ per kilowatt-hour (kWh), or 20 percent at an average electricity price of 8.3¢ per kWh.

Table 2 shows the impact of a $15 per ton carbon tax on the price of major fuels used in electricity generation. Fuel prices are prices at which the carbon tax would likely be applied.[17] Not surprisingly, coal is most heavily impacted by a carbon tax, with coal's price rising by more than three-quarters with a tax of this magnitude.

- **Behavioral Responses and Revenue.** The higher energy prices in table 2 should bring about a reduction in the demand for carbon-intensive fuels. A full analysis of equilibrium changes in carbon emissions requires a Computational General Equilibrium (CGE) model, an exercise that is beyond the scope of this paper. We can, however, make a rough calculation using previously published results from CGE models. Here, we extrapolate results from the analysis of Bovenberg and Goulder of a $25 per ton tax on carbon.[18] Table 3 presents the price and output changes for fossil fuels following the imposition of the carbon tax in Bovenberg and Goulder's study. We compute the arc elasticity as the ratio of the percentage output change to price change.

  These response elasticities are not price elasticities in the usual sense, since they are the outcome of the entire general equilibrium response to the tax. These responses, for example, include a shift in electricity production away from coal toward natural gas and oil.[19] They are also relatively short-run responses, on the order of three to five years following the phased-in introduction (over three years) of the carbon tax.

  The elasticities from table 3 combined with the price increases in table 2 imply the reductions in fuel use and carbon emissions seen in table 4.

TABLE 1
PRICE IMPACTS OF A $15 CO_2 TAX

	Coal	Crude Oil	Natural Gas	Gasoline
Energy Unit	**Short Ton**	**Barrel**	**mcf**	**Gallon**
MT C/Quad Btu	25,980,000	20,300,000	14,470,000	19,340,000
Mt CO_2/Quad Btu	95,260,000	74,433,333	53,056,667	70,913,333
Btu/Energy Unit	19,980,000	5,800,000	1,027,000	124,167
Mt CO_2/Energy Unit	1.903	0.432	0.054	0.009
Tax/Energy Unit	$28.55	$6.48	$0.81	$0.14

SOURCES: Carbon content of fuels from www.eia.doe.gov/environment.html; energy content of fuels from U.S. Department of Energy (DOE), Energy Information Administration (EIA), *Annual Energy Review 2005*, DOE/EIA-0384(2005), Washington, DC: EIA, 2006.

TABLE 2
SHORT-RUN PRICE EFFECTS OF A $15 CO_2 TAX

Energy Source	Unit	Price Per Unit ($)	Tax Per unit of Energy	Price Change (%)
Coal	short ton	$34.29	28.55	83.3
Crude Oil	barrel	$60.23	6.48	10.8
Natural Gas	thousand cubic feet	$8.53	0.82	9.6

SOURCE: Prices are 2006 averages as reported by Energy Information Administration (EIA). Coal statistics from EIA, "Receipts, Average Cost and Quality of Fossil Fuels," available at www.eia.doe.gov/cneaf/electricity/epm/table4_2.html; crude oil statistics from EIA, "Refiner Acquisition Cost of Crude Oil," available at http://tonto.eia.doe.gov/dnav/pet/pet_pri_rac2_dcu_nus_a.htm; and natural gas statistics from EIA, "Natural Gas Prices," available at http://tonto.eia.doe.gov/dnav/ng/ng_pri_sum_dcu_nus_m.htm. Unit taxes computed from table 1.

NOTE: Tax is assumed to be fully passed forward.

TABLE 3
IMPLIED OUTPUT ELASTICITIES

	Price Change (%)	Output Change (%)	Output Elasticity
Coal Mining	54.50	-19.10	-0.350
Oil	13.20	-2.10	-0.159
Natural Gas	13.20	-2.10	-0.159

SOURCE: A. Lans Bovenberg and Lawrence Goulder, "Neutralizing the Adverse Industry Impacts of CO_2 Abatement Policies: What Does It Cost?" in *Distributional and Behavioral Effects of Environmental Policy*, eds. Carlo Carraro and Gilbert E. Metcalf (Chicago: University of Chicago Press, 2000), table 2.2.

NOTE: Output elasticity is the ratio of the percent change in quantity demanded divided by the percent change in price, multiplied by negative one.

As table 4 shows, CO_2 emissions are reduced by 663 million metric tons, a decline of 11 percent. Most of the reduction in emissions comes from reduced coal use. A static estimate of CO_2 tax revenue (ignoring the behavioral response) suggests that a $15 tax would raise $90.1 billion per year in the near term.[20] Allowing for the emissions reductions calculated in table 4, the tax would raise $80.2 billion per year. Clearly, the tax would raise less money in future years as greater reductions in carbon emissions occurred through improvements in efficiency, fuel switching, or new technologies like carbon capture and sequestration.[21] The revenue estimate, however, does not factor in growth in demand for electricity nor the baseline growth in carbon emissions that would result in the absence of any carbon policy.

Applying this approach to different carbon tax rates gives the results for emissions reductions and tax revenues seen in table 5.

While these results are useful for providing a ballpark estimate of the impact of a carbon tax, more detailed modeling will be required to refine them further. Our estimates are broadly consistent with results from more detailed CGE modeling of U.S. carbon policies.[22]

TABLE 4
EMISSIONS REDUCTIONS FOR A $15 TAX

Energy Source	Output Change (%)	CO_2 Emissions (MMT)	Reduction in CO_2 Emissions (MMT)
Coal	−29.2	2,046	597.1
Crude Oil	−1.7	2,832	48.4
Natural Gas	−1.5	1,130	17.2
Total	N/A	6,009	662.8

SOURCE: Authors' calculations.

TABLE 5
VARYING THE TAX RATE

Tax Rate Per Ton ($)	Emissions Reductions (%)	Tax Revenue ($ billions, annual rate)
10	7.40	55.7
15	11.0	80.2
20	14.7	102.5
25	18.4	122.6

SOURCE: Authors' calculations.

TABLE 6
CARBON TAXES AS A SHARE OF OTHER TAXES

Tax Rate Per Ton ($)	Tax Revenue ($ billions)	Personal Income Tax (%)	Corporate IncomeTax (%)	Payroll Taxes (%)
10	55.7	6.0	20.0	7.0
15	80.2	8.6	28.8	10.1
20	102.5	11.1	36.8	12.9
25	122.6	13.2	44.1	15.4

SOURCE: Authors' calculations.

- **Potential Uses of Revenue.** Carbon tax revenues could be used for a number of purposes, such as lowering payroll and corporate income taxes, funding tax relief to low-income earners most affected by increased energy prices, or a combination of these. Table 6 reports the carbon tax revenue from table 5 as a percentage of various tax collections in 2005, as reported in the most recent administration budget submission.

A $15 per ton CO_2 tax raises enough revenue to reduce the corporate income tax by over one-quarter and income or payroll taxes by roughly 10 percent. In a policy brief for the Brookings Institution and the World Resources Institute, economist Gilbert Metcalf estimated that a rebate of the employer and employee payroll tax contribution on the first $3,660 of earnings per worker in 2003 would be sufficient to make the carbon tax both revenue- and distributionally neutral.[23]

Distributional neutrality may well impact the desirability and political feasibility of a carbon tax, but there are efficiency considerations as well. There is substantial literature on the "double dividend" that examines the economic conditions under which a

carbon tax can be paired with a reduction in other taxes in a manner that improves the overall efficiency of the economy. Where such a double dividend is available, a carbon tax swap would be desirable, even if the environmental benefit of reduced carbon emissions failed to be realized.

The concept of the double dividend stems from the observation that a tax on an environmental externality not only helps curb the externality (dividend 1), but also provides revenue with which other distorting taxes can be reduced, thereby providing efficiency gains (dividend 2).[24]

The double dividend comes in different levels.[25] The "weak" double dividend states that if one has an economically distorting tax, using environmental tax proceeds to lower it provides *greater efficiency gains* than returning the proceeds lump sum to those who pay the environmental tax. An intermediate form of the double dividend hypothesis is that there exists a distortionary tax, such that using environmental tax proceeds to lower this tax will *improve welfare*, setting aside environmental benefits.[26] A strong form claims that a welfare gain will occur when environmental proceeds replace those of the typical distorting tax.

A tax swap would create economy-wide incentives for energy efficiency and lower-carbon energy, and by raising the price of energy, would also reduce energy use.

The weak double dividend is uncontroversial,[27] while the strong double dividend is somewhat more controversial.[28] Criticisms notwithstanding, logic suggests that the pursuit of a strong double dividend is desirable as a matter of public policy. To that end, it would seem much more desirable in terms of efficiency to pursue capital tax reduction as a revenue feedback than other choices, as the current treatment of capital in the tax code is quite far from the optimal tax of zero, and the efficiency gains from a reduction in a payroll tax would likely be minimal if labor is, as is generally accepted, supplied relatively inelastically.

It should be noted that cap-and-trade systems and carbon-tax systems can be designed so they are quite similar. If, for example, emissions are capped and permits are auctioned off, then one could, after observing the auction price, set a carbon tax that leads to a similar emissions and revenue outcome. Cap-and-trade systems, however, generally have been pursued as an alternative to revenue-raising taxes, and often allocate the permits according to some formula rather than through an auction. For the purposes of exposition, we compared a carbon tax to this latter form of the cap-and-trade system. One should remember that cap-and-trade proposals can be adjusted to raise revenues, and the revenues could then be used to pursue the double dividend. In that case, the relative merits of a carbon tax would be diminished.

Achieving a More Efficient System

A cap-and-trade approach to controlling GHG emissions would be highly problematic. A lack of international binding authority would render enforcement nearly impossible, while the incentives for cheating would be extremely high. The upfront costs of creating institutions to administer trading are significant and likely to produce entrenched bureaucracies that clamor for ever-tighter controls on carbon emissions. Permit holders will see value in further tightening of caps, but will resist efforts outside the cap-and-trade system that might devalue their new carbon currency. Higher energy costs resulting from trading would lead to economic slowdown, but as revenues would flow into for-profit coffers (domestically or internationally), revenues would be unavailable for offsetting either the economic slowdown or the impacts of higher energy prices on low-income earners.

A program of carbon-centered tax reform, by contrast, lacks most of the negative attributes of cap-and-trade, and could convey significant benefits unrelated to GHG reductions or avoidance of potential climate harms, making this a no-regrets policy. A tax swap would create economy-wide incentives for energy efficiency and lower-carbon energy, and by raising the price of energy would also reduce energy use. At the same time, revenues generated would allow the mitigation of the economic impact of higher energy prices, both on the general economy and on the lower-income earners who might be disproportionately affected by such a change. Carbon taxes would be more difficult to avoid, and existing institutions quite adept at tax collection could step up immediately. Revenues would remain in-country, removing international incentives for cheating or insincere participation in carbon-reduction programs. Most of these effects would remain beneficial even if science should

determine that reducing GHG emissions has only a negligible effect on mitigating global warming.

A modest carbon tax of $15 per ton of CO_2 emitted would result in an 11 percent decline in CO_2 emissions, while raising non–coal-based energy forms modestly. Coal-based energy prices would be affected more strongly, which is to be expected in any plan genuinely intended to reduce GHG emissions. A number of possible mechanisms are available to refund the revenues raised by this tax. On net, these tools could significantly reduce the economic costs of the tax and quite possibly provide economic benefits.

For these reasons, we conclude that if aggressive actions are to be taken to control GHG emissions, carbon-centered tax reform—not GHG emission trading—is the superior policy option.

AEI editorial associate Nicole Passan worked with Messrs. Green, Hayward, and Hassett to edit and produce this Environmental Policy Outlook.

Notes

1. United States Environmental Protection Agency (EPA), "Progress Reports," available at www.epa.gov/airmarkets/progress/progress-reports.html.

2. Sequestration projects currently appear to be not only very expensive, but they also reduce net power generation by as much as 20 percent, further aggravating the cost that will be passed along to consumers and rate payers.

3. Robert J. Shapiro, "Addressing the Risks of Climate Change: The Environmental Effectiveness and Economic Efficiency of Emissions Caps and Tradable Permits, Compared to Carbon Taxes," February 2007, 22, available at www.the americanconsumer.org/Shapiro.pdf.

4. William Nordhaus, "Life after Kyoto: Alternative Approaches to Global Warming Policies" (NBER working paper no. W11889, December 2005), 15.

5. Ibid., 22.

6. Robert J. Shapiro, "Addressing the Risks of Climate Change: The Environmental Effectiveness and Economic Efficiency of Emissions Caps and Tradable Permits, Compared to Carbon Taxes."

7. RECLAIM covered 390 stationary sources of NOx and fourteen stationary sources of SO_2, which represented only 17 percent of total basin-wide NO_x emissions and 31 percent of basin-side SO_2 emissions.

8. The Clean Air Act forbids it, in fact. SCAQMD's RECLAIM regulations read: "An RTC [RECLAIM Trading Credit] shall not constitute a security or other form of property." Section 4 of the RECLAIM regulations reiterated this point: "Nothing in District rules shall be construed to limit the District's authority to condition, limit, suspend, or terminate any RTCs or the authorization to emit which is represented by a Facility Permit." (Cited in James L. Johnston, "Pollution Trading in La-La Land," *Regulation* [Fall 1991], available at www.cato.org/pubs/regulation/reg17n3-johnston.html.)

9. Carbon Tax Center, "Who Supports," available at http://carbontax.wrkng.net/who-supports/.

10. William Pizer, "Choosing Price or Quantity Controls for Greenhouse Gases," *Resources for the Future Climate Issues Brief* 17 (July 1999).

11. Louis Kaplow and Steven Shavell, "On the Superiority of Corrective Taxes to Quantity Regulation," *American Law and Economics Review* 4, no. 1 (2002).

12. William Pizer, "Choosing Price or Quantity Controls for Greenhouse Gases."

13. William Nordhaus, "Life after Kyoto: Alternative Approaches to Global Warming Policies," 15.

14. Ibid.

15. U.S. Department of Energy (DOE), Energy Information Administration (EIA), *Emissions of Greenhouse Gases in the United States 2005*, DOE/EIA-0573(2005), Washington, DC: DOE, 2006. Total GHG emissions equaled 7,147 million metric tons CO_2 equivalent using hundred-year global warming potentials. Note that a simple conversion of other GHGs (i.e., methane, nitrous oxides, HFCs, and PFCs) does not exist. The global warming potential depends on the time horizon. We focus on CO_2 only in this study, though, ideally, a carbon tax would also tax these non-CO_2 emissions.

16. This is a standard assumption borne out by CGE modeling. See, for example, A. Lans Bovenberg and Lawrence Goulder, "Neutralizing the Adverse Industry Impacts of CO_2 Abatement Policies: What Does It Cost?" in *Distributional and Behavioral Effects of Environmental Policy*, eds. Carlo Carraro and Gilbert. E. Metcalf (Chicago: University of Chicago Press, 2000), 45–85.

17. We assume the tax on coal would be applied for electric utilities and major industrial coal users. Note that 91 percent of domestic and imported coal is consumed by electric utilities. (DOE, EIA, *Emissions of Greenhouse Gases in the United States 2005*.) The tax on crude oil is levied at refineries, and the tax on natural gas at the city gate.

18. A. Lans Bovenberg and Lawrence Goulder, "Neutralizing the Adverse Industry Impacts of CO_2 Abatement Policies: What Does It Cost?"

19. Increased coal prices could also lead to increased demand for imported oil, an important policy consideration outside the scope of this paper.

20. Carbon taxes can be reported in either units of carbon or CO_2. To convert a tax rate per unit of carbon dioxide to a rate per unit of carbon, multiply the CO_2 rate by 44/12 (the mass difference between carbon and CO_2). Thus, a tax of $10 per ton of CO_2 is equivalent to a tax of $36.67 per ton of carbon.

21. The recent coal study by researchers at the Massachusetts Institute of Technology suggests that carbon capture and sequestration is cost competitive at a carbon price of $30 per ton of CO_2. See John Deutch and Ernest Moniz, *The Future of Coal* (Massachusetts Institute of Technology, 2007), available at http://web.mit.edu/coal/.

22. Sergey Paltsev et al., *Assessment of U.S. Cap-and-Trade Proposals*, report 146 (Cambridge, MA: MIT Joint Program on the Science and Policy of Global Change, 2007), available through http://mit.edu/globalchange/www/abstracts.html#top.

23. Gilbert Metcalf, *A Green Employment Tax Swap: Using a Carbon Tax to Finance Payroll Tax Relief* (Washington, DC: Brookings Institution–World Resources Institution, 2007).

24. Don Fullerton and Gilbert E. Metcalf, "Environmental Taxes and the Double Dividend Hypothesis: Did You Really Expect Something for Nothing?" *Chicago-Kent Law Review* 73, no. 1 (1998): 221–56.

25. See Lawrence H. Goulder, "Environmental Taxation and the 'Double Dividend': A Reader's Guide," *International Tax and Public Finance* 2 (1995): 157–83, for a thorough taxonomy of the various double dividends. Also see A. Lans Bovenberg and Lawrence Goulder, "Neutralizing the Adverse Industry Impacts of CO_2 Abatement Policies: What Does It Cost?"

26. The terminology of intermediate and strong double dividends is due to Goulder, "Environmental Taxation and the 'Double Dividend': A Reader's Guide."

27. Mustafa Babiker, Gilbert E. Metcalf, and John Reilly, "Tax Distortions and Global Climate Policy," *Journal of Environmental Economics and Management* 46 (2003): 269–87. Babiker et al. show that it is possible, however, to find taxes such that lump-sum replacement dominates, lowering a distortionary tax.

28. A. Lans Bovenberg and Ruud de Mooij, "Environmental Levies and Distortionary Taxation," *American Economic Review* 84, no. 4 (1994): 1085–89. See also Lawrence H. Goulder, "Environmental Taxation and the 'Double Dividend': A Reader's Guide."

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
AMERICAN FARM BUREAU
FEDERATION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Bob Stallman

Organization(s) you represent

American Farm Bureau Federation

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

President of the American Farm Bureau Federation

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

AFBF policy, ratified by delegates from around the country and from every sector of agriculture, has several provisions speaking to this question. AFBF believes that:

a. Congress should not enact legislation mandating emission limits that are not based on sound, peer-reviewed science;
b. Any legislation designed to reduce carbon emissions should be formulated in such a way that the costs of such a program do not outweigh the benefits;
c. Congress should not enact a carbon tax; and
d. A cap-and-trade program should be voluntary.

Farm Bureau does not support any of the approaches drafted to date and we believe a market-based incentive program is preferable to a government mandate. Of the alternatives mentioned, all will increase costs to farmers and ranchers. A cap-and-trade approach may provide some operations an opportunity to offset some, but not all, costs. It is vital to the success of any cap-and-trade system that the full range of carbon reductions and sequestration that agriculture and forestry can provide be recognized and utilized in an offset program. Through producers' voluntary participation in reduction and sequestration offset projects, there will be carbon reductions that would not otherwise be achieved in a regulatory system. Some carbon reduction and sequestration projects have environmental co-benefits such as soil erosion control, water quality benefits and enhancement of wildlife habitat. A carbon tax does not provide any of these benefits.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Agriculture and forestry should not be regulated or capped under a carbon reduction program. Capping or taxing these sectors will only limit the potential sequestration benefits that these sectors can provide, which should be achieved through a robust agricultural and forestry voluntary offset program. The relatively small amount of agricultural and forestry emissions come from thousands of producers, making any cap or tax difficult to administer and enforce.

Agricultural producers also have only limited ability to pass along costs to their customers. Farmers are price takers rather than price makers. It is difficult to envision a scenario under a carbon emission reduction regime under which farmers facing higher costs through using mandated technology, altering agricultural practices, refraining from certain

production methods or growing certain commodities could absorb such costs or build them into the price of their products. Such an outcome could mean the cessation of certain agricultural activities, particularly if such products can be grown or produced overseas in countries without the same restrictions as the United States.

Agriculture and forestry would respond better to economic incentives to reduce their greenhouse gases (GHG) rather than through caps or a tax approach that would increase producer costs and limit sequestration opportunities. A robust agricultural and forestry offset program would allow producers voluntarily to reduce emissions, provide meaningful and real reductions for other sectors and allow producers to recoup a portion of their increased input costs. Over the past decade, improved agricultural practices such as no-till cropping, targeted chemical applications through GPS technology, and methane digesters have reduced GHG emissions from the agricultural sector. This demonstrates that if the agriculture and forestry sectors are provided proper incentives, they will reduce their emissions without regulation.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Agriculture and forestry should not be capped or taxed. If Congress were to include agriculture in a cap, no costs should be attached to agriculture's allowances. Agriculture's allowances should be unlimited. Carbon emission reduction legislation could easily cost hundreds of billions of dollars. Maintaining America's economic vitality and the ability to withstand such a change in a world economy is absolutely critical and must be the highest priority. A properly constructed system that distributes allowances rather than sells them will lower the costs of compliance.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Any cap-and-trade system should be linked to state or regional programs. If there is overlap, the federal program should preempt state and regional programs. Since GHG emissions are dispersed globally, any climate policy is better addressed at the national level rather than regionally. If state or regional markets allow agricultural and forestry offsets (e.g. Chicago Climate Exchange), those credits should be recognized in a mandatory cap-and-trade system provided they meet the federal offset requirements. If they do not, the markets should be given an opportunity to comply. Baselines for companies participating in a voluntary market like the Chicago Climate Exchange that have already voluntarily reduced emissions should reflect reductions already made.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

Any cap-and-trade program should be administered by a currently existing government agency. No matter how such a program is instituted, it portends to be an enormous undertaking that will impose large costs on the American economy, particularly as such a program progresses and the limits on emissions tighten.

Regardless of what agency oversees the program, the U.S. Department of Agriculture (USDA) should be the sole entity that determines agricultural offsets, how they operate, their attributes (e.g., the rate and terms of carbon sequestration) and their limits. However, we reiterate that we do not believe there should be any limits on agricultural offsets. USDA should develop and certify protocols for development, measurement and verification of agricultural and forestry offsets.

We strongly urge that the bureaucracy and expenses of such a program be kept to a minimum. There is no question that such an undertaking will impose enormous costs on farmers and ranchers. Everything possible should be done to mitigate those costs so that the impact is minimal for agriculture.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

The CFTC is the appropriate regulator of a derivative futures market. Not only does this regulatory agency have expertise in the oversight of derivatives and futures market, it also has the advantage of working closely with the House and Senate Agriculture Committees. USDA and the agriculture committees have a primary role to play in any such national program. Handing the program to an agency with no history of market regulation, like the Federal Energy Regulatory Commission, would result in a steep learning curve that other agencies, like the CFTC, have already climbed.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants. Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

These are questions already under consideration by the CFTC, which reinforces our support for the market to be regulated by CFTC.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

As a general farm organization with a national constituency, this question is of extreme importance for us and our members. In some ways, farmers, ranchers and rural residents will be more adversely affected than other sectors. Farming is an energy-intensive industry that will be hit hard by higher energy, fertilizer and fuel costs that are predicted with any of the climate change legislative proposals we have seen to date. If related agricultural industries such as fertilizer producers, implement dealers and rural energy producers incur higher costs, make layoffs, or go out of business, America's farmers and ranchers will face further adverse effects. It is important to keep in mind that unlike many other industries, higher input costs in agriculture cannot be passed on to consumers.

Rural areas in general will also face significant adverse affects from climate change legislation. Rural residents have to drive longer distances and have no access to public transportation alternatives, so fuel cost increases will have a greater impact than in urban areas. Increased energy costs will have an especially negative impact on the rural poor, who pay a higher proportionate share of their income for these necessities.

It is also important to note that not all agricultural sectors will be impacted equally. While costs will rise for all of agriculture, some agricultural goods - and the parts of the country where those goods are produced - will feel the impacts more severely. A Doane Advisory Services study of the Lieberman-Warner Bill provides a useful illustration of this point. This study finds that all major crops will experience an increase in input costs as a result of the legislation, but some crops are hit harder than others. While soybeans producers are predicted to face $10-20 per acre increases in production costs, rice growers will have to contend with enormous input cost increases of $79-153 per acre. Corn production cost increases are pegged at $40-78 per acre. The result of these cost increases could be devastating to some crops and could lead to dramatic shifts in what is produced on our agricultural land in this country. Given the public reaction to food price increases in 2008, it is not unreasonable to believe that the loss of agricultural production acres or the shift away from some crops that are critical to the food, feed or fuel supply in this country could have adverse effects throughout the U.S. economy.

The negative impact of regulating GHGs to the livestock industry could be even more dramatic. Just last year the EPA issued an Advance Notice of Proposed Rulemaking seeking comment on whether or not it is appropriate for GHG emissions from automobiles to be regulated under the Clean Air Act. If GHGs were deemed a regulated pollutant, USDA estimated that any agricultural operation with more than 25 dairy cows, 50 beef cattle or 200 hogs would be forced to obtain costly permits. At current average permitting rates, the permit cost for dairy cows would be $175 per cow, for beef cattle $87.50 per head

and for hogs more than $20 per hog. The results would be devastating to the animal agriculture industry in this country and would leave this industry extremely wary of any climate change legislation, particularly legislation that is going to regulate an aspect of their operation over which they have absolutely no control.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

We are concerned about recent reports that revenue generated from such a program might be used for other purposes such as health care reform. Any revenues generated from the program should be targeted to particularly vulnerable classes, like farmers, who simply cannot pass along costs to consumers. In the absence of such critical assistance, there will undoubtedly be a decrease in agricultural production in the United States.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

Again, if the program is voluntary, transitional assistance will not be needed. Given the current economic situation, imposing additional costs and creation of a new government program to offset those costs is not prudent. In any event, agricultural producers that are adversely affected by higher overall costs must be eligible for any transitional assistance provided.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

Public lands are managed according to multiple use principles. Many farmers, ranchers and livestock producers rely on federal lands for forage for livestock, or for sources of water and other benefits. The multiple use management of federal lands must be maintained. Carbon benefits should be explored to the extent that they are consistent with existing multiple use management on federal lands.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

Carbon prices should be market driven. If they are derived from limits set by policymakers, they should be based only on sound science. Limits set artificially low due to policy concerns not based on sound science should be rejected.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Agricultural and forestry offsets are necessary in any cap-and-trade program.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

A voluntary offset program would be the most effective approach and holds the potential for gaining the highest degree of cooperation from the agriculture community.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

No, the total number of offsets issued annually by the government should not be limited. Market forces should determine the total number of available offsets.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

A domestic cap-and-trade system should prioritize domestic reductions over international reductions, and allocations should be made accordingly. All agricultural and forestry producers should have access to offsets. Distribution of offsets for these projects should be done in a market-oriented way, based on reduction potential of individual projects. AFBF is concerned about the possibility of farmland being converted to forests through forestation projects if carbon prices reach high levels. With the ever-increasing need to feed people in the U.S. and abroad, an offset program should help to minimize incentive for acreage shifts of productive farmland.

The agriculture and forestry communities should receive highest priority for distribution of available offsets. Both sectors have the least chance of passing along costs to consumers,

and agriculture in particular is vulnerable to foreign competition of a national security item – our nation's food supply.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

All offsets should be real, measurable, verifiable and permanent. There are several factors within these criteria that are unique to agricultural and forestry producers. There are varying criteria and protocols for measurement, verification and monitoring for sequestration and carbon reduction through livestock practices for which the costs are directly proportional to the accuracy desired. Criteria and protocols need to be sufficiently accurate to ensure the desired quality of the offsets provided. USDA has knowledge and expertise in developing and testing these protocols, understands agriculture and forestry, and has already done significant research on these criteria and protocols. They should be responsible for developing and certifying these criteria and protocols for the different types of offsets that agriculture can provide, as well as certification of commonly accepted criteria and protocols immediately so a certain number and type of offsets can be available when any program might become effective. Measurement and verification are important factors because carbon sequestration rates vary by soil type and locality. Such protocols should be sufficient to provide quality offsets.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Sound science must be the determining factor in assessing offset projects and in determining the risk of the emissions that are being offset. Offset projects should be evaluated on the basis of whether they will achieve the reductions promised. For sequestration projects, liabilities from possible reversals should be addressed or required to be addressed in contracts between offset providers and producers. USDA should set criteria and protocols for assessing offset projects.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Congress should not design the verification system. Offset programs undertaken by agriculture should be designed, developed and overseen by USDA. Participation in such offset programs should be voluntary. Under a voluntary program, USDA would develop specific guidelines to be followed and voluntary participants would self-certify their adherence to protocols developed by USDA. USDA could develop a way to oversee programs, but it should not be operated as a "permit" program under which public participation, public hearings and citizen suit provisions might be involved.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

A standards-based approach would be more convenient and could make offsets more available on a timely basis by providing a more fluid process for certification. A project-based approach would provide more accuracy. The goal should be to obtain high quality, accurate offset projects with the least red tape. For some types of offset projects, such as those relating to livestock management (digesters, lagoon covers, manure management), there is less variation in achievable reductions, and these types of offsets might be amenable to a standards approach. Soil sequestration projects vary by soil type and locality, and are more amenable to a project approach.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Legislation considered in the Senate last year proposed offsets and allowances for agriculture and forestry. The allowances would have been administered by USDA to fund additional carbon reduction or sequestration policies that did not qualify for offsets. An offset program should fully recognize all of the benefits that agriculture can provide.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

This issue arises primarily in the case of soil sequestration. Several factors rise in prominence:

a. Contractual terms, both in length and details, should be based on the best available scientific evidence relating to the carbon sequestration potential. Most research indicates that soils generally become carbon saturated within 20-30 years.
b. Those protocols should be determined, designed and implemented by USDA.
c. Farmers should not be compelled to enter into contracts. Every relationship should be voluntary.
d. Enforcement of terms of the contract should not be subject to third-party lawsuits.
e. If a farmer cannot meet the terms of the contract, the disposition of the contract should be laid out ahead of time.
f. Contracts should provide for liability in the case of intended and unintended reversals where sequestered carbon is released from the soil. Unintended reversals might be handled through a reserve credit fund whereby a certain percentage of credits are held back to replace credits lost through natural processes or other unintended factors.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

We do not support a mandatory cap-and-trade system, However, if one is mandated, offsets recognized by the Chicago Climate Exchange and other voluntary carbon markets should be permitted to become part of the program. In order to promote uniform fungible (to the extent possible) offset credits, any offset credits from other markets must meet the same criteria and protocols for measurement, verification and monitoring as required by the national market, or sufficient adjustments must be made to otherwise allow their participation.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

An appropriate definition of "additionality" is crucial if the role of agriculture and forestry is to be fully recognized and availed in a cap-and-trade program. Agricultural producers are among the most innovative environmental stewards in the world. Many have already adopted practices that are on the cutting edge of environmental protection. Definitions framed in terms of "business as usual" result in perverse incentives for producers or other offset providers to forego planned carbon reduction projects until a cap-and-trade bill is enacted. Similarly, early adopters would be encouraged to quit their practices so that they might qualify for offset credits when a program is put in place. Early actors should not be penalized for undertaking environmental initiatives.

Formulations of "additionality" that use "business as usual" fail in two important respects. First, early adopters are not obligated to continue the practices that result in carbon reductions. There is nothing to prevent them from ceasing these practices. Second, in many cases these early adopters can still provide future carbon reductions or sequestrations. They should be allowed to market these "additional" reductions or sequestrations as offsets to the same extent as other participants. The focus should be on the carbon reduced, not on when practices are adopted.

Many environmental practices have several different benefits, including those related to carbon reduction or sequestration. No-till practices control soil erosion, provide wildlife habitat and enhance water quality in addition to sequestering carbon. If different co-benefits can be quantified, there is no reason not to allow stacking credits. A practice that reduces carbon and is eligible for an offset market and also enhances water quality and can be traded in a water quality market should be allowed to participate in both markets. Because the environmental benefits are different for each market, this should not be considered "double dipping." The Office of Ecosystem Services and Markets within

USDA was recently established to set market protocols and standards and would be uniquely qualified to assist in implementing such a program.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

See answer above relating to stackable credits. Any legislative effort to reduce carbon emissions is an additional program. It does not replace ongoing programs under the farm bill operated as a safety net for farmers. Therefore, a farmer's participation in farm bill programs, either through cost-share or technical assistance, should not affect that farmer's ability to capture economic gains stemming from those activities. Any such programs must be voluntary, protect agriculture, continue to provide farmers a secure safety net, allow U.S. agriculture to grow and thrive, permit farmers to be competitive with foreign producers and adequately compensate farmers for undertaking efforts presumed to have an environmental benefit.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

A producer who has documented adherence to protocols and procedures devised by USDA or other government agencies should not be held liable if it is later found that those protocols or procedures were in error. It is unfair to hold the producer liable. Unintended reversals and other natural disasters that result in reversal can be addressed through insurance type mechanisms or credit reserve funds that are equitable for all parties. Producers should not be relieved of liability for intentional reversals, and should be liable for any breach of their agreement.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

It is not Congress' responsibility to micromanage technical programs. Congress should outline broad policy goals within which agencies can operate. If a detail is wrong in statute, it can only be changed through further legislative action. A program as complex as this should not be detailed by Congress, but there are certain critical directives that Congress must set out.

a. Congressional intent should be sufficiently clear in the legislation to assure that final determinations are not made by the courts. We strongly oppose any citizen suit provisions or private right of action in the legislation.

b. USDA should be responsible for developing the protocols and procedures for any offset program affecting agriculture and forestry.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

With rare exceptions, agricultural producers are price takers, not price makers. The structure of the industry does not allow growers to pass along higher fertilizer, feed, seed, utility or energy costs. Thus, the principal obstacles faced by growers are economic and financial. If practices, technologies or programs are imposed on agriculture that reduce net farm income or make American growers less competitive, the result will present a formidable and perhaps insurmountable obstacle to farmers. The way to improve chances of success is to make sure that farmers' actions will result either in real returns in the marketplace that allow them to install technology, adopt new practices, forego certain practices or support from the government that permits these changes.

There is a real concern that higher costs will make U.S. products less competitive in foreign markets with products from other countries that have not implemented similar carbon reduction policies.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

Existing conservation and forestry programs were enacted to accomplish specific purposes and specific funding has been allocated to carry out these programs. In many cases, carbon reduction or sequestration is an environmental co-benefit resulting from these programs, but the mission, scope and funding for these programs were not designed specifically for reducing carbon. Several options might be considered to speed up these practices. Stackable credits are a possible approach. Another possible approach might be to re-configure and unite the conservation programs using the stackable credit approach and establish a new and complete conservation mission statement. The Office of Ecosystem Services and Markets within USDA might be used to coordinate these practices and programs.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

The American Farm Bureau Federation strongly urges the committee to consider these following additional points as it considers this issue:

1. Institution of a carbon reduction program in the U.S. will entail enormous costs for agriculture, the consumer and the U.S. economy. The program can only succeed in reducing carbon emissions if it makes carbon so expensive in relation to other forms of energy that those alternative sources are cost competitive. Farm Bureau opposes proceeding on such a perilous course of action and has serious concerns about the implications for the nation as a whole. Should Congress decide to move legislation on the issue, it must first do everything it can to mitigate the consequences. One critical component would be to ensure our nation has a solid foundation on which to build a carbon-free or carbon-reduced economy. We do not have that foundation now. Hydropower supplies less than 3 percent of America's energy needs, yet the same groups that clamor for cap-and-trade are doing all they can to dismantle hydroelectric dams (200 have been removed in the last decade). Electrical output from solar and wind power doubled from 2005-2007 and increased further in 2008 yet these systems now contribute barely 1 percent of the nation's electricity consumption.

   The most likely candidate for replacing America's reliance on coal or oil is nuclear energy, but there is virtually no mention of this potential energy source in the cap-and-trade debate. That must change. Congress should not embark on a multi-billion-dollar safari without first having a map of where it is going. Nuclear energy must be a part of that map. Congress should first establish that it will not mandate a transition to a lower-carbon economy until a certain mega-wattage of nuclear-generated electricity capacity has been approved and ground has been broken. We also recognize that in the short-run, the electricity generation path will lead through natural gas. To the extent this will establish a higher demand and subsequent price level for natural gas above world prices, it will make our nitrogen fertilizer industry uncompetitive.

2. AFBF has enunciated its strong opposition to the view that indirect land use should be used in calculating the carbon impact of ethanol. We urge the committee to reinforce this view. Recently, in one state (California) the use of such a criteria resulted in the anomalous result of favoring carbon-based fuels over ethanol. The committee should fight aggressively against such a perversion of federal policy.

3. We urge the committee to look broadly at the impact on agriculture of the policies they are about to consider. We must ensure that the outcome of such a plan does not lead to a U.S. agricultural production decline in the name of carbon emission reduction. Any legislation will need to ensure that American producers are not put at a competitive disadvantage as a result of the enactment of carbon reduction legislation. The higher costs incurred by

American producers need to be addressed in ways that will be consistent with the World Trade Organization (WTO). It is counter-productive to implement provisions that might be the subject of a WTO trade complaint that results in retaliation against the U.S.

Trade problems arise in the mechanisms by which lawmakers chose to address competitiveness issues that occur when a unilateral approach is taken. While the General Agreement on Tariffs and Trade (GATT) allows for certain exceptions for domestic protection, it is unlikely that a unilateral proposal will be able to meet the narrow standards of GATT article XX.

GATT article XX provides for domestic protection if the action is "related to the conservation of exhaustible natural resources and if such measures are made effective in conjunction with restrictions on domestic production or consumption." Though there would be a comparable restriction for both domestic and international industries, the argument for protection does not come from the right to protect exhaustible natural resources. Instead, the argument is couched as a measure to help domestic industry remain competitive with goods imported from nations without similar climate controls.

Trade issues that may arise as a result of domestic climate legislation include:

Carbon Leakage - Carbon leakage is the concept that the increased cost of doing business for domestic carbon intensive industries creates incentives to move operations outside the country. While this will reduce one country's carbon footprint, net global emissions will remain the same.

Carbon leakage could lead to a loss of jobs and a potential increase in CO2 or equivalent emissions as companies move from the U.S. to countries with less stringent laws.

A reduction in output will require increased imports from abroad to meet demand. These imports will likely come from developing countries that will not be covered by a cap-and-trade program and as such will have greater competitiveness as a direct result.

To address the threat of carbon leakage, law-makers have suggested offering rebates to affected industries. Since these rebates are given to specifically address the competitive issue, they maybe subject to a WTO complaint.

Unilateral action by the United States will have little environmental benefit if the other nations of the world do not adopt similar and effective commitments. GHGs are evenly distributed throughout the world. A ton of GHG emitted in China has the same effect as a ton emitted in the United States. China is now the world's largest emitter of GHG. If emissions in the United States are regulated but emissions in China continue as before, the environmental benefits will be negligible while the economic consequences can be enormous.

A System of Nationally Based Carbon Markets Could be Subsidies

The foundation of domestic climate change legislation is the establishment of a cap-and-trade program. This scheme would be a relatively free market mechanism to determine the cost of emission permits. The problem arises when permit values are set domestically when products compete globally.

Competing country-based carbon markets will have an incentive to price their carbon permits lower than other countries. The lower price on carbon the lower the cost to domestic industries and the more competitive their goods are internationally. Having multiple domestically based markets for carbon could lead to a system of subsidies.

4. Any offer of subsidies to domestic industries could violate the WTO Agreement on Subsidies and Countervailing Measures. Any program must preempt further regulation of GHG under the Clean Air Act. An Advance Notice of Proposed Rulemaking issued by EPA last year illustrated the severe economic impacts that such regulation could have on agriculture. Placing such regulation in addition to climate reduction legislation would place even more severe economic impacts on agriculture.

Respondent did not complete the chart at the end of the questionnaire.

We submit these general comments rather than list each type of practice that might be considered for offsets in the chart.

The full range of agricultural and forestry practices that can reduce or sequester carbon should be recognized and available for participation in an offset program. With appropriate procedures for measurement, verification and accounting for reversals, such practices can be effective at reducing or sequestering carbon. Acceptable measurement and verification procedures are either developed or will be developed. There are many techniques available for each, with higher accuracy coming at a greater cost. The appropriate tool will be that which balances needed accuracy with acceptable cost. Costs and capacity will depend on the individual producer and the willingness to undertake practices to reduce or sequester carbon. Capacity is a function of approving an offset type protocol or methodology, designing an offset project and having that project approved.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
AMERICAN FARMERS &
RANCHERS/OKLAHOMA FARMERS
UNION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Terry Detrick

Organization(s) you represent

American Farmers & Ranchers / Oklahoma Farmers Union

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

President of American Farmers & Ranchers / Oklahoma Farmers Union

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Cap-and-trade. A cap-and-trade will provide for the most flexibility. A cap-and-trade program should also allow agriculture and forestry sequestration to offset capped sector emissions.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

No, agriculture itself should not be subject to carbon reduction, or a carbon cap. Agriculture will ultimately be self regulated due to the increase in costs that will occur through the increase it will see from fertilizers, agrichemicals, fuel, machinery costs, tractor tire costs and virtually an increase in all input and operating costs. Any climate change policy that attempts to regulate the major industries will have a direct and significant impact on agriculture. Furthermore, when looking at total U.S. Greenhouse Gas Emissions by sector agriculture represents only small percentage of emissions that could not be regulated effectively. Agriculture would be extremely difficult to regulate due to the sheer size of the two million farms and ranches across the country. Agriculture should, however, be allowed to sell offsets to capped entities which will lower the overall cost of compliance to the economy. It should also be noted that agriculture is for the most part a price taker not a price maker and it will be extremely difficult to pass on any increased costs. It is doubtful that income received from providing offsets through carbon sequestration will be enough to level out the increase of input costs.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Initially, there should be a balance between the distribution of free allowances to mitigate against economic impacts and auctioned allowances. The distribution of allowances should be prioritized to result in the lowest cost to the economy. Allowance for the agriculture and forestry sectors should be allocated at no cost.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

An inventory and analysis of existing, emerging U.S. regional and state programs should be conducted using the best from each program. From there a cap-and-trade program should pre-empt various voluntary programs currently in existence with previous programs being allowed a transition time to comply.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

A collaboration among existing agencies should be utilized to administer the program. While the EPA should have authority to administer the larger cap-and-trade program, the USDA should exercise the statutory authority provided to them in the 2008 Farm Bill to administer the development and implementation of agriculture and forestry offset policies. In addition, USDA has the best organizational ability through CSREES and NRCS to provide educational and technical information directly to the agricultural and forestry communities.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

The CFTC should be the regulator of the derivatives or futures markets as provided in the Derivatives markets Transparency and Accountability Act of 2009. They should also work closely with USDA to make sure the development of offsets policies are designed to maximize credits for carbon sequestration.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

Yes. The system should provide the transparency, oversight and structure that allows for verifiable greenhouse gas reductions while allowing economic growth.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

When looking at it from an increase in input costs, agriculture producers most definitely will be negatively impacted. A Doane's Study: An Analysis of the Relationship Between Energy Prices and Crop Production Costs outline such increases. The study shows that under a cap-and-trade policy such as the Lieberman-Warner Climate Security Act of 2008, S. 2191, crop production costs would increase by $6 to $12 billion, leading to a significant decline in farm income, this at a time when farm safety net programs do not come close to covering cost of production and farm income is decreasing with lower prices The decrease in farm income will ripple through rural America.

Furthermore, in response to the Supreme Court decision in Massachusetts v. EPA, EPA is poised to make an endangerment finding which will then trigger regulations that will cap the emission of more than 100 tons of carbon per year by any entity. That is the equivalent of about 25 dairy cows, requiring permits costing a minimum of $45 each, and that is just for the cows.

Legislation can be fashioned in such a way to provide both an economic benefit through the sale of agriculture and forestry carbon credits and use of the allowance pool to militate against any possible increases in input costs.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

First, by allowing producers to be a part of the carbon reduction program by providing revenue to the agriculture and forestry sectors from the sale of allowances and offsets. Secondly, they should be provided to those sectors that have the highest potential to be impacted by any increases in energy or other input costs.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

Yes. A strong carbon offset program is the best way for keeping potential costs to the economy low and revenue from the sale of allowances can be provided to those impacted.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

All lands including public lands and forests can and should play an appropriate role.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Price should be determined by market price and the availability of credits, which is why there needs to be a strong program of developing credit generating projects to keep the supply high and the cost relatively low. An artificial limit on carbon prices places an artificial limit on farmer participation in an offsets market.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

The EU-ETS currently does not include agriculture and forestry offsets so costs are higher and has limited the EU in implementing low cost reduction strategies.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

All of the above. Having USDA develop protocols for offsets should be strict enough to ensure that quality offsets are being created but not so strict that they unduly limit participation in a carbon market.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

No, there should be a system that can create real, credible and verifiable offsets, and then do not limit the number of offsets.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

Offsets should be provided on a priority basis within each sector to those emitters who least can afford to adopt carbon reduction technology. Secondly, those who have made voluntary reductions in emissions from the source or by purchasing carbon offsets prior to federal legislation should receive bonus allowances.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

There has been much work done through several Universities, USDA should draw on the work already done as they begin developing protocols for measurement, monitoring and verification as they have been directed by statute to do through the 2008 Farm Bill. The criteria should be stringent enough to produce real, credible and verifiable credits with real value but not so stringent that they discourage participation. The actual operation of the verification system should be directed to state governments and through them to the local conservation districts.

18) What should be the criteria for assessing offset projects?

Please respond in 300 words or less.

Agricultural practices occurring in an offset project should be held to applicable Natural Resources Conservation Service (NRCS) specifications that currently exist for the respective agricultural practice. While the entire specification is not relevant to soil carbon sequestration, the applicable parts of the specification should be used to assess the project. For example, under NRCS specifications, to qualify as a "no-till" field, a field must meet specifications for percent soil disturbance and plant residue above the soil surface. These are quantifiable aspects of the practice that can be used to assess the project for carbon sequestration value.

19) How should Congress design a system for verifying offset projects?

Please respond in 300 words or less.

Consider Oklahoma's Model: The Conservation Commission charges aggregators a fee for the verification service and works with local conservation districts and other state approved verifiers through a cooperative agreement to do the actual on the ground verification. This agreement is similar to the Commission's agreement with the districts for farm bill delivery where NRCS actually contracts with the Conservation Commission on farm bill delivery and the Commission then sends the money to the districts to do the work. Oklahoma is accustomed to delivering conservation programs using a partnership model. In Oklahoma, the NRCS has an established relationship with state conservation agencies and local

conservation districts through legislation going all the way back to the 1930's. This relationship is required by federal law.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Both. Agriculture offsets from rangeland, grasslands, and no-till cropping are already being traded on the voluntary market. The standards-based approach currently in use should be the foundation for the program Congress develops. The value being used for these offsets have been extrapolated from models and a few soil samples. These values are adequate for now. Meanwhile, project based approaches that include research to measure carbon sequestration over the life of the project or beyond can be used to develop a broader data set specific to each agricultural practice. Where applicable, these data would be used to quantify the offset value instead of current default values. An advantage to the project-based approach is that it can account for changes in weather and other factors. This approach also allows measurement standards to be developed that are applicable to regions of similar climate and production practices. Site specific assessment is key to credibility and assurances that the offsets are legitimate.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

There should be both a strong market for selling offsets as well as an allowance pool to be used to mitigate against any potential input increases for various sectors.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Contracts should be sufficiently flexible to recognize Acts of God or unintentional reversals with the loss of carbon being substituted with credits "banked" in a buffer pool. Contract length should be reasonable with a minimum of three years and a maximum of five years - and longer for forestry. This would accommodate changes in food supplies that could be affected by natural disasters or other unforeseen circumstances. Offset contracts should be flexible to allow offset providers/producers to buyout their contracts in order to switch to a more profitable land use if the need arises. Contracts should accompany all land sales with the buyer assuming full responsibility of the contract through its remaining life and should include a buyout option. There is no way to guarantee for perpetuity the permanence or duration of an agricultural or other offset. However, flexible contract provision can provide incentives.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?

Please respond in 600 words or less.

When standards will not be compromised, existing projects should be grandfathered into any new program. If standards will be compromised, offset contracts should continue and expire outside of the federal system. Those that don't meet the new standards could be compensated through the allowance pool but should not be allowed to participate in the cap-and-trade market in order to maintain the environmental integrity of the program.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Yes. Any activity that reduces greenhouse gas emission and has additional environmental benefits such as water quality or wildlife habitat should be allowed to be stacked and credited appropriately from markets for environmental services.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

If the practice was not specifically implemented for carbon sequestration then stacking credits or benefits is a good way to encourage good actors to become even better actors. For example, in Oklahoma, when money spent by the buyer on offsets it is counted as a match for federal monies, this creates even more resources to do more work in watersheds where water quality programs are being implemented with federal and stated funds. The result is that more water is cleaned up and more carbon is stored than if the stacking or match was not allowed.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

In the event of some event beyond the control of the producer, there should be no penalty. Maintaining a national credit reserve of some reasonable percentage should be able to offset any losses of carbon sequestration protocols due to natural events.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

Authority to develop protocols and procedures has been delegated to USDA under the Environmental Services Markets provisions of the 2008 Farm Bill and should be followed through.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Education and access to technical expertise from individuals experienced in developing carbon sequestration projects. The costs of measurement, monitoring and verification must be covered in a way that makes economic sense in order for farmers and foresters to participate.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

There are no existing conservation or forestry programs that have the standards and protocols necessary to allow producers to participate in a mandatory cap-and-trade program. The ability for producers to receive compensation from the sale of carbon offsets will add incentive for them to participate in programs. Financial and technical incentives should be included to speed up adoption and implementation of an agriculture and forestry offsets program.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Afforestation	Excellent	Excellent	Low	High
Reforestation	Exellent	Excellent	Low	High
Managed forests	Excellent	Excellent	Low	High
Avoided deforestation	Excellent	Excellent	Low	High

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Rangeland managment	Good	Excellent	Low	High
Seeded grasslands	Good	Excellent	Low	High
Methane digesters	Excellent	Excellent	High	Low

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
No-till cropping	Excellent	Excellent	Meduim	Medium
Buffers	Excellent	Excellent	Medium	High

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
AMERICAN FARMLAND TRUST
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Dennis Nuxoll

Organization(s) you represent

American Farmland Trust

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Director of Government Relations and Federal Policy

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

American Farmland Trust strongly believes that the United States must act to curb its greenhouse gas emissions and that the best approach is to create a cap-and-trade system. Given the comprehensive nature of this goal, we believe Congress is best positioned to create a system that reduces greenhouse gas emissions and we would not support a system relying primarily on regulatory based efforts to do so. The carbon reduction program that Congress designs can and should create a system with opportunities for agricultural producers to participate in helping to reduce carbon. Full participation by agriculture will: 1) encourage use of agricultural carbon emissions that will dramatically reduce the amount of carbon emissions we as a nation produce, thus accelerating the environmental outcomes we seek to achieve; 2) stimulate techniques and practices within agriculture that reduce carbon emissions and will result in additional environmental benefits such as improvements in water quality and wildlife habitat; 3) provide new streams of income for agricultural producers based on the environmental benefits that they provide society—this will increase the economic vitality of American farms and ranches; and 4) by using low-cost agricultural carbon emission reductions the cost of compliance for the system will be greatly reduced. A cap-and-trade based system is the best approach to achieve this combination of policy objectives. A carbon tax, while reducing carbon emissions, would not be as likely to achieve the other objectives and thus we prefer a policy program based on a cap-and-trade system.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

The agriculture and forestry sectors should not be covered under a carbon reduction program. These sectors, which consist of millions of individuals and businesses spread out across hundreds of millions of acres, do not lend themselves to being covered under a carbon reduction program. Greenhouse gas emissions from the agricultural sector account for approximately 7 percent of total U.S. emissions, however, these emissions come from a large number of small individual emission sources. The economic, bureaucratic and general transaction costs involved in monitoring and regulating so many small emission sources does not warrant inclusion of the whole agricultural sector within the category of covered sectors. Furthermore, agriculture and forestry can serve as the source for relatively plentiful low-cost sources of greenhouse gas emission reductions. Access to plentiful and low-cost carbon reductions are critical to the functioning of a carbon reduction program because the use of these offsets substantially lowers the cost of the overall system to the United States

while at the same time achieving the emission reduction targets that we must pursue. For example, the EPA analysis of Lieberman-Warner (S. 2191) estimated that the allowance prices would be highly sensitive to the offset policy (http://www.epa.gov/climatechange/economics/economicanalyses.html#s2191 at link "Data Annex."). With no offsets, the price of allowances (metric ton of CO2e) in 2020 would be almost $100. With constrained offsets of 15 percent domestic and 15 percent international, the price of allowances in 2020 falls in half to about $50. With unlimited domestic and international offsets, the price of allowances in 2020 falls further to about $15.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

American Farmland Trust does not have a strong opinion of how allowances should be distributed. If all allowances are given away to emitting industries, it will substantially reduce the compliance cost of a cap-and-trade program to society. On the other hand, allowances that are auctioned off have the potential to generate revenue for use by sectors of society that are disproportionately and adversely impacted by the legislation. Regardless of how allowances are distributed, an allowance allocation given to agriculture could be used for a variety of beneficial purposes. Such an allocation could be used to fund adaptation efforts, including research into agricultural practices that need to be adapt as the climate changes as well as wildlife and plant adaptation. An allowance could also be used to encourage carbon reduction practices that may not qualify for inclusion in a carbon offset regime (e.g. techniques that are so new that all of the scientific data necessary have not been fully documented). Finally, allowance allocations should be used to ease the transition to a carbon limited economy for agricultural producers who are unable to generate offset credits. As one example, small farmers might not be able to generate enough credits to justify the increased cost of carbon sequestering practices.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

A U.S. carbon reduction program should be national in scope and should preempt existing local, state and regional systems. However, the national system should attempt as much as possible to incorporate the best ideas, policies and programs of the other systems. The existence of these widely divergent systems has created a confusing and conflicting array of carbon reduction policies, which treat agriculture in different ways. While elements from

current regional systems may provide value in serving as a template in designing a national system or at some point in the evolution of a national program specific elements of current regional systems may later incorporated into a national system, legislation should not expressly incorporate these regional frameworks.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

EPA should clearly be the lead agency economy wide for a carbon reduction system. Under this umbrella USDA should be given primary authority over the creation of an offset program.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

NA

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

NA

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

NA

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

NA

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

SEE QUESTION #3

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Public lands can play a critical part in helping to sequester greenhouse gases so policy should encourage activities on this landscape that will reduce carbon emissions and/or sequester carbon. Maintaining and enhancing public lands' ability to provide these benefits is critical. Those public lands managed by the Forest Service or the Department of Interior at the federal level already are tremendous carbon sinks. Maintaining existing capacity to sequester carbon and finding ways to enhance that capacity are vital. In addition, to the extent private landowners are participating in these carbon management activities—such as those who hold BLM licenses as one example—they ought to be rewarded for the contribution that they provide in helping the nation achieve the goal of carbon emission reduction/carbon sequestration.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

As a general rule market forces should determine prices. However, having an oversight board that monitors the efficiency and effectiveness of the system and that is in a position to adjust overall carbon reduction goals (and thus influence the price of carbon) in light of new scientific information and economic effects of the system seems prudent.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

NA

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

A combination of a voluntary offset program with an allocation of allowances for carbon reducing practices would best serve agriculture. A voluntary offset system, if properly designed, creates new free market based sources of income for producers. The creation of a market driven income stream is likely to create an ongoing source of conservation activities that over time will benefit the nation not only in terms of carbon sequestration but other environmental gains. Further, agriculture provides one of the most cost-effective, readily available ways to address climate change and as such an offset program is a necessary element in the creation of any properly functioning yet cost effective carbon reduction program.

An allowance allocation given to agriculture could be used for a variety of beneficial purposes. Such an allocation could be used to fund adaptation efforts, including research into agricultural practices that need to be adapt as the climate changes as well as wildlife and plant adaptation. An allowance could also be used to encourage carbon reduction practices that may not qualify for inclusion in a carbon offset regime (e.g. techniques that are so new that all of the scientific data necessary have not been fully documented). Finally, allowance allocations should be used to ease the transition to a carbon limited economy for agricultural producers who are unable to generate offset credits. As one example, small farmers might not be able to generate enough credits to justify the increased cost of carbon sequestering practices.

Creating performance standards for agriculture would not seem to make much sense. If agriculture is an uncapped sector of the economy (as is envisioned in all Committee proposals thus far released by Senate EPW and House Energy) then having performance standards would not appear to generate sufficient engagement to actually change behavior. If performance standards are linked to a type of penalty administered by EPA then agriculture would effectively be regulated—an unwelcome outcome. Alternatively, if performance standards are built into existing USDA conservation programs then the government would either not be generating sufficient carbon gains to truly drive the systemic changes necessary to impact carbon. If such standards then became the primary concern of the conservation title programs (carbon overwhelmed all else) then we risk a significant loss of other environmental benefits for which the existing conservation title programs were originally designed.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

From a cost containment perspective having unlimited offsets is sound policy because as the pool of available offsets becomes larger it lowers the public cost of compliance for the overall carbon reduction program. Conversely, if the offsets available are not of a sufficiently high quality, a system that allows unlimited offsets might result in a lack of real environmental benefits. Low quality credits that do not sequester or eliminate carbon used to offset real greenhouse gas emissions defeat the purpose of the legislation; the reduction of harmful emissions of greenhouse gas. Given the natural risk and errors in any system it is likely that there will be some limits placed on the total number of greenhouse gas offsets available to emitters. Setting that limit at a high level and ensuring that standards for offsets are strong, but attainable should be the goal of the legislation.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

Congress should not be prioritizing the distribution of offsets. The market should determine who can engage in the sale of qualified offsets and at what price. After an offset project is approved, the offset should be fully bankable, sellable and tradable; the same standard that should apply to set-aside allowances. There should not be limitations on who can originate, generate, sell and trade offsets, so long as the offset meets applicable quality criteria.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

It is likely that even detailed statutory provisions for the creation of offset regime will necessarily leave many details to agency rulemaking. The most important principle for the creation and administration of such a regime is that USDA should be the lead agency with operational control over offsets. While EPA naturally will serve as the economy wide lead and have an umbrella function over all elements of a carbon reduction system, USDA must be placed in charge of offsets for agriculture and forestry. USDA can most appropriately determine the detailed specifics related to quantification, verification and monitoring of a given offset type, and is in the best position to determine the applicable quality criteria. USDA should base its criteria for developing protocols for measurement, monitoring and verification upon the scientific research and work already done and as they have been directed to do through the 2008 Farm Bill as Environmental Services Markets provision. The criteria should be stringent to specify the broad parameters of offsets, including volumes and broad project categories for which detailed regulations can be developed but not so stringent as to discourage participation. Policies should also include provisions for development of new offset standards and revising existing standards to account for changing technology and information. Assessment may include third-party verification, selective auditing or an insurance-based system for certain projects. USDA's role in establishing offsets is vital and the Department must generate standardized methodologies that engage large segments of the agricultural community.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

See Question #17.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Congress has a good start for designing a system in the 2008 Farm Bill, through the establishment of the Environmental Services Markets provision, particularly in the provisions requiring the USDA Secretary to consider the role of third parties in conducting independent verification of benefits produced for environmental services markets. USDA has a long history of experience in monitoring and compliance with agriculture programs and practices and has been monitoring soil carbon for over a century. Self reporting, with random audits or when there is suspicion of reporting should also be considered as a basic method for verification. Under any system it is critical that a farm baseline be established that is capable of picking up error or bias within a system.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Congress should establish a practice-based mechanism with national standards and rigorous accounting and consider a USDA qualified offset. It is important to clarify early in the establishment of the program and before it begins operation, the standards and agriculture practices that may qualify as an offset with a suite of protocols and policy that applies to specific practices and project types, such as animal and plant/soil generated credits. This will allow for agricultural producers to generate sufficient numbers of qualified projects to help ensure the development of a cost effective market with broad-based participation. In fact, with a standardized approach it is difficult to imagine large numbers of agricultural producers participating in an offset program given high transaction costs. Since the purpose of an offset program is to accelerate the carbon reductions that the United States must meet and do so cost-effectively, offset program methodology that dampens participation defeats the purpose of the program.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

From an environmental perspective offsets and allowances have relatively equivalent values—both represent tangible carbon emission reductions. When thought of from an agricultural economic perspective, however, they have substantially different values and relative weight. Emission reductions generated by offsets represent credits that can be freely traded within a market. Once a carbon reduction project is established and the level

of carbon reductions determined, those offset credits are traded freely on the market—just as farmers would buy and sell their commodities, livestock, etc. On the other hand, allowances, or proceeds from the sale of an allowance auction, represent government payments subject to changing Congressional politics (just as Social Security payments, the Land and Water Conservation Fund and any number of other of government payments have been subject to political winds). Given farmer and rancher preferences, allowances should not be thought of as an alternative to offsets as the primary incentive mechanism encouraging producers to generate carbon reductions. If allowances are thought of as a supplemental tool, or part of a comprehensive policy suite design to address climate change, however, then they provide a very useful role.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Offset credits should be thought of not as permanent purchases of carbon but rather as "rentals" of carbon. In that sense permanence and duration must be dealt with within the confines of a contract. Thus when an emitter purchases a carbon offset that entity is purchasing carbon for a finite amount of time. There may be incentives to purchase carbon for longer periods (purchaser may like the certainty of credits flowing for longer periods of time) or shorter periods of time. Certain carbon reduction practices naturally lend themselves to longer or shorter contract periods. For example, afforestation may lend itself to a longer contract period than soil no-till practices. Viewing offsets as a carbon rental is especially useful when considering that carbon offset contracts are part of a comprehensive carbon reduction regime. The overall regime will lower the amount of total emissions for the country, each capped sector, and therefore each individual emitter over time. Offsets will help achieve those reductions and will also allow emitters time to transition away from carbon intensive technologies into lower emitting technologies and/or encourage new technologies to develop. This does not mean, however, that the legislation should avoid setting minimum contract lengths (the legislation should) nor does it mean that the legislation should avoid including a payment system for carbon offsets that have reached a carbon saturation point. Legislation needs to avoid creating perverse incentives to maintain carbon offset projects even after those projects reach saturation.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Congress should make all projects established in existing carbon registries eligible for offset credits in any future cap-and-trade legislation. Eligibility however would not mean that every project would receive credit. Any project established under an existing registry would need to pass other substantive tests applied under a Federal offset program. Federal offset program protocols will likely be different than those established under registries and therefore while Congress should remove the "additionality" requirements of an offset project that is already registered other substantive requirements would still apply.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits? *Please respond in 600 words or less.*

The treatment of early actors is vital to agriculture's participation in a climate change system. Producers across the American landscape have been engaged in innovative efforts to sequester carbon using a variety of techniques. These producers should be allowed to participate in the offset program being created by Congress under a cap-and-trade regime. The central purpose of any offset program is to encourage the widespread adoption of conservation practices that sequester carbon which in turn, both reduce and potentially reverse global warming effects as well as provide cost containment for the entire system. Agricultural producers who have already begun to experiment with carbon sequestration practices, techniques and developing projects are critical emissaries to quickly ensure widespread adoption of carbon sequestration practices. Doing so will remove any moral hazards that may otherwise exist. While projects established by early actors may be eligible for offset credits, this should not result in the automatic issuance of offset credits for all those projects. Early actor projects, like any other project, would have to comply with all other offset program protocols for the practice, technique or project type in which they are engaged. Even if an early actor adopted a certain practice in 2002, if that producer does not meet other project protocols he will not be eligible to provide offset credits. Furthermore, early actors will not be paid for carbon already sequestered; rather, they will be paid for the carbon that they are going to sequester or destroy. Early actors should be compensated for the on-going and future carbon sequestration that they are achieving. As an example, if a producer began no-till in 2002 and his soil is projected to reach saturation in 25 years then that producer will only be paid for carbon sequestered between the date any cap-and-trade system starts and 2027.

Many of the practices undertaken to reduce greenhouse gas emissions will provide additional public benefits such as clean water, wildlife habitat and reduced soil erosion. Projects participating in a greenhouse gas offset market must not be excluded from also participating in other markets for environmental services that currently exist or may arise in the future. Allowing producers to "stack" or "bundle" credits will maximize the economic viability of carbon sequestration and manure management projects (among others), ensuring that more of these beneficial projects are undertaken and synergies with other environmental priorities, like improving water quality or wildlife habitat, are developed. For example, a practice like cultivating vegetative buffers along streams takes land out of production–an expensive undertaking for many farmers. This same practice could generate multiple environmental credits by reducing nutrient run-off (improving water quality, generating wildlife habitat and reducing GHG emissions) and storing carbon. We strongly support language that would allow for "stacking" of credits from multiple eco-service systems. Indeed, we hope that there will be language that expressly allows for their inclusion in any future cap-and-trade legislation.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Projects implemented on private land with government assistance should not be precluded from participating in a cap-and-trade carbon offset market. The most important principle in examining projects involving government cost-share is whether those projects generate real actual carbon benefits to society. This question assumes that "government assistance" equates to government "financial" assistance, not technical assistance (since government technical assistance should be even less scrutinized we do not examine it here). Any carbon benefits flowing from a project, even if that project received government cost-share assistance, do not belong to the government; they flow to the landowner. The carbon credits generated from a government assisted project should be eligible for offset credit. This basic principle must be included in both statute and in report language.

Offset credits generated by projects that receive government assistance, however, might well be discounted to account for the government's role in the project. For example, if a producer undertakes an EQIP contract pays for 50 percent of the cost of the project and that project generates carbon credits, the producer should be able to sell credits into the offset market. In this case, however, the value of those credits should be discounted. Government assisted credits must be discounted in order to prevent inequities from arising between producers. Consider, for example, two neighboring wheat producers who both apply for EQIP assistance with one receiving assistance and one not. If both producers undertake to implement the same practices, equity would dictate that when the producers subsequently sell their offset credits into the market that the producer receiving no government assistance should not be put at a complete disadvantage vis-à-vis the producer who received EQIP assistance. There must be some type of discount applied to the credits generated with government assistance.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Producers should be awarded offset credits based upon verified reductions of relevant emissions according to a standards-based protocol. Given the overall goal of this legislation, namely the reduction of greenhouse gas emissions as a result of human activity, relevant policy should include options to compensate for lost carbon in greenhouse gas emissions. For projects in which reversals have occurred as a result of natural disaster there should be no liability or responsibility by private or public actors to account for lost carbon emission reductions. For reversals caused by the landowner, or intentional reversals, liability must flow to the landowner and can be addressed through contractual liability specifications, damages or other appropriate penalties as well as purchaser buying

insurance or requiring a contractually created buffer. Finally, a buffer reserve of unused credits or insurance, paid for by the public, could be used to address the risk of unintentional reversals, such as arson or government conversion of land.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

No legislation, no matter how detailed, can adequately anticipate operational changes for a climate change offset program. Therefore, legislation must delegate authority to agencies to work out many relevant details. Legislation must, however, determine the respective roles for USDA and EPA and other agencies, enabling them to develop relevant criteria. EPA should clearly be the lead agency economy wide for a carbon reduction system. Under this umbrella USDA should be given primary authority over the creation of an offset program. Authority to develop protocols and procedures that are complementary to an offset program have already been delegated through the 2008 Farm Bill, to USDA under the Environmental Services Markets provisions. USDA has a long history of experience in monitoring and compliance with agriculture programs and practices and has been monitoring soil carbon for over a century. USDA's authority and jurisdiction for developing agricultural offset standard protocols, database management and verification needs to complement EPA as the lead and umbrella government agency for the offset program.

Congress should also include provisions to regularly update the offset program and protocols to reflect additional scientific understanding and include a provision to recognize additional qualified offset projects as they develop.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

Several obstacles are in the way of producers and landowners implementing practices and technologies that are likely to reduce or sequester greenhouse gases.
1) Cost - Many technologies and projects capable of reducing or sequestering greenhouse gas emissions are not cost-effective without a value being placed on greenhouse gasses. These costs include planning for and implementing the practices, as well as the associated measurement, monitoring and verification that may be required must make economic sense in order for farmers and foresters to participate.
2) Access to education and technical expertise from those experienced in developing carbon sequestration projects - Technologies and projects that could have significant greenhouse gas benefits have not been fully developed and tested for climate benefits. This information, as it is developed needs to be made readily available to the agriculture community.

3) Uncertainty about current and developing programs - The status of how current voluntary programs for offsets will be integrated into a regulatory system keeps farmers and ranchers from implementing effected practices. Uncertainty about the interrelationships with other complementary measures, such as the renewable energy standard that may be considered separately or in conjunction with climate policies, will also impact the cost effectiveness and scale of adoption of various practices.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Existing conservation or forestry programs do not provide sufficient incentives for producers to specifically engage in carbon reduction practices. While existing authority includes programs that can generate greenhouse gas benefits in addition to other environmental benefits, such as expanding soil conservation practices, nutrient and manure management, and biomass utilization, existing programs cannot of themselves generate sufficient incentives to sequester the amount of carbon that our nation needs to address climate change. Congress should NOT act to modify existing programs with the goal of reducing carbon emissions. First, without additional resources even if all conservation programs were redirect to this single goal, the amount of carbon reductions that would be achieved would not match the national need. Increasing incentives in existing programs is not a substitute for undertaking action to incent behavior via carbon offsets and allowance proceeds. Second, and equally as importantly, if Congress refocuses existing conservation programs on the goal of carbon reduction then it is likely that many of the environmental benefits for which those programs were originally designed would be lost. As a result, even if there were some minor uptake in the amount of carbon sequestered or reduced we would see declines in other environmental issues such as water quality improvements, water quantity utilization and wildlife habitat improvements. Can Congress provide some additional incentives to encourage more carbon reductions? Yes, but this new environmental goal must be carefully balanced against the environmental benefits for which these programs were originally designed.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
AMERICAN FOREST & PAPER ASSOCIATION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Donna Harman, President & CEO

Organization(s) you represent

American Forest & Paper Association

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

The American Forest & Paper Association is the national trade association of the forest products industry, representing pulp, paper, packaging and wood products manufacturers, and forest landowners. Our companies make products essential for everyday life from renewable and recyclable resources that sustain the environment. The forest products industry accounts for approximately 6 percent of the total U.S. manufacturing GDP, putting it on par with the automotive and plastics industries. Industry companies produce $200 billion in products annually and employ more than 1 million people earning $54 billion in annual payroll. The industry is among the top 10 manufacturing sector employers in 48 states.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
   Please respond in 600 words or less.

Climate Change policies should be equitably applied broadly across multiple sectors of the economy applying the most efficient and sustainable regulatory tool suitable for each sector. A hybrid system could comprise a cap and trade system, carbon taxes, design and efficiency standards, or other approaches appropriate to a specific sector of the economy.

AF&PA advocates environmentally responsible science-based policies that balance environmental, social, and economic elements.

AF&PA promotes climate change policies that:

Recognize the forest products industry's important role in reducing greenhouse gases.

Recognize the contributions of sustainably managed forests and wood and paper products to sequester and store carbon and reduce greenhouse gases.

Recognize the contributions of recycling to reduce greenhouse gases.

Credit early action and incentivize continued progress in emissions reduction.

Retain the internationally recognized principle of carbon neutrality of biomass fuels.

Ensure that policies promote sound forest management practices.

Strengthen, rather than hinder, the competitiveness of the forest products industry and the U.S. economy.

Achieve global reductions in atmospheric concentrations of greenhouse gases at the lowest possible cost.

Promote parallel actions by high-emitting competitor nations.

Mitigate increases in energy and other operating costs for industrial consumers.

Ensure a diverse, stable and affordable energy supply.

Be flexible, cost-effective, and economy-wide.

Not disrupt existing markets and local economies, nor hinder development of new markets.

Encourage long-term, high impact solutions by aligning targets with capital investment cycles.

Establish a single national program rather than be subject to varying requirements across jurisdictions.

Support research and development of technologies to capture or reduce greenhouse gas emissions.

Create program certainty to encourage necessary research, capital investment, and technology deployment.

Advance existing and breakthrough low-carbon technologies for energy production and use.

Include measuring and reporting methods that are simple, credible, transparent, and cost-effective.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Emissions related to managed forests and land management should not be regulated or included under the cap. Forestry practices should be eligible to participate voluntarily in offset programs on a project basis. All existing GHG international protocols treat forestry in this manner. AF&PA believes forests/forest management is a sector that has a significant role to play in helping build low cost solutions to GHG reductions. The nation's forests, recognized as the most significant and renewable U.S. carbon sink, can help the nation as a whole achieve GHG reductions through carbon capture and storage, providing renewable biomass energy and cellulosic biofuel feedstock, and generating reductions that offset and provide greater flexibility to GHG emitting industries.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

AF&PA does not support the use of auctions within a cap and trade system. Allowances should be allocated to all sectors covered under the cap and trade program as opposed to them having to purchase allowances at auction. Requiring entities to purchase allowances

at auction will raise the cost of the program to the economy without providing additional significant emissions reductions. Furthermore, auctions reduce the funds available for regulated entities to invest in GHG reductions. Where elimination of auctions across the board is not feasible, elimination of auctions for the manufacturers of global commodities, like pulp and paper, remains important in reducing one of the largest compliance costs facing our industry.

Allowances should be distributed based in proportion to (recent) historical emissions. Energy intensive manufacturers, such as forest product manufacturers, who face foreign competition and cannot easily pass on increased costs to customers, should receive an allocation adequate to mitigate the costs of the program. For example, under a cap and trade program the forest products industry will have to pay for not only its emission reductions or allowances to cover its direct emissions, but also increased energy, transportation and raw material costs, and the cost of allowances purchased by the utilities, opportunity costs of allowances granted to utilities, and increased fuel costs passed through in higher electricity costs. As stated above, emissions related to managed forests and land management should not be regulated or included under the cap. Forestry practices should be eligible to participate voluntarily in offset programs on a project basis.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

We support a single national emissions reduction program that establishes, uniform national standards, mechanisms and requirements that are consistent and efficient, and that recognizes the ability of states to carry out the program where requirements have been established that are consistent with the federal program. We do not support the implementation of multiple state, regional or statutory programs that impose varying compliance and reporting obligations. We support the harmonization of any existing state and regional programs with a federal program. Those entities that have already made reductions under a state or regional program should be eligible for early action or other appropriate credit under a new federal program. A single national program would provide businesses with a level of certainty that is critical for business planning purposes, particularly for our industry where companies typically have facilities in several States. It would also allow for the fungiblility of allowances and offset credits and eliminate the potential for leakage or competitive disadvantage across jurisdictions.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

We recommend that the U.S. Department of Agriculture and U.S. Environmental Protection Agency be given joint regulatory authority for any provisions pertaining to

forestry. Because of USDA expertise working with forest landowners, USDA should play strong role in the development of rules for offset programs. Additionally, USDA should be the primary department responsible for administering other incentives, beyond offsets, for additional climate mitigation in forests and forest adaptation tools for forest owners.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market partic ipants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could inc lude: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

U.S. forest products manufacturers face significant competition from global competitors. U.S. imports of forest products have grown consistently at a faster rate than American exports, resulting in an ever-widening trade deficit in the sector: the five-year average of the U.S. trade deficit in forest products stands at $17.9 billion. Since early 1997, more than 145 pulp and paper mills have closed in the U.S., contributing to a loss of 86,000 jobs, or 40 percent of our workforce. An additional 80,000 jobs have been lost in the wood products industry since 1997. Many of these jobs were in rural areas and were the major source of employment for the locale.

The recent downturn in the nation's economy, especially the housing market, has only compounded these challenges.

Since early 2006, the industry has lost 250,000 jobs--19 percent of our workforce. These jobs are critical for the survival of the rural communities where our facilities are often located.

The declining economy has reduced the demand for consumer goods and advertising products, and therefore their associated packaging and paper products. Production of paper and paperboard packaging plunged 18% percent from January 2008 to January of this year and preliminary data suggest that the February decline was equally sharp.

Housing starts slumped to a seasonally-adjusted annual rate of 540,000 units during the December- February period, their lowest three-month level since the government began collecting new starts data back in 1959.

Allocating an adequate portion of allowances to the manufacturing sector is essential under a domestic cap and trade program. These competitive pressures make the U.S. forest products industry (especially the pulp and paper sector) acutely aware of the cost of energy – our third highest manufacturing cost. With little ability to pass on costs in a competitive world economy, the U.S. forest products industry would see its slim profit margins significantly reduced or eliminated if auction prices for emission allowances were high.

For example, in the pulp and paper portion of our business (the portion of the industry with the majority of emissions), our members' annual net income averaged about $4.3 billion per year from 2000-2007. Meanwhile, in 2006, members' pulp and paper facilities emissions were 61.5 million metric tons carbon dioxide equivalents. At an allowance price of $30, purchasing allowances at auction would cost pulp and paper manufacturers nearly two billion dollars or almost half of their net income. At $50 per ton, approximately three-fourths of the pulp and paper sectors' profits would be eliminated. No manufacturer of low margin commodities in an international marketplace could sustain this impact. It is likely that many facilities would shut down, and production (and jobs) would shift to other (unregulated) regions of the U.S. or foreign countries. It is important to note that profit levels will be much lower than stated above for the foreseeable future due to the recent economic downturn.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

As stated above, AF&PA does not support the use of auctions within a cap and trade system. Allowances should be allocated to all sectors covered under the cap and trade program as opposed to them having to purchase allowances at auction. Requiring entities to purchase allowances at auction will raise the cost of the program to the economy without

providing additional significant emissions reductions. Furthermore, auctions reduce the funds available for regulated entities to invest in GHG reductions. Where elimination of auctions across the board is not feasible, elimination of auctions for the manufacturers of global commodities, like pulp and paper and wood products, remains important in reducing one of the largest compliance costs facing industry

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

Energy intensive manufacturers, such as forest product manufacturers, who face foreign competition and cannot easily pass on increased costs to customers, should receive an allocation adequate to mitigate the costs of the program. For example, under a cap and trade program the forest products industry will have to pay for not only its emission reductions or allowances to cover its direct emissions, but also increased energy, transportation and raw material costs, and the cost of allowances purchased by the utilities, opportunity costs of allowances granted to utilities, and increased fuel costs passed through in higher electricity costs. Allowances should decline with the cap and should not be phased out until competitiveness concerns are addressed through the implementation and enforcement of adequate GHG reduction requirements for large emitters globally.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Well-managed national forests can play a key role in helping to sequester carbon and reduce greenhouse gas emissions. Millions of acres of national forests are currently in an unhealthy state and at risk for catastrophic wildfires, which are a source of carbon emissions. Active management of national forests is needed to prevent these catastrophic wildfires and to increase the sequestration potential of the forests. The forest products produced from timber harvested from the national forests create an opportunity for long-lasting carbon storage.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Mechanisms designed to prevent significant economic hardship for participants should be included in a trading program such as safety valves, banking and borrowing, and offset opportunities.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

While it appears that the U.S. is taking the time to learn from the European Union's (EU) experience under the Emissions Trading System (ETS), there is one lesson that has been misinterpreted by many policymakers in the U.S. - "windfall profits." Because the original allocation to utilities in the EU ETS was based on utility provided estimates rather than actual reported data, there was an over allocation in the initial period of the EU ETS. Electricity rate structures and ability to recoup costs may exacerbate this issue. However, the availability of robust emissions data prior to the start of the program and additional policy provisions can adequately address this issue in a U.S. program. Instead, the response by policy makers has been to move, unnecessarily, to full auction of allowances for the utilities sector. The EU ETS, and early drafts of cap and trade legislation in the U.S., recognize the impacts on trade exposed energy intensive manufacturing sectors and correctly extend allocations to these sectors to mitigate cost impacts. Finally, the EU ETS does not recognize forestry-related offsets. We expect the U.S. will provide leadership to other countries on forest offset program design.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

U.S. forests must play a central role in our national climate strategy. America's forests and forest products annually sequester and store 10 percent of all U.S. carbon emissions—an essential contribution toward mitigating climate change. We must enhance our forests' sequestration capacity by providing offset credits. Expert studies have shown that forest carbon offsets can help achieve our national emissions reduction goals in a cost-effective manner by lowering compliance costs for utilities and other covered entities under a cap and trade system

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

There should be broad flexibility in allowing real, verifiable offset credits that a company can generate or purchase and utilize to offset its GHG emissions. Both national and international offset credits should be allowed. Unrestricted use of verifiable domestic

and international offsets are a primary means of minimizing the cost of compliance and the economic impact and dislocation that is expected to result from climate mitigation.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

A range of U.S. forest carbon activities should be made eligible for participation in offset markets established by federal climate legislation, provided that they can deliver real, additional, and permanent emissions reductions that are equivalent to the emissions being offset. All carbon pools expected to significantly change should be quantified and reported. Carbon pools include live and dead biomass, soils, and harvested wood products. Field measurements and estimates for forest-carbon projects and selected pools should be required to meet a specified benchmark for accuracy, to be reviewed and updated regularly over time using the best available scientific understanding. Third-party verification of reported amounts of carbon should be completed before they are registered for offset credits. A set of standardized tools to help determine which carbon pools will require measurement would mitigate compliance costs for landowners and project developers, and should be developed based on local/regional data. Measurement should not be required for carbon pools nearly certain to have increases.

18) What should be the criteria for assessing offset projects?

Please respond in 300 words or less.

A range of U.S. forest carbon activities should be made eligible for participation in offset markets established by federal climate legislation, provided that they can deliver real, additional, and permanent emissions reductions that are equivalent to the emissions being offset

19) How should Congress design a system for verifying offset projects?

Please respond in 300 words or less.

Third-party verification of reported amounts of carbon should be completed before they are registered for offset credits

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

A voluntary project-based approach should be used for offsets

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

The term "permanent" for forest carbon offsets should mean removal and/or storage of the subject carbon from the atmosphere for at least 100 years. Forest carbon contracts should assign clear obligation for reversals. Allowing market flexibility for landowners and project developers to establish forest carbon contracts of different duration in response to market demand would be appropriate, provided that the environmental integrity of emissions reductions is not compromised. Clear rules should be established for replacing shorter-term credits so that environmental integrity is maintained, and contracts of varying duration should be standardized to allow them to remain fungible in offset markets. Market flexibility should also include a suite of options to enable obligated parties to cover the risk of reversals.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

The program should give credit for early, verifiable reductions or offsets, including reductions made under voluntary programs such as the Climate Vision Program, Climate Leaders, Chicago Climate Exchange, etc.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

As stated above, early action should be recognized and credited in any offset program. In addition, protocols should not be designed in a way that eliminates future participation by

landowners that have sequestered carbon on their lands in the past. Business as usual baseline criteria unfairly penalize landowners that have chosen to keep land in forests and sequestering carbon in the past, in effect, eliminating them from participation in offset projects for their continued sequestration activities going forward.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Forest carbon contracts should assign clear obligation for reversals. There should be a suite of options to enable obligated parties to cover the risk of reversals

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

- In general, when Congress enacts legislation, it should provide sufficient detail for unambiguous agency implementation and economic certainty. Congress also should avoid language that allows the implementing agency to revise the rules dramatically over time, either of its own accord or because the original rules have been overturned by a federal court. Anytime Congress establishes a program, it should set clear and consistent statutory timeframes for compliance that reflect the complexity of the issue. Overly broad or ambiguous statutes often result in changing obligations and moving targets.
- In terms of forest related offset projects, legislation should affirm that domestic forestry projects, including managed forests and forest products, are eligible project types. There should not be a single definition of baseline and additionality in legislation, rather, additionality and baseline definitions should be defined by project type in protocols developed at the regulatory level. As stated earlier, we recommend that the U.S. Department of Agriculture and U.S. Environmental Protection Agency be given joint regulatory authority for any provisions pertaining to forestry. Because of USDA expertise working with forest landowners, USDA should play strong role in the development of rules for offset programs. Additionally, USDA should be the primary department responsible for administering other incentives, beyond offsets, for additional climate mitigation in forests and forest adaptation tools for forest owners.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

The potential for baseline and additionality policy definitions grounded in the concept of "beyond business as usual" to exclude the majority of landowners whose current practices sequester carbon. Baselines for sustainably managed land practices should be based on carbon stock changes from a baseline year.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

In 2006, AF&PA member pulp and paper mills generated 64 percent of the energy they used from biomass; members' wood products facilities generated 74 percent of their energy from biomass. Currently, our industry is a leader in the use of energy efficient combined heat and power (CHP) systems (29 percent of all U.S. co-generated electricity is produced by pulp and paper mills). The carbon that U.S. forests and forest products currently store each year is enough to offset approximately 10 percent of all U.S. CO2 emissions. More than half the forestland in the U.S. is privately owned-- roughly 424 million acres. Of that, 354 million acres are actively managed for timber. Private landowners in the U.S. plant about 4 million trees each day.[1] EPA estimates that the amount of carbon stored annually in forest products in the U.S. is equivalent to removing more than 100 million tons of CO2 from the atmosphere every year.

Since many forest products industry practices reduce greenhouse gases, it is important that policymakers create incentives for maintaining existing climate friendly practices. As climate policies often focus on incentivizing additional energy efficiency improvements, use of renewable fuels, or carbon sequestration in forests, they often fail

[1] [1] Forest Resources of the United States, 2007; Draft RPA Review Tables: U.S. Dept. ofAgriculture, http://www.fia.fs.fed.us/documents/pdfs/2007_RPA_REVIEW_TABLESv2c.pdf; Tree planting in the United States - 1999; U.S. Dept. of Agriculture

to recognize the benefits of existing business practices that avoid GHG emissions and sequester and store carbon. In effect, this creates disincentives for existing users of renewable energy and owners of forests, distorts markets, and disadvantages those landowners and forest products manufacturers who are leaders now in the use of energy efficient combined heat and power, carbon neutral biomass, and forest and product sequestration. Unintended consequences occur when policies reward new entrants and disadvantage those that are currently engaged in the desired activity. Offset policies that allow only afforestation and reforestation project types or that exclude managed forests and forest products through subjective baseline and additionality criteria will undoubtedly lead to an increase in GHGs in the atmosphere. Regardless of past management practices, landowners have the choice everyday whether to continue sequestering carbon or convert their land to less sustainable uses. Base year baseline methods do not credit for past sequestration or existing carbon stocks, only incremental carbon sequestration is credited. Rather, base year baselines allow future carbon sequestration from the project initiation date to be credited going forward regardless of past management practices.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Active Forest Management	Excellent	Excellent	Medium	High
Afforestation	Excellent	Excellent	Medium	High
Reforestation	Excellent	Excellent	Medium	High
Forest product sequestration	Excellent	Excellent	Medium	High

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
AMERICAN FOREST FOUNDATION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Drue DeBerry

Organization(s) you represent

American Forest Foundation

Address

[Redacted]

Email :

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Agriculture and forestry, if included in emissions controls under a cap, would pose an insurmountable administrative burden to achieve minor reductions. Under a cap and trade, they should remain outside the cap but eligible to produce offsets. If a tax were included, on fossil fuels, for example, ag and forestry would pay their share

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

A percentage of allowances should be distributed to support biological sequestration on family forestlands. Although family forest activities should also qualify as an offset activity, allowance allocation will provide additional incentives and ensure greater participation of family forests.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

If a federal program is created, it should supersede state or regional programs. Administrative responsibilities and registries can be delegated to state or regional programs, but there should be a uniform set of standards nationwide

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

We recommend that the U.S. Department of Agriculture and U.S. Environmental Protection Agency be given joint regulatory authority for any provisions pertaining to forestry. Because of USDA expertise working with forest landowners, USDA should play a strong role in the development of rules for offset programs. Additionally, USDA should be the primary department responsible for administering other incentives, beyond offsets, for additional climate mitigation in forests and forest adaptation tools for forest owners.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

We have not identified negative impacts in programs to date. Trading on the Chicago Climate Exchange has had benefits for participating farmers and forest owners, and brought new money into rural communities. For forestry programs, it is important to keep in mind that Family Forests make up the largest single forest ownership group (62% of private forests). These are small to medium-sized properties, and a federal program needs to be available to them or a huge opportunity for climate impact, as well as the many other benefits of well-managed forest lands, will be lost.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Small landowners, in general, face higher costs to participate in markets and are thus disadvantaged. It may be necessary to use program revenues to supplement existing conservation and forestry programs aimed at small landowners. The risk, however, is that these revenues will simply replace appropriated funds and those programs will continue to be under-funded in spite of the new revenue source.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

The public lands can be a contributor to the national goal, but should not become part of a market system. There are several reasons for this. One, these lands are almost always the least productive lands in a region, and the additional carbon they can sequester is modest, in spite of their extent. Second, the management on these lands is so tied to political controversy and agency process that altering their management to produce and maintain carbon stocks as a primary goal will be difficult, if not impossible. Third, public agencies don't tend to interact with markets well, as they usually lack the flexibility to respond to market changes.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

There are informal, over the counter carbon trades in the international arena, but there are only a few that include agriculture and forestry. The general consensus in the forestry community is that successful efforts to include forestry within national climate programs will need to begin in the United States if they are to ever succeed internationally.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

A voluntary offset program can be coupled with both bonus allowances and performance standards to provide alternative routes for landowners based on their business conditions and opportunities. More, rather than less, opportunity should be provided if possible.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

A percentage of offsets should be available for domestic forest climate mitigation projects. While international offsets are important, they should not dominate offset allocation.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Market offsets should be quantified, monitored, and verified. The rules on baselines and additionality will be critical here. The experience of the Chicago Climate Exchange should be reviewed in this regard. It relies on a stock change method that is totally consistent with the 1605(b) Voluntary Reporting System. That method relies on science, measurement, verification, and contract liability that avoids the need to have speculation about future business conditions for private landowners.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

A range of forest carbon activities should be made eligible for participation in offset markets established by federal climate legislation, provided that they can deliver real, additional, and permanent emissions reductions that are equivalent to the emissions being offset. Eligible projects should include afforestation, reforestation, and forest management, with potential for others to be included such as avoided forest conversion and urban forestry. Projects should include forest management projects with increases in carbon stocks in forest pools, including live and dead biomass, soils, and harvested wood products. In addition to storing carbon, harvested wood products provide substitution benefits when used in place of more energy intensive building materials like concrete and steel.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

A system for verifying offset projects should ensure that third-party verification of reported amounts of carbon should be completed before they are registered for offset credits. The details of such a system should be left largely to rulemaking, recognizing the experience of the existing voluntary markets.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Congress should allow for both, with pre-calculated values left largely to the scientific community and the technical agencies, along with the specific rules for a project-based approach

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Offsets and allowances should be equal in value, so that the market can deal seamlessly with trading.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Contract lengths must be flexible and will almost certainly need to be for lengths adapted to landowner tenure and needs. Permanence can be achieved through a public registry that assigns and enforces liability for reversals caused by intentional actions on the part of either seller or buyer, and maintains a reserve to cover no-fault reversals such as if a buyer goes out of business and is not available to renew a carbon contract at the end of the contract period.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

The CCX is an example of good-faith early action on the part of many emitters that has created a valuable learning experience for both emitters and offset providers. It has been the only opportunity for agriculture and forestry to begin the learning experience that will be needed as carbon management becomes more important in the future. A federal program should recognize early action in CCX (whose protocols are based heavily on the Department of Energy's 1605(b) Voluntary Reporting Guidelines) and "grandfather" those emission reductions and offsets into the federal program

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Carbon project contracts (as they have been pioneered by CCX) impose much different responsibilities on landowners than do most other ecosystem market opportunities. For example, carbon stocks can be increased and protected in a forest area, while other special attention must be paid to riparian areas in order to protect water quality and/or increase wildlife habitat. Landowners willing to do a variety of different practices (often on different areas within the ownership) should be allowed to "stack" those credits.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Similarly to the above, if a landowner has participated in a federal or state program designed to reduce soil erosion or protect water quality, that program does not ask for, nor necessarily receive, carbon benefits. If the landowner is willing to contract and obligate themselves to a program that sequesters and maintains carbon, they should be allowed to participate in both the public program and the market. If, however, the federal program is altered so that it pays the landowner for carbon sequestration, with appropriate guidelines, then that landowner should be precluded from selling that carbon on the market, as that would be double selling.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Reversals that are the result of intentional action that results in contract violations under carbon market trading should be replaced or repaid, and the violator should be held liable for such replacement or repayment. No-fault reversals (such as natural disasters) should be covered by a reserve pool held by the public agency (registry) that can be built from a small contribution of carbon credits by each participating project and pool that registers. In this way, the system could be self-insuring at a modest cost to all participants.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Congress should avoid trying to write specific rules, but should provide general direction to EPA and USDA to develop a variety of domestic forest offset projects, including forest management projects. Congress should also direct that forest offset project rules allow for environmental sound projects that provide appropriate opportunities for strong family forest owner engagement in the market. The authority should be delegated to EPA jointly with USDA with the requirement that they establish a management Council at the Cabinet level to assure technical participation and influence from, DOE, USDI and others. Congress should specify that regulations should be developed such that they encourage broad participation by forest landowners who hold 62% of private forestland in the U.S.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

The main obstacle is transaction costs, most of which are created by the rules of the standards. Field measurement and monitoring is expensive, and greater precision or frequency of measurement required creates significant cost differences. Some standards have very stringent project planning requirements that elevate costs. There can also be heavy discounts, from baseline setting and additionality requirements, permanence, leakage calculations, or other forms of discounting that reduces the amount of tradable offsets to the point where projects are infeasible. Many of these requirements have been proposed as part of the policy studies available to Congress, and it is hoped that most of them are avoided in the process of designing a program that includes agriculture and forestry. If they are not avoided, the program will promise participation that is never realized.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Existing programs have sufficient authority, but are not sufficiently funded to support agency expansion of effort or adequate landowner participation. To secure the carbon

sequestration and storage capacity of our forests, we must support and expand policies and programs that keep our forests as forests by slowing their conversion to non-forest uses and encouraging sustainable forest management. Incentive programs should adopt different project design guidelines than offset markets, but should be focused on climate mitigation activities with measurable climate benefits. This enhanced flexibility should be used to incubate innovative forest carbon activities and otherwise increase opportunities for landowners to participate.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

The opportunities in agriculture and forestry are highly region-specific, as are the potential supply of offsets and their associated costs. There are some 10 million family forest owners who hold 264 million acres, with a highly diverse set of environmental, market, and social goals. Most operate outside existing public forestry programs, have little idea where to seek professional forestry assistance when it is needed, and manage their forest lands well below optimal levels in terms of carbon stocks. A market opportunity offers one more way of reaching these people, particularly a market that is demonstratively positive in achieving high-priority national environmental goals.

Carbon market opportunities in agriculture and forestry can offer another economic opportunity to help retain working lands in farming and forestry, particularly if the program relies on contractual obligations with responsibility for reversals. Without strong contracts and real consequences for reversals, land values for development may still overpower these market incentives, and additional effort for protection from state and local government will be important.

Unless a federal program can balance the desire for highly precise carbon accounting and risk-free protection against loss with the need for widespread participation, the result could be a gold standard program with few or no participants. Such efforts have been tried and continue to be promoted, but with little success. We should learn from efforts like CCX and CCAR.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Afforestation	Excellent	Excellent	High	Medium
Reforestation	Excellent	Excellent	Medium	Medium
Sustainable Forest Management	Excellent	Good	Low	High
Avoided Forest Conversion	Good	Moderate	High	Low
Urban Forest Management	Good	Moderate	High	Low

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
AMERICAN FORESTS
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Gerry Gray

Organization(s) you represent

American Forests

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Vice President, Policy

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

We prefer a carefully crafted and regulated cap-and-trade program, with an option for additional policy mechanisms, such as carbon taxes/fees. While both policies are similar in a number of respects, including the institution of a cost of carbon and their potential to generate significant revenues, a cap-and-trade program is preferable for three distinct reasons.

As the primary mechanism for climate policy, a cap-and-trade program provides clear and consistent emission reduction targets which will be critical in addressing the anthropogenic contributions to global climate change. Alternatively, carbon taxes/fees cannot guarantee any specific level of emissions, but rather rely on the associated cost of carbon to drive economic behavior. In light of the urgent need for decisive action to limit GHG emissions, the targets provided under a cap-and-trade program are preferable to expected outcomes under a program of carbon taxes/fees.

Cap-and-trade programs are also consistent with the global framework for addressing climate change and have been proven to be effective. Cap-and-trade programs are already being used internationally, as under the European Union Emissions Trading System (EU-ETS), allowing the U.S. to link with international efforts to address a global problem. Domestically, the EPA has experimented with the use of cap-and-trade mechanisms through the authority of the Clean Air Act since the 1970's to reduce emissions of criteria pollutants, phase out lead from gasoline, and regulate sulfur emissions from mobile source engines under the Averaging Banking and Trading Program. The EPA's Acid Rain Program to limit sulfur dioxide emissions illustrated the impressive results of a well designed cap-and-trade system, achieving emissions reductions that exceeded expectations with costs below forecasted levels.

Finally, political consensus has recognized cap-and-trade as the preferable approach. A majority of existing legislative proposals to address climate change have chosen a cap-and-trade program as a basic framework. Broad agreement on cap-and-trade as the proper course of action has also been reached across a range industry and environmental interests, as exemplified by the U.S. Climate Action Partnership (USCAP) in their *Blueprint for Legislative Action*.

Still, cap-and-trade and carbon taxes/fees are not mutually exclusive options and should be seen as complementary mechanisms. A carbon tax can probably be implemented more quickly and more easily than a cap-and-trade system; and the proposed regional systems do not cap all sources at the outset. Therefore, carbon taxes and other policy tools could be used as complementary instruments to provide a cost of carbon for emissions sources that will be, if not initially, included under a cap. Together, a combination of approaches including cap-and-trade, carbon taxes/fees, incentives such as tax credits, and renewable energy standards can provide a balanced approach to GHG reduction.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

Please respond in 300 words or less.

Agriculture and forestry should not be included as capped sectors under a carbon reduction program. These are natural systems, and to some degree, as we consider the climate change problem being caused by man or by anthropogenic sources of GHGs, it seems inappropriate to include natural systems as covered sectors or sources of GHGs. These systems have been part of baseline carbon dynamics since before industrialized man.

Agriculture and forestry are natural resource industries with integrated, broad ranging impacts on ecosystem services, including, but not limited, to the flux of atmospheric GHG concentrations. Ideally, the management decisions that produce positive GHG outcomes would also produce positive outcomes in other ecosystem services. This may often be the case, however, due to the dynamism of these systems, management activities that maximize GHG reductions or sequestration may sometimes conflict with other natural system values, such as the preservation of a species, or water quality outcomes. Therefore, requiring agriculture and forest managers to prioritize carbon management would be imprudent.

In addition, there are specific challenges associated with including agriculture and forestry as covered sectors in a cap-and-trade program including the difficulty of monitoring national level emissions from these sources. Including these sectors in a mandatory cap-and-trade program could impose burdensome and unrealistic reporting requirements for businesses in these sectors. Small farmers and forest landowners would likely be the most negatively impacted, as the scale and scope of their resources are easily overwhelmed. Accordingly, in the event that agriculture and forestry were determined to be covered sectors under cap-and-trade program, it is essential that small forest landowners and agricultural producers be exempt from regulation.

Given these challenges with regulating natural resource industries for one particular outcome and the accounting challenges associated with agriculture and forestry emissions, it may prove ill advised at this time to include these sectors under a cap and trade system directly. These industries are better suited to incentive programs that will allow managers to maximize the benefits for multiple ecosystem values. The inclusion of forestry and agricultural offsets, with the appropriate monitoring protocol, would provide needed incentives to maximize GHG sequestration activities.

A cap-and-trade program that covers the only the electricity, transportation, and industrial sectors would be effectively comprehensive, addressing 80% of domestic greenhouse gas emissions and ultimately, we do not think that at this time agriculture and forestry should be treated as covered sectors under a carbon reduction program.. However, we do believe that agriculture and forestry should be included under a carbon reduction program through a carbon offset program that provides quality offsets based on biological sequestration. These sectors should also be targeted for financial and technical assistance under a carbon reduction program to help address issues posed by changing climatic conditions, including opportunities to address adaptation and mitigation strategies beyond the scope of a regulated offset program.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

We feel that a substantial majority of allowances should be distributed through an auction. However, we also recognize that the political reality suggests some portion of allowances will be provided at no cost; this may be prudent for the initial years of a carbon reduction program to mitigate costs and refine the programs associated markets and administrative mechanisms. When determining the exact strategy form the distribution of allowances, policymakers should seek to ensure that the costs of a carbon reduction program are not borne disproportionately by vulnerable populations, natural systems, and sectors or regions of the economy.

We also feel that the value of allowances—whether allowances are distributed at no cost or auction proceeds are distributed—can be used to support carbon mitigation activities or projects beyond those supported by carbon-offset markets. While well-designed offset markets may provide opportunity for some forest sector projects, there are many opportunities to reduce carbon emissions or increase carbon storage through forest activities such as reforestation, avoided forest conversion, and improved forest management on public and private forests. (These opportunities might be lower cost or administratively more effective than developing projects for offset markets.) Increased financial support and incentives for targeted forest and conservation programs with specific carbon mitigation objectives are likely to be effective strategies that complement national emissions targets and offset markets. The activities and projects in these complementary programs need not be held to the same strict standards as carbon-offset projects, but the mitigation benefits should be monitored and quantified through credible methods. The environmental, economic, and social co-benefits of these projects, which are extremely difficult to account for in carbon-offset markets, can be given greater recognition through these complementary programs as well.

The distribution of emissions allowances will not affect the environmental integrity of a cap-and-trade program, but will have significant effects on distributional (i.e. regional, socioeconomic) equity of costs associated with a carbon reduction program. These distributional effects should be a primary consideration as policymakers craft their strategy for allowance distribution, and the goal should be a program that maximizes regional and socioeconomic equality in the face of a carbon reduction program.

Allowances under a cap-and-trade program will represent a relatively scarce commodity that will hold significant economic value. By auctioning emissions allowances to covered entities, government could collect revenues to be used in addressing specific public policy objectives, including minimizing impacts on vulnerable populations, aid to help natural ecosystems adapt to changing climates, strategies to encourage economic growth based on clean energy and a low-carbon world, and compensation for affected industries and consumers.

Studies have suggested that freely allocating allowances to covered entities increases the overall costs of a carbon reduction program by diminishing the capacity of governments to use new revenues to target those communities most affected by a cost of

carbon ("Trade-Offs in Allocating Allowances for CO2 Emissions" Congressional Budget Office 2007). Evidence from the EU ETS, where allowances were freely distributed, has provided empirical support to these arguments as covered entities accrued windfall profits at the expense of energy consumers faced with increasing costs ("Cap and Trade 101: A Climate Policy Primer" Sightline Institute 2009). Additionally, a free distribution would shield emissions sources from a cost of carbon, clearly emasculating the primary market mechanism that cap-and-trade is intended to deliver.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

Federal legislations should create a cap-and-trade program that limits national GHG emissions while also linking to, or integrating, state and regional programs. To the fullest possible extent, this national program should avoid a patchwork of state and regional markets and move toward a common market framework with a fairly uniform price for carbon. To accommodate states that have already taken action on GHG regulation, national policy could include some process for state and regional systems to transition to the national framework, providing a reasonable timeframe for adjustment and recognition of, or credit for, early action and existing projects. State or regional systems with weaker policies or standards would need to strengthen them over time while systems with stronger policies or standards would also need to adjust in order to align with federal targets and rules.

Nearly half of all states have already agreed to develop and participate in regional carbon reduction programs through the Regional Greenhouse Gas Initiative (RGGI), the Western Climate Initiative (WCI), and the Midwest Greenhouse Gas Accord. Not all state and regional programs have progressed on identical timeframes and each program is currently at a very different point in its development. Regardless, state and regional programs represent early action to address climate change and should be given credit, subject to requirements that these programs produce real, verifiable, permanent reductions in GHG emissions or increases in biological sequestration. These programs have also produced consensus-based standards and protocols that may be valuable tools in the development of federal/national level methodologies.

Federal policy will necessarily and explicitly address pre-existing regional and state policies in a number of ways: preemption, where federal policy erases pre-existing state and regional efforts; carve outs, where state and regional programs are allowed to opt out of the federal system and run their own markets; and layering, where the federal target and rules are put on top of existing state and regional programs (Point Carbon 2008: Preemptive Strike: The Future of Regional Trading Programs in the US). An important consideration will be how and to what extent it might be possible for states to pursue policies with more stringent targets and rules. Even with California as a notable precedent in other areas (i.e. automotive emissions standards), it is difficult to foresee how this might be accomplished with GHG emissions considering the complexity of interstate commerce and the potential hurdles posed by a patchwork of state and regional policies.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

Since the primary economic argument for cap-and-trade over command-and-control methods is the increased efficiency of a market-based program, the agency or agencies which administer any cap-and-trade program should be capable of effectively maintaining a functioning market. If interagency cooperation cannot meet this need, then creation of a new agency may be justified. Regardless of whether a new or an existing agency regulates a cap and trade program, there should be clear oversight and monitoring of the program.

The federal government has experience implementing programs to reduce atmospheric pollutants that will prove useful in the regulation of GHG emissions. The Environmental Protection Agency (EPA) has implemented various market-based emissions reduction programs since the late 1970's. Although the EPA may have the most familiarity with the administration of an emissions trading scheme, it may not have the necessary expertise to formulate the regulations for all sectors affected by a cap-and-trade program including any potential offset programs. Agency expertise and relationships within particular sectors will be critical to establish successful approaches. For example, the Department of Agriculture (USDA) must take an active role in determining specific implementation actions that will succeed in the agriculture and forestry sectors.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

The entity responsible for regulating the market is not necessarily as important as the methods by which that regulation is instituted and adequately enforced: the regulator must have the capacity and inclination to set ground rules and stated goals, provide transparency and oversight and exert power to achieve these aims. The CFTC and the Securities and Exchange Commission have been successful under similar missions, and the Environmental Protection Agency runs a successful sulfur dioxide trading system that, in many ways, will provide a model for a carbon trading program.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

The influence of financial intermediaries and derivatives in a future carbon markets could cause disruptive uncertainty in the cost of carbon. This may prove to be a major issue in protecting the efficiency of a cap-and-trade program as speculation could produce wild fluctuations in the cost of carbon, independent of any genuine scarcity created by a cap-and-trade system, that send artificial signals to the economy on the price of GHG emissions.

Some fluctuations in the cost of carbon are appropriate and will be inevitable in a cap-and-trade program. However, carbon markets that are too unpredictable may stifle investment as businesses will not invest in mitigation or sequestration projects if there is too much risk or a lack of clarity about investment options. Conversely, some of the mechanisms that cushion this uncertainty for businesses and others are provided only by financial intermediaries; hedging, lending and insurance that make uncertainty and long-term investment palatable are major drivers for the financial sector.

In order to address the impacts of speculation, while also fostering the development of a strong and inclusive carbon markets, markets created by a cap-and-trade program should be sufficiently regulated to ensure that the access to the market and uncertainty in the cost carbon does not undermine the environmental integrity of the program.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

Rural populations will be disproportionately affected by both climate change and climate policy for two important reasons. First, the ecosystems on which rural populations rely for their livelihood are being adversely affected by changing climatic conditions. Second, rural populations generally lead more energy-intensive lifestyles and have higher incidence of poverty. Households and people in poverty will likely be more severely impacted by raising energy and commodity pricing ("Incidence of U.S. Climate Policy" Resources for the Future 2008). However, it is extremely difficult to predict the net distributional consequences of climate policy that may provide economic opportunities for rural areas, especially through different agriculture and forestry practices. For example, to the extent that sustainable natural resource management is a priority in climate policy, there may be landscape- or ecosystem-scale restoration opportunities that offer jobs and income to rural economies.

The true impacts of a carbon reduction program on rural populations, either positive or negative, will depend primarily on the structure and implementation of the policy. If key elements are not included, such as redistributive mechanisms for compensation of affected regions and populations, specific policies to address forest and agriculture mitigation opportunities, and strategies for addressing the adaptation needs of affected ecosystems, the program will likely have severe negative impacts on rural populations. These elements should be included as part of a carbon reduction program in order to produce the greatest environmental benefits with the least cost to society.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

A carbon reduction program focused on the energy, transportation, and industrial sectors will effectively place an additional cost on production and distribution of every-day goods and services that will likely be passed on to consumers. This will have a regressive effect, disproportionately affecting low-income households due to the larger percentage of their incomes spent on energy and commodities. These costs of climate policy will be exacerbated for rural communities by significant adjustments to natural systems as a result of climate change. By capturing the value generated by a cost of carbon through an auctioning of emissions allowances and a strategic redistribution of revenues, a well-designed cap-and-trade program could dampen the regressive effects of a carbon reduction program.

Generally, these revenues should be directed towards priorities that will lessen the negative impacts of both climate policy and the biophysical impacts of climate change: transforming the nation's businesses and workforce to support a low-carbon, clean energy economy; facilitating the transition for individuals, businesses, and communities most affected by climate change policies; and helping human communities and natural ecosystems adapt to climate change. Targeted investments to address these priorities should include financial incentives and technical assistance for business innovation and workforce training, financial assistance to low-income households in rural areas, and programs that promote sustainable and adaptive agriculture and natural resource management and ecosystem services.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

Revenues generated from the auction of emissions allowances will provide opportunity to provide transitional assistance for affected businesses. This assistance should not be restricted to those businesses affected by the costs of climate policy, but should also include businesses affected by the biophysical changes associated with climate change. These decisions should be based less on the overall costs to business, but more so on the impacts to national and regional economies and how those costs may be passed on to consumers. These opportunities to assist affected businesses must not deter investments intended to help cushion the impacts of a carbon reduction program for vulnerable communities. Any transitional assistance must also ensure that consideration is given to the effects of a carbon reduction program on businesses at a range of scales, including local, community-supporting enterprises, and that businesses receiving assistance demonstrate adequately sustainable practices.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

The role of federal land management agencies and public lands should be addressed through the inclusion of public lands and the participation of land management agencies in a range of activities designed to both mitigate climate change and adapt to its affects on natural systems. First, public lands should be used to study and demonstrate how ecosystems may be effectively managed in both climate change mitigation and adaptation. Second, the value of ecosystem services, including carbon sequestration, provided through public land management may facilitate to market participation and could produce economic opportunities for local communities. Although there may be overlap, these roles are not equivalent and both should be supported and funded as necessary.

Legislation should capitalize on the technical expertise of agency staff by facilitating agency roles in the research, development, and deployment of strategies to help ecosystems and resource-dependent communities adapt to climate change and mitigate GHG concentrations. Line level staff should receive training to understand how the effects of traditional activities, such as conservation and best management programs, translate into carbon benefits and market opportunities.

As protocol are developed for eligible offset projects, agencies should participate to address questions and issues about resource management and the role and effects of federal participation in emerging markets. A major goal of federal land management agencies on public lands should be to expand and enhance carbon sinks through stewardship activities. These activities may be amenable to participation in carbon markets or complementary programs to mitigate GHG concentrations and have the potential to increase investment in ecosystem services and land management activities with considerable potential for local communities. The CCAR provides a model for incorporating public lands into an offset program, and should be considered as a critical resource in addressing questions of public lands participation in a carbon reduction program.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

A substantial cost of carbon is the primary mechanism of either cap-and-trade or a carbon tax, discouraging GHG-intensive growth and promoting a low-carbon, clean energy economy. While an excessively high cost of carbon is undesirable, a price that is too low should be of primary concern. "Safety valves" and other mechanisms designed to provide greater price certainty (i.e. price floors and ceilings, strategic allowance reserves) should not prohibited, but if used, they must not compromise the implementation of a cost of carbon, the central tool of climate policy, and should only be used in the case of excessively high allowance prices.

In theory, a cap that is too low and markets that respond insufficiently or too slowly could result in an excessive cost of carbon. A cap set too low would make allowances scarce and therefore expensive, and a slow demand response by business and consumers might fail to bring the cost of carbon back down. In turn, this high cost would pass along to consumers and businesses, resulting in significant regressive effects. In this scenario, a cap-and-trade system implemented too quickly or ambitiously would carry such a high price tag that its costs may outweigh its benefits.

There are a few reasons to believe that such a scenario will not occur and why, if it does, it would not be economically painful. First, most of the current targets for emissions reduction are fairly modest, so the cost passed along won't likely be excessive. Second, we have ample evidence that markets respond to costs similar to those likely to be experienced as a result of a carbon reduction program. For example: the spike in hybrid and small-car sales, rise in transit use, and the drop in gasoline consumption, all due to higher gasoline prices leading to a peak in 2008; the recent economizing by airlines in the face of high fuel prices; and widespread deployment of wind power as a result of the federal production tax credit. The most likely cause of a high cost of carbon would be scarcity brought on by economic growth, a circumstance where the economy would be well-suited to handle additional costs.

A substantial cost of carbon is the primary mechanism of either cap-and-trade or a carbon tax, and while an excessively high cost of carbon is undesirable, a price that is too low should be of primary concern. "Safety valves" and other mechanisms designed to provide greater price certainty (i.e. price floors and ceilings, strategic allowance reserves) should not prohibited, but if used, they must not compromise the implementation of a cost of carbon, the central tool of climate policy, and should only be used in the case of excessively high allowances prices.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

The development of the EU ETS and the experience with the trial period provides a number of useful lessons for the U.S. and other countries. Suppliers quickly factor the price of emissions allowances into their pricing and output behavior. Liquid bilateral markets and public allowance exchanges emerge rapidly and the "law of one price" for allowances with the same attributes prevails. The development of efficient allowance markets is facilitated by the frequent dissemination of information about emissions and allowance utilization. Allowance price volatility can be dampened by including allowance banking and borrowing and by allocating allowances for longer trading periods. The redistributive aspects of the allocation process can be handled without distorting abatement efficiency or competition despite the significant political maneuvering over allowance allocations. However, allocations that are tied to future emissions through investment and closure decisions can distort behavior. The interaction between allowance allocation, allowance markets, and the unsettled state of electricity sector liberalization and regulation must be confronted as part of program design to avoid mistakes and unintended consequences. This will be especially important in the U.S. where 50 percent of the electricity is generated with coal ("The European Union's Emissions Trading System in Perspective" Pew Center on Global Climate Change 2008).

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

Agriculture and forestry should be active participants in a carbon reduction program through both a voluntary offsets program and the allocation of allowances proceeds to address climate change threats and opportunities through adaptation and mitigation strategies that may fall outside of a regulated offset mark.

A voluntary program for qualified offsets should be included within a cap-and-trade framework to provide incentives for mitigation activities from economic sectors not covered by an emissions cap, such as agriculture and forestry, and cost-containment opportunities for entities in the capped sectors to acquire emissions reductions from credible offset projects. In order to maintain the environmental integrity of a cap-and-trade framework, activities under a voluntary offsets program should seek to provide qualified emissions reductions or increases in biological sequestration that are credible, quantifiable, and verifiable, meeting standards that ensure the equivalence of offsets from different sectors and project types.

Agriculture and forestry offset projects are unique in the sense that while these projects will be designed to provide credible and verifiable carbon benefits, many will also provide important co-benefits, including ecosystem services and economic development opportunities for vulnerable communities. To ensure that these co-benefits are available at a variety of scales, a voluntary offset program should encourage broad and diverse participation and provide access and opportunity for a range of communities and stakeholders. Additionally, a federal carbon reduction program should also maintain over-the-counter market opportunities in addition to formal, qualified offset markets guided by regulatory standards and protocols.

It is important to note, however that many worthy forestry projects will not meet rigorous standards for offsets established under a cap-and-trade system, yet will provide multiple values including carbon sequestration. Rather than relaxing standards in order to facilitate greater participation in offset programs, a cap-and-trade program should support alternative programs to provide incentives for beneficial, non-offset, projects on both public and private lands. Though these activities may not be able to satisfy rigorous protocols necessary under an offset definition, they will still produce real climate benefits, among others, and should be rewarded. These incentives can be supplied from the allocation of revenues generated from an allowance auction or "bonus allowances" given to project developers, which would then be sold to covered entities with revenues returned back to the project. Either of these approaches would provide financial incentives for beneficial forestry practices while also providing the supplemental carbon reductions necessary beyond capped sectors.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

When making the determination whether or not to limit the total number of offsets issued, policymakers should consider offset quality as the primary issue. By establishing appropriately rigorous standards and protocols for offset projects, a carbon reduction program will have established adequate limits to offset quantity by prohibiting excessive participation from less-than-qualified projects, thereby ensuring the environmental integrity of a GHG cap and protecting the goals of a carbon reduction program.

The criteria for offsets and commodities for other environmental benefits are well understood and should be used to guide determinations of appropriate offset quality. These include additionality, permanence, leakage, monitoring and verification. Additionally, some share of offsets should capture other economic and environmental benefits that are only characteristic of particular offset projects. Forest ecosystem restoration, as opposed to mere tree farming, is a good example of carbon benefits create alongside improvements in habitat, water quality, etc.

While necessary for producing environmentally sound offset credits, appropriate parameters for offset quality will prohibit market participation for many mitigation projects capable of producing real climate benefits. Incentives must be provided for these complementary projects that have the potential to provide the supplemental emissions reductions and carbon storage necessary to address emissions goals outside of covered sectors and beyond the emissions cap.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

In considering the distribution of offsets under a cap-and-trade program, we are assuming that the question is referring to the potential percentage of compliance able to be fulfilled with offsets and the division of these offsets between particular sectors, international projects, etc. Opportunities for forest projects should be provided in offset markets where those projects can meet the strict protocol. Other sources of funding should also be recognized for complementary mitigation programs in the forestry sector. We would support a strong option for domestic offsets from forestry activities. There is also strong international consensus about the need for reducing emissions from tropical deforestation. This might be addressed through an offset strategy or through complementary funding.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Criteria for measuring and accounting for the legitimacy of offsets should be based on a balance of environmental integrity and economic viability to ensure that offset markets are accessible for both large and small scale landowners. Existing protocols like the

CCAR, the Voluntary Carbon Standard (VCS), and the American Carbon Standard provide guidance on how to maintain legitimacy of offsets and should be considered as resources in the process of creating national-level standards.

The CCAR forest project protocol provide an excellent example of an open and participatory process that can serve as a model in developing federal protocols. Through the CCAR's Forest Protocol Working Group, a set of criteria was developed in 2007 based largely on international protocol for forestry projects. These were then tested and revised in December, 2008 to respond to major concerns. We urge the Committee to look closely at these protocols and the process for developing them. The VCS even addresses project scale by allowing alternative verification options for small scale projects. So long as these requirements maintain the environmental integrity of projects, they will allow greater participation at the small scale, an important proviso for rural communities and small landowners.

In terms of accounting and measurement, forest offset projects may cause changes in a number of different carbon pools. Although measuring all carbon pools affected by an offset project may enable more complete emissions accounting, the cost of measuring changes in all carbon pools may be prohibitive. Potential increases in accounting accuracy should be considered along with the cost of measuring and monitoring affected pools, to be reviewed and updated regularly over time using the best available information. All carbon pools to be claimed for credit should be measured and monitored. The inclusion of carbon pools which may increase over time but are not financially feasible to measure and monitor should be optional (unless they are being claimed for credit).

Third-party verification of reported amounts of carbon should be completed before projects are registered for offset credits. A set of standardized tools to help determine which carbon pools will require measurement would mitigate costs for landowners and project developers, and should be developed based on local/regional data.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

To satisfy the necessary environmental integrity of offsets, potential forest projects should be required to address major criteria including permanence and leakage; baselines and additionality; aggregation; transaction costs; measurement and quality uncertainty; and monitoring and verification. All statistical approaches to estimating carbon storage and fluxes should apply conservative estimates to minimize the risk of overestimation. One of the greatest challenges for forest projects is addressing permanence concerns. The CCAR forest project protocol recently struggled with these concerns in its revision process and came up with some alternatives to address uncertainty and risk of disturbance over the long term. Forest offset projects have the potential to generate significant social and ecological co-benefits beyond carbon, as well. These benefits should be documented and considered for prioritization under a carbon reduction program.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Existing protocols like CCAR and VCS provide direction to Congress and federal agencies in the design of a system to verify offset projects. Verification represents a significant cost to project developers and landowners. While stringent verification is necessary to maintain the environmental integrity of the carbon reduction program, Congress and federal agencies should seek to mitigate this cost to facilitate landowner participation at varying scales. Verification should be conducted by independent third parties independent of the government that do not have a conflict of interest in approving the offset project, though the government may certify verifiers to ensure they meet a standard set of verification guidelines.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

These two options should not be considered as mutually exclusive and there is no reason why alternative options for compliance via project-based and standards-based accounting should not be available. Providing both options may allow a broader array or offset types and landowner participation that may not be easily accounted for using only one of these approaches.

A standards-based approach could mitigate costs to project developers and landowners by assuming stated carbon benefits of particular activities and eliminating the need for costly monitoring and verification of particular carbon pools while a project-based approach may allow landowners flexibility in designing offset projects. Agriculture and forestry projects, unlike industrial projects, will be highly varied, reflecting particular local and ecological conditions and allowing both standards- and project-based approaches to satisfy measurement requirements will provide flexibility and encourage innovative offset types.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Emissions allowances and qualified offset credits issued under a cap-and-trade program should be equivalent in terms of environmental benefits and considered as fully interchangeable for the purposes of complying with emissions limits. Properly designed offset markets will ensure this equivalency through adequate measurement and verification of carbon benefits. Some legislative proposals have proposed a system of discounting to limit the use of offsets for compliance purposes. Discounting undermines measurement mechanisms and standards, questions the utility and enforcement capacity of verification mechanisms, and could result in unintended consequences like inflated accounting by project developers.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Establishing a definition of "permanence" will be important. This issue is critical for credible and uniform carbon offset projects, but it poses particular challenges for forest-sector projects. Key factors for these projects include the length of time (e.g., 50-80 years) over which many forest projects sequester and store carbon, the risks and uncertainties associated with natural systems over such long periods of time, and the social and economic changes over long periods that might affect landowner behavior.

Existing offset programs, such as the CCAR forest project protocol, have been exploring mechanisms to deal with these issues, including insurance policies and clear policies to deal with reversals. Forest carbon projects should assign clear obligation for reversals. Withdrawal of an offset project may be acceptable so long as the carbon storage associated with that project is fully compensated for by registration of another project with at least as much carbon storage or through the payment of an "exit fee" equivalent to the value of the carbon represented by that project.

Additionally, the likely length of time required to sufficiently address issues of permanence in forestry projects will mean that projects may involve multiple landowners. There may need to be provisions in an offset standard for transfer of title, etc in order to facilitate this process. Obtaining and enforcing long-term commitments may be difficult, and allowing shorter-term contracts may provide for greater landowner participation, provided that such contracts maintain the necessary degree of environmental integrity. Clear rules should be established for replacing shorter-term credits so that environmental integrity is maintained, and contracts of varying duration should be standardized to allow them to remain equivalent in offset markets.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

The goal of an offset program within a national carbon reduction strategy should be to integrate state and regional, or other voluntary, systems that wish to transition their projects or credits to the national program subject to requirements that these systems operate under sufficiently rigorous quality standards. In principle, transition policies should seek to reward or credit early action under existing offset projects but also require timely action to transition to the national standards, assuming that national standards outperform existing standards. Assistance for this effort to bring projects up to standard may be an important federal role, recognizing that early-actors might receive some benefit for early entry.

In addition, there might also be a number of "over-the-counter" (OTC) carbon-offset markets that continue to function alongside regulatory markets, often providing a unique set of project opportunities with looser standards than formal carbon offset projects. Such OTC markets might serve unique client niches outside of the national cap-and-trade system and should be allowed to function alongside a cap-and-trade system.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also

be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Producers and landowners who have been early actors should be recognized and given opportunity to participate in national offset programs, perhaps given assistance in bringing their projects up to the standards of the new program. The national program should not simply provide full credit to early-actors who have put together projects under lesser standards; those early-actors should be given opportunity, and perhaps assistance, to bring their projects up to the national program's standards.

The second question addresses the issue that we refer to as "co-benefits." If a landowner develops a project, such as a reforestation project, to sequester and store carbon, and the landowner meets additionality requirements by establishing a baseline against which additional carbon benefits are measured, that project is likely to provide a variety of "co-benefits" in addition to carbon, such as water quality, wildlife habitat, or forest products. These are clearly significant environmental, economic, and social benefits beyond carbon.

If one assumes that other markets for environmental services other than carbon will develop, the issues arises of whether a landowner can claim credit in, for example, water or habitat markets for the co-benefits provided by the same activities implemented for the carbon offset project. In this scenario, we believe that landowners should receive credit for all of the co-benefits that their management activities provide. Well-designed natural resource management activities take into account an array of environmental considerations and seek to provide a number of co-benefits.

We do not believe that carbon-offset markets will be sufficient to address the carbon mitigation opportunities and the integrated ecosystem services co-benefits of forests and natural landscapes. While it might be theoretically possible to separate the costs and benefits of co-benefits for different environmental services markets, the reality will be extremely difficult to achieve. This difficulty with the potential for markets argues strongly for the need for complementary programs, or the funding of existing programs, that support carbon mitigation projects that integrate various ecosystem-services objectives through the same project activities.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Current federal cost-share and technical assistance programs focused on environmental restoration and sustainable management have fostered projects with enhanced carbon benefits, whether these programs explicitly mentioned carbon benefits or not. To our knowledge, existing projects that have used federal cost-share assistance may not be eligible to participate in carbon offset programs, due to criteria such as additionality.

Given the objectives of designing criteria for a fair and credible offset projects, we think it would be difficult to include carbon benefits achieved with the use of federal cost-share in offset markets. At the same time, we believe it is essential for the federal

government to provide clear and strong financial and technical assistance to private landowners and communities for activities to help adapt to and mitigate climate change. For this reason, Congress must include provisions for complementary programs, beyond offset markets, that assist landowners and communities in planning and implementing forest-sector projects and activities that are clearly designed to adapt to unavoidable climate change or to mitigate climate change by increasing terrestrial carbon sequestration and storage or reducing carbon emissions from forests and terrestrial ecosystems.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

The risk of reversals owing to natural disturbances should be managed through appropriate buffer pools that hold carbon benefits in reserve, insurance policies, or other tools that may be established in contractual arrangements that stipulate the particular details of assigning liability based on risk. The minimum requirements for insurance should be clearly outlined in any protocol and the contractual arrangements for insurance should be left to private parties. Although biological sequestration projects have the potential for impermanence (or reversals) of stored carbon, the mere existence of risk should not disqualify these project types.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

A properly designed offset program will require a considerable amount of detail, informed by experts from a broad community, likely not able to be addressed adequately in legislation. Therefore, Congress should provide direction through principles that guide the establishment of an offset program, such as ensuring quality offsets, providing opportunity for small-scale participation, and recognizing and reporting on other ecosystem-service benefits from offset projects beyond GHG reduction. Congress might also provide direction on the process for developing the offset program, calling for an interagency process at the federal level and for strong collaboration with state and local governments that have experience with offset programs and protocol.

The details of an offset program will benefit from the expertise of federal agencies and public comments provided through an interagency federal rulemaking process. The federal agencies should reach out to state governments that have developed their own offset programs or been part of regional initiatives to inform the federal rulemaking process. In addition, agencies should reach out to non-governmental organizations that have participated in open, transparent processes for developing program and project protocol, such as non-governmental members of the CCAR working group on forest project protocol.

For agriculture and forestry offsets, the USDA should play a significant role due to departmental knowledge of agriculture and forestry practices, and history of involvement

with landowners. Particularly, the Forest Service should be engaged in the design of forestry offsets. The Office of Ecosystem Services and Markets within the USDA has a distinct mission that includes facilitating the creation of these markets and should play a lead role in the development of protocols and procedures. The EPA will likely be the lead agency implementing a carbon reduction program and should coordinate with the USDA on the design of an offset program for agriculture and forest activities.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

Knowledge is a critical barrier; a significant amount of educational outreach to explain best management practices for carbon sequestration and emissions reduction should be pursued. It will be essential to train local and regional agency offices to effectively assess the carbon sequestration impacts of traditional conservation and management programs. Private landowners will also need information and outreach about the benefits and costs associated with these practices, to include an explanation of public financial assistance programs available for landowners, along with a clear explanation of the contractual obligations and tax liabilities for landowner participation including land-use restrictions on current and future owners.

The costs of measuring carbon in various terrestrial-carbon pools, monitoring, and verification are likely to be high for many landowners and small-scale projects. These factors should be considered and offset protocol, as well as complementary programs, should be designed to enable the participation of small and micro-scale projects through appropriate aggregation or specially-designed approval programs. A number of offset protocol, including the Kyoto Protocol's Clean Development Mechanism, are working on special pathways to help small and micro-projects reduce the costs of verification and compliance. These efforts could be used as guidance.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

Current conservation and forestry programs do not provide sufficient guidance on strategies and actions to adapt to and/or mitigate climate change or on systems for monitoring and measuring the climate change benefits of such strategies and actions. In addition, current programs do not authorize sufficient financial investment in federal and state agency capacity to effectively implement such programs or financial incentives for landowners to participate in such programs. Congress needs to address these shortcomings—all of which go beyond any opportunities within carbon offset markets that might emerge through a cap-and-trade system. In addition, there is an overarching need for information about climate change, its potential impacts on forests and communities, and opportunities for forests and communities to adapt to and help mitigate climate change.

Congress should make a significant investment in applied research and outreach capacity to transfer information to landowners and communities.

If forestry carbon projects are expected to be competitive with timber values, the price of offset credits will likely need to be higher than the prevailing market prices. To further incentivize adoption of conservation projects with carbon benefits, a supplemental tax benefit or subsidy may encourage these activities. The USDA's Conservation Reserve Program is an example of such a program. Federal private lands technical assistance providers (NRCS, USFS, CRSEES, etc.) could provide modeling in relation to baseline and additionality services to privates, cutting costs and providing a layer of validation. Both an economic development service in relation to mitigation as well as an adaptation measure for improved forest management.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

American Forests is a national non-profit conservation organization that works with community-based partner organizations to advance forest restoration and maintenance and to build understanding of the interdependence between forests and communities. As a participant in the Rural Voices for Conservation Coalition (RVCC), American Forests has co-chaired a climate change working group that has developed an issue paper on this topic (see link below). American Forests has also worked with members of the RVCC climate change working group in developing many of the responses to this House Agriculture Committee questionnaire.

The Rural Voices for Conservation Coalition (RVCC) is particularly concerned with how climate change will impact rural communities in the Western U.S. and the forests, watersheds and rangelands that dominate this landscape. RVCC is comprised of western rural and local, regional, and national organizations that have joined together to promote balanced conservation-based approaches to the ecological and economic problems facing the West. The following is an excerpt from the 2009 RVCC Climate Change issue paper (http://www.sustainablenorthwest.org/quick-links/resources/rvcc-issue-papers):

"National policy addressing climate change will have dramatic effects on rural communities and landscapes. Specific components of national climate change policy, such as how resources are prioritized, credit allocation or distribution, offset eligibility, or the opportunity to participate in emerging markets will affect rural communities and landscapes. Therefore, rural communities should have a role in the collaborative development of national climate change policies. RVCC believes several key principles for rural communities and landscapes should guide how climate change policies are developed and adopted in the U. S.

1) Federal and state governments should foster the development and dissemination of reliable climate change information and tools to help build public understanding of climate

change issues. Governments should assist rural communities in developing climate change assessments, strategies, and plans, and monitoring strategies to enhance collaborative learning and adaptive management.

2) Federal and state climate change policies must include strategies to ensure that low-income and other vulnerable populations receive assistance with climate change impacts. The needs of these populations in rural areas may be significantly different than those of urban low-income and vulnerable populations.

3) Federal and state strategies for public and private forest land management should integrate climate change considerations within collaborative, landscape-scale forest restoration efforts.

4) Markets for forest carbon-offsets and ecosystem services should encourage broad and diverse participation, provide access and opportunity for rural communities, and clearly address issues related to project scale, sustainability, and benefits to local communities.

5) Federal and state climate change policies should provide technical and financial assistance to rural communities for capacity building and workforce training to implement both adaptation and mitigation strategies."

As an alternative to completing the table on possible project types, we would like to provide some broad recommendations on forestry practices for participation in offset markets and associated issues.

Forest related activities commonly cited as pertinent in relation to the verifiable sequestration of carbon for offset credits include:

- afforestation/reforestation
- avoided conversion/deforestation
- improved forest management
- urban forestry and strategic tree planting

Each of these areas reflects a range of challenges and opportunities related to sequestration effectiveness, verification, and costs and capacity related to project implementation.

Afforestation/reforestation quickly sequesters carbon, but may need to offer assurances related to permanence. Site preparation and planting costs vary widely, but can be achieved by project developers at many scales.

Avoided deforestation offers a verifiable demonstration of reduced emissions through carbon storage in forest protection and conservation, particularly in tropical forests. However, it remains to be seen if carbon markets in themselves will be sufficient to engage project developers when other high return land-use options may exist. This realm commonly will require participation by broad-ranging and large-scale partners.

Improved forest management has been shown to be effective in sequestering carbon through, for instance, longer rotations and reduced impact forestry, and often generates addition ecosystem benefits and can play a role in ecosystem adaptation measures. However, verification costs can make project development less than cost-effective and difficult for small producers.

Urban trees and forests sequester and store carbon as do rural forests, while providing important ecosystem service values in cities and towns, such as air quality improvement, stormwater management, wildlife habitat and recreational amenities. In addition, the shade provided by trees planted in strategic locations near homes and buildings, can provide significant energy conservation benefits by reducing air-conditioning needs.

Each of these activities can play an effective, verifiable, cost efficient role in offset generation, able to be utilized by project developers at various scales. However, federal policy discussions should recognize the distinctive contributions and challenges related to these various activities, and promote flexibility in policy design in order to maximize adaptation and mitigation contributions.

RESPONSE TO QUESTIONNAIRE SUBMITTED BY AMERICAN GAS ASSOCIATION

American Gas Association

April 10, 2009

The Honorable Collin C. Peterson
House Committee on Agriculture
1301 Longworth House Office Building
Washington, D.C. 20515

Re: Carbon Regulation Questionnaire

Dear Chairman Peterson:

Thank you for your letter of March 11, 2009, addressed to our president, David N. Parker. Mr. Parker has requested that I respond to your inquiry. We appreciate your interest in our views on the important issues of climate change and carbon regulation.

The American Gas Association (AGA) represents America's natural gas utilities. AGA members operate in every state of the Union. They deliver natural gas to industry, business, and homes. AGA member companies deliver natural gas to 65 million homes and businesses in America, or approximately 175 million Americans. Natural gas is used in America's homes principally for space heating, water heating, and cooking.

We have reviewed your questionnaire carefully and determined that AGA has no particular knowledge or expertise with regard to many of the particular questions you pose, such as those addressed to forestry, agriculture, and policies with regard to offsets. Nevertheless, climate policy is essentially an outgrowth of energy policy. The overwhelming majority of carbon emissions result from the use of energy. Delivering energy is, of course, our members' core business. Therefore, we will confine our comments to areas that touch upon our members' businesses.

We commend you for your efforts to shed light on these important questions. Although not directly responsive to your inquiry, we would like to make several points that are within our knowledge and expertise that we think will inform your inquiry.

Natural Gas Is Part of the Climate Change Solution

Natural gas at present provides approximately one-fourth of America's primary energy needs. It is the lowest carbon fuel. As a result it emits less greenhouse gases than other fuels when burned.

This is demonstrated most clearly by the natural gas water heater. An average natural gas water heater emits 1.7 tons of carbon dioxide. In contrast, an average electric water heater emits 3.8 tons of carbon dioxide—twice as many greenhouse gas emissions. (These numbers are based on national averages.) These same beneficial attributes also apply with regard to applications such as furnaces, cooking, and clothes drying.

Therefore, as America moves into an era where reducing carbon emissions is a critical priority, natural gas has an essential role to play. By increasing the use of natural gas in direct applications (space heating, water heating, and cooking, for example) the nation's carbon footprint can be reduced. We urge you to keep this in mind as you consider policies to lead the nation toward a lower-carbon future.

Natural Gas Residential Customers Have Led the Nation In Emissions Reductions

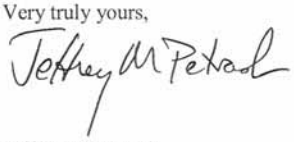
As mentioned above, more than 60 million homes utilize natural gas as a fuel. This is approximately twice as many homes as in the 1970s. Nevertheless, the amount of gas consumed by this larger number of customers has remained essentially the same. Looked at another way, the average residential natural gas customer used 106,000 cubic feet of natural gas per year in 1980. That same customer used 74,000 cubic feet of natural gas in 2006—approximately a one-third reduction. This declining usage translates directly into reduced carbon emissions.

Declining natural gas usage on a per-customer basis over the last several decades is attributable largely to increases in appliance efficiency and improved building efficiency. Natural gas customers therefore lead the nation in reducing greenhouse gas emissions. AGA believes that imposing a cap-and-trade system or a carbon tax on natural gas residential customers is not a sound way to reduce further emissions in this sector. Rather, concentrating on appliance efficiency (principally water heaters and furnaces) and building efficiency will be the most productive undertakings to reduce emissions in this sector. The experience of the last 30 years plainly supports this approach.

As you consider policies to put the nation on a path to a lower-carbon future, we respectfully request that you be mindful of these two points.

Please feel free to contact me (jpetrash@aga.org or 202.824.7231) if the American Gas Association can be of assistance to you.

Very truly yours,



Jeffrey M. Petrash
Senior Managing Counsel

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
AMERICAN LOGGERS COUNCIL
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Daniel J. Dructer

Organization(s) you represent

American Loggers Council

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Executive Vice President of the American Loggers Council serving in a paid position under contract to perform the duties of association management and represent the association in issues which impact the members operations. For more information about the American Loggers Council, please visit our website at www.americanloggers.org.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments *on* subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

We will have sustainable forests only as long as we can provide sustainable markets for both public and non industrial private forest landowners (NIPF's). Under a cap and trade program, NIPF's, the federal government and timber harvesters (producers) could take advantage of a carbon market that by providing an ecosystem service which would give them a tradable commodity that has value, as well as the incentive to sustainably manage their forests. Incentives for the creation of biomass markets will be essential to the success of a cap and trade program, allowing forest land to be sustainably managed and providing markets for further financial incentives.

The biomass definitions found in any piece of legislation should be as inclusive as possible to encourage investment and participation in biofuels markets, and the definition of biomass passed in the 2007 Farm Bill fits that need by including wood from almost all NIPF forests as well as wood from federal timber lands. To do any less than that, or add exclusions to the language, makes our ability to reach the federally mandated levels of the renewable fuels portfolio found in the 2006 Energy bill (HR 6) difficult to obtain. It will take biomass from all sources, both agriculture and forestry to meet our goals.

Landowners and timber harvesters alike do not need any new taxes on their operations that would act as further disincentives to practice sustainable forest management, and thus we oppose a carbon tax program. Landowners should be given credit for the carbon that they are already sequestering, and the timber harvesters alike should be allowed exemptions and/or credits for their sustainable harvesting operations which lead to healthier forests which will sequester more carbon that the mature, stagnant forests which are found predominantly on federal lands.

It is easier to understand the agricultural relationship of planting, growing and producing farm products than it is the forestry relationship, because oftentimes in agriculture, you have one entity planting, growing and harvesting the commodity and referred to as a "producer," while in the forestry sector, one entity plants and grows the trees, while another harvests and transports the commodity to markets. Because of the large investment required for the harvesting and transportation of forest products, most landowners choose to contract the harvesting to independent logging contractors who specialize in those activities. Until those contractors are given parity with agricultural "producers," it will remain difficult to afford them the equal treatment they deserve as enjoyed by agricultural "producers," and even harder to determine the level of "credits" or "offsets" that they should be entitled to.

Without proper incentives for the timber harvesters, it will be hard for forest landowners to sustainably manage their forests, and with the disappearance of markets in both the pulp

and paper industry and the solid wood products industry (lumber, plywood, OSB, etc.) we will see further fragmentation of the forest and even selling of forested lands for higher value uses such as rural residential development.

While Congress is considering cap and trade programs and other climate change options, we sincerely hope that timber harvesting operations will be given consideration as renewable energy feedstock producers and would be happy to work with members to draft language that is beneficial for the sustainability of our industry.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
AMERICAN NURSERY &
LANDSCAPE ASSOCIATION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Robert J. Dolibois

Organization(s) you represent

American Nursery & Landscape Association

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Executive Vice President - Chief Staff Officer

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

ANLA does not wish to respond to this question at this time.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

ANLA does not wish to respond to this question at this time.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

ANLA does not wish to respond to this question at this time.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

ANLA does not wish to respond to this question at this time.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

ANLA is concerned about the expansion of government oversight, particularly with regards to the industries that would be included under such a proposal. Too often, we have seen the difficulties associated with multiple agencies having jurisdiction over one program and a lack of collaboration that leads to greater inefficiency. If a cap-and-trade program were established, and agriculture were to be part of the program, would it be regulated by USDA, the EPA, the Commerce Department or a combination thereof? The creation of a

new agency would lead to potential tax, compliance and paperwork burdens for the small businesses we represent, something that they may be ill-equipped to handle.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

ANLA does not wish to respond to this question at this time.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

Though ANLA advocates for flexible instruments with as little federal regulation as possible, we believe that access to the benefits of this program should also be available for small businesses, should they choose to participate.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

Increased cost would almost certainly have a negative impact on the surrounding communities engaged in agricultural production. Already facing enormous challenges in some regions with regards to transportation of nursery stock, increased scrutiny and costs associated with distribution systems would also have a negative impact. In addition, a large percentage of nursery stock grown in a particular state or region often stays within that region for planting, and any associated costs or increased difficulty with time to market would have a negative impact on consumers and retailers in these areas.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

ANLA does not wish to answer this question at this time.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

It is imperative that producers of agricultural plant material, should that segment be included in a carbon reduction program, receive transitional assistance in order to ensure compliance. In addition, any additional costs at a time when margins are running extraordinarily thin on the production side of horticulture would almost certainly require mitigation in order for participation.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

ANLA does not wish to answer this question at this time.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

ANLA does not wish to answer this question at this time.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Though ANLA is unaware of any international carbon reduction programs that incorporate nursery production into consideration, we believe that the anecdotal challenges that have been reported by the European Union's ETS system as it exists on a small-scale are instructive for moving forward incrementally, and with an abundance of caution, when it comes to incorporating agricultural plant production into such a program..

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected

agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

ANLA does not wish to respond to this question at this time.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

ANLA does not wish to respond to this question at this time.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

ANLA does not wish to respond to this question at this time.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

ANLA does not wish to respond to this question at this time.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Though ANLA has no specific criteria to recommend, we suggest that for agriculture, that the entire lifecycle of agricultural materials produced would be considered as part of any offset project.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

ANLA does not wish to respond to this question at this time.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

ANLA does not wish to respond to this question at this time.

21) What should be the relationship between offsets and allowances?

Please respond in 600 words or less.

ANLA believes that the relationship between offsets and allowances should be at a one-to-one ratio.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

ANLA does not wish to respond to this question at this time.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

ANLA does not wish to respond to this question at this time

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

If producers have already implemented systems and practices that sequester carbon and reduce greenhouse gas emissions, then they should be rewarded and recognized for their early efforts. Credits should be "stacked," and ANLA encourages not only water quality practices and wildlife habitat creation, but also the installation of plant material that sequesters carbon, mitigates runoff and cleans the air of pollution matter.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Those who have already utilized federal or state programs through technical assistance or cost sharing programs are good, early actors who recognized a need and sought assistance to do their part. They are examples for other producers and should be rewarded by receiving any benefits or considerations that are proportional to the investment that their business made into becoming early adopters. If a clear determination can be made, beyond a reasonable doubt, that those activities were not implemented to address more environmentally friendly production practices in general (and not specific to carbon sequestration or greenhouse gas emission reduction), then current applicable penalties should be sought by the federal government.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

A producer should be liable if an offset project does not sequester carbon or reduce greenhouse gas emissions only in circumstances where negligence or failure to comply with the program can be demonstrated. Uncontrolled events, such as natural disasters, systems failures or unforeseen financial hardship should not expose producers to liability.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Though ANLA is inclined to allow experts at federal agencies of jurisdiction to establish protocols and procedures for an offset program, we reiterate that both the multi-jurisdictional model and the creation of a new federal agency have challenges that could create a potential hardship for producers, especially small businesses, in the nursery industry.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

To implement practices and technologies will require agricultural producers and landowners to evaluate those approaches based on possible economic costs and returns, incentives, changes or enhancement of production practices and tradeoffs. Critical to successful adoption will be the need to establish the scientific basis and rationale for the practice/technology, the potential economic benefits to the producer and landowner, and any larger socioeconomic and environmental benefits that might result from the change of a current practice/technology.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Generally speaking, existing conservation and forestry programs fail to provide sufficient incentives for states, cities and municipalities to encourage the use of the most natural solution to sequester carbon mitigate the impact of climate change and reduce greenhouse gas emissions. By promoting the use of trees more broadly, specifically those that are a

product of the national nursery industry, there exists an opportunity to promote American agriculture as a manufacturer of solutions to combating the challenge of climate change.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

There already exists, in abundance, a significant component of the nation's infrastructure that contributes to the reduction of carbon dioxide, mitigation of other airborne and soil contaminates and offsets related negatives of climate change. That infrastructure component is almost totally domestically produced by the one of the largest sources of cash at the American farmgate. Despite its past significance and its even greater importance in the future, this agriculturally-produced infrastructure component is grossly underestimated and largely ignored by policymakers and related experts in climate change.

The infrastructure component is the managed landscape—trees, shrubs, groundcovers, and turf in urban, suburban, rural residential, commercial and highway settings. These important players in addressing climate change mitigation and adaption have only just begun to be recognized as part of the solution. That recognition is emerging from larger success of its use in European cities in the form of green roofs and turf/horticultural buffers for storm water/runoff control. Temperature reduction on the urban heat island is further assisted by shade and evapotranspiration from trees and greenbelts.

The existing research available on the ecosystem services of the managed landscape tells a compelling story:

Approximately 800 million tons of carbon are stored in U.S. urban forests with a $22 billion equivalent in control costs.

A mile of highway produces from 2,330 - 3,730 tons per year of CO2. Conversely, a healthy tree stores about 13 pounds of carbon annually -- or 2.6 tons per acre each year. An acre of trees absorbs enough CO2 over one year to equal the amount produced by driving a car 26,000 miles. Those trees store that carbon in their branches, trunks and roots for decades.

Deep-rooted prairie grasses, forbs and herbaceous perennials have been found to sequester as much as 1/3 of a ton of carbon per acre per year.

The potential for capturing and storing additional carbon through major tree planting and related landscaping along interstate highway system is worthy of exploration. "Greening" of the urban spaces using horticulture is a new frontier for addressing climate while increasing employment and enhancing the health-giving and social benefits of this key element of the managed environment. Both of these strategies are worthy of study and inclusion in a balanced and efficient national approach to managing carbon outputs.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
No specific recommendations at this time.				

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Not applicable				

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
No specific recommendations at this time.				

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
AMERICAN PETROLEUM
INSTITUTE

Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Mark W. Kibbe

Organization(s) you represent

American Petroleum Institute

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Director, Federal Relations

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

The issue of climate change is a significant challenge and API believes that federal legislation addressing greenhouse gas emissions is preferable to a regulatory command and control approach or a patchwork of state requirements. While an overriding goal is to be environmentally effective, design elements of legislation - whether carbon taxes/fees, cap and trade, hybrid, or other approaches -- need to lead to improved energy efficiency, the use of the lowest cost GHG reductions, protect the economy from costs that would make it uncompetitive globally, and provide consumers with a transparent signal to reduce emissions efficiently.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

In principle, climate legislation will be most effective and efficient if it equitably treats emissions from all sources of greenhouse gases economy-wide. At the same time, the point of regulation of any GHG reduction program needs to consider accuracy of tracking emissions or carbon sinks, costs, efficiency, and transparency in addressing the many varied sources of GHG emissions in our economy. To the extent that agriculture and forestry sectors GHG emissions and sinks can be accurately assessed and tracked, they should be included in an economy-wide program.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

To the extent that allowances are auctioned under a cap-and-trade program, the overwhelming majority of revenue should be returned to the economy through broad reductions in taxes on labor and/or capital such as FICA and corporate income taxes. To the extent that any allowances are not auctioned, any free allocation at no cost should be phased-out over time or be subject to regular reauthorization. To the extent that allowances are available at no cost, all sources of covered emissions in a GHG reduction program should be equitably treated.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

A federal cap-and-trade program or a carbon tax/fee program should preempt any existing or emerging state or regional program to avoid duplicative and/or conflicting requirements as well as unequal treatment of emission sources in different geographic regions. State biofuels and low-carbon standard (LCFS) mandates should be preempted if a federal LCFS is established. State-by-state biofuels mandates create additional boutique fuels and interfere with flexible compliance with the federal mandate. The program should also include removal of state barriers to biofuels blending or LCFS compliance.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

No response.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

No response

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

No response

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

Analysis of state GHG emissions data indicates significant variability across states in CO2 emissions per capita and CO2 emissions relative to economic activity (measured per million dollars of Gross State Product -- the state equivalent of national GDP). A carbon emission reduction program can be expected to have a more adverse impact on regions and groups with higher rather than lower relative greenhouse gas emissions. Additionally, the agricultural community will be particularly impacted by likely changes in the cost of natural gas as a feedstock for fertilizer and diesel fuel for vehicles"

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

The overwhelming majority of revenue generated under a carbon reduction program should be returned to the economy through broad reductions in taxes on labor and/or capital such as FICA and corporate income taxes. Any subsidies or allocations not recycled to the economy should phase out over time or be subject to regular reauthorization. Revenue distribution should be transparent. Transition assistance and retraining for people harmed by the policy may be needed. Any support for research and development should focus on technologies that offer improvements in energy efficiency or reduce GHG emissions.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

Transition assistance and retraining for people harmed by the policy may be needed. However, any revenue raised under a climate program and not returned to the economy through broad reductions in taxes should phase-out over time or be subject to regular reauthorization.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

The US oil and gas has over 35 years of experience safely producing, transporting, and injecting carbon dioxide (CO2) for enhanced oil and gas (EOR) recovery, with an important portion of this experience being gained from operations within the state of Wyoming. While constantly evolving, the technology, operating experience, and regulatory requirements that have been developed for EOR is extensive, mature, and provide a sound basis for regulation of geologic storage of CO2. In the U.S. alone, the oil and gas industry safely operates over 13,000 CO2 EOR wells, over 3,500 miles of high pressure CO2 pipelines, and has injected over 600 million tons of CO2, all while maintaining and excellent health, environmental and safety record.

CCS is likely to be one of the core technologies that could help to ensure that we can continue to produce the clean energy society demands. To the extent that public lands can contribute to this effort, they could play an important role in sequestering carbon and/or reducing GHG emissions. Additionally, Congress needs to address the legal liability and permitting uncertainty in order for broad CCS to be realized.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

No response.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

No response.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

Domestic offsets have the potential to play an important role in addressing the nation's greenhouse gas emissions, provided the offsets are credible and verifiable.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

It is unclear why offsets should be "issued annually by the government" rather than accepted as part of a GHG emission reduction program, provided that those offsets are credible and verifiable.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Recognized offsets should be the result of efforts to reduce or sequester greenhouse gas emissions and should be credible and verifiable, rather than something Congress distributes.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

If offsets could have the same value as an "allowance" in a GHG reduction program, the criteria for measuring and accounting for the legitimacy of the offset should provide the same confidence in the value of the offset as the value of an allowance.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

No response.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

No response

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

No response

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

An offset should be equivalent to an allowance provided that its measurement is as credible and verifiable as other emissions requiring allowances.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

No response

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

No response

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

No response

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

No response

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

No response

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

No response

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

No response

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

No response

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

No response.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
No Response				

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
No Response				

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
No Response				

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
AMERICAN PUBLIC GAS ASSOCIATION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Bert Kalisch

Organization(s) you represent

American Public Gas Association (APGA) - APGA is the national association for publicly-owned natural gas distribution systems. There are approximately 1,000 public gas systems in 36 states and over 700 of these systems are APGA members. Publicly-owned gas systems are not-for-profit, retail distribution entities owned by, and accountable to, the citizens they serve. They include municipal gas distribution systems, public utility districts, county districts, and other public agencies that have natural gas distribution facilities.

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

President & CEO

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
   Please respond in 600 words or less.

A greenhouse gas emissions tax would most likely provide greater cost certainty in pricing emissions as a commodity, while a hard cap on emissions with tradable emissions credits may provide greater certainty in achieving emission reduction goals but may create an overly volatile commodity market for emissions trading which has the potential to negatively impact consumers. APGA does not take a position on which is a superior mechanism for the U.S. in addressing global climate change, however APGA members feel strongly that any policy Congress adopts should seek to maintain the supply-demand balance for natural gas and minimize the financial impact upon consumers. This includes setting emissions caps that do not lead to massive fuel switching to natural gas for electricity generation. Carbon policy that does not take actions to mitigate massive fuel switching to natural gas for electricity generation could create an overly heavy demand market that relies solely on increased natural gas supply to mitigate price. The demand market that existed in 2006 shows that pricing can exceed $13 per MMBtu. Instead energy/climate policy should encourage more efficient uses of energy to reduce greenhouse gas emissions such as increased use of natural gas in homes businesses and our transportation fleet. For example, using gas-fired water heaters for homes instead of electric resistance water heaters reduces greenhouse gas emissions by 54 percent in each unit using national average efficiency and emissions data (source: Presentation by KathleenHogan (EPA) to National Academy of Sciences, April 2008). Up to 75% reduction in CO2 emissions is possible when displacing coal-fired power generation. It is important to note that much of the increased carbon emissions from residential and commercial businesses come from electricity generated from central power plants and the inefficient full energy cycle of production and delivery of electricity. For every one btu of coal used to generate electricity, only 0.26 to 0.29 btu of that energy is ultimately delivered to the home or business in the form of electricity. On the other hand, for every one btu of natural gas produced, 0.91 btu of energy reaches the home and business for use in water heating, space heating, drying and cooking. With existing technology, we can make significant strides in reducing carbon emissions simply by encouraging the efficient use of energy. This is low hanging fruit. Replacing petroleum based energy for vehicles with compressed natural gas (CNG) is another area where significant reductions in carbon emissions could be achieve with existing technology. Tax incentives, grant programs and other mechanisms to deploy CNG fueled transportation fleets, and home refueling units are great places to start. Finally, regulating emissions upstream makes the most sense in the natural gas industry. Upstream regulation simplifies administration of the program because there are fewer facilities to monitor while still capturing the bulk of the emissions..

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

N/A

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

As stated in our response to question 1 above, we believe regulating emissions upstream makes the most sense in the natural gas industry. Allowances should be distributed in the most efficient way possible to ensure that consumers are not overwhelmed by rising energy costs created by climate change policy. In the event that downstream entities in the natural gas industry are subject to emissions regulations, allowances should be provided directly to the local distribution company/utility based on their compliance liability. This will allow a local gas system to utilize the allowances to help mitigate the potential costs increases that will hit consumers as a result of climate change legislation.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Ideally, as Congress and the federal government enact and implement a greenhouse gas reduction regime, the need for regional carbon reduction programs will be diminished. Congress should ensure that there is only one program that utilities must comply with to reduce greenhouse gases. Federal policy should preempt individual or regional state programs for greenhouse gas reduction. Over one-half of the public gas systems in the country have 5 employees or less. These utilities will incur overly burdensome costs if they are required to understand and comply with multiple greenhouse gas reduction programs.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

APGA does not have a position on whether a cap and trade program should be regulated by an existing agency or a new agency. However, it is critical that the agency tasked with this responsibility have the tools, resources and authority to insure full transparency in the market in which allowances are traded and to protect consumers from manipulation and

other market abuses. History has demonstrated that there is never a shortage of individuals or interests who believe they can, and will attempt to, affect the market or manipulate price movements in favor of their market position. It is critical that there be safeguards in place to protect consumers. It is also important that in writing regulations Congress ensure that there is one clear set of authorities that regulate greenhouse gas emissions in the agency of jurisdiction. Without this clarity, overlapping and duplicative authorities could be created causing confusion and overly burdensome regulation.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

APGA believes that transparency and sound regulation are vital to ensuring that manipulation and excess speculation are deterred before the consumer can be impacted. APGA has no position on whether the CFTC should serve as the regulator of a derivative carbon market. However, as stated previously, it is critical that the agency with jurisdiction be given sufficient resources to monitor what could end up to be a very large scale derivatives market that is ripe with potential for abuse and manipulation. In our view, the CFTC is already under-resourced in monitoring the existing commodity markets and will need much greater resources from Congress to ensure transparency in existing and future commodity markets.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

APGA member utilities were exposed to millions of dollars in losses from market abuses in natural gas markets by hedge funds such as Amaranth who were trading on markets that were not transparent. In our view, regulators should have access to all information impacting the price of a commodity to ensure that the market for that commodity is transparent. This includes ensuring that no "dark" market trading platforms are created outside the purview of regulators. It is also important that the market created for trading emissions credits should not be overly weighted towards the market makers to the detriment of users/consumers. The market needs to be effective towards those regulated entities that need to use it to meet yearly compliance obligations. This means that the market created should be liquid, provide stability and accurate price forecasting. The market should be designed to prevent excess volatility, excess speculation, manipulation and abuse.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

N/A

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Speaking specifically for the roughly 5 million public gas customers served by approximately 1,000 publicly-owned utilities in 36 states, a large portion of the revenue should be set aside for consumers to help mitigate the rising costs of energy that will be created by putting a price on carbon emissions. Especially for those low-income and elderly citizens who are impacted the most by rising energy costs. In terms of customers served by publicly-owned gas systems, APGA believes it makes the most sense to funnel revenue through the utility to pass along those saving to the consumer. Unlike investor-owned utilities who must also answer to shareholders, public gas systems are not-for-profit utilities accountable only to the citizens they serve which means their first and foremost interest is keeping rates as low as possible. Additionally, another appropriate use for a portion of the revenue is to fund research and development that could lead to the commercialization of methane hydrates. A conservative estimation of producible natural gas from methane hydrates is 200,000 Tcf, a resource base that dwarfs any other domestic form of energy we currently use in large-scale. Finally, federal revenue created from the sale or auction of emissions permits should be used to help mitigate costs for consumers and for the development of new cost effective low carbon emitting technologies. The revenue should not be used to fund other areas of the government.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

N/A

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

N/A

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

The most important aspect is to have a consistent price signal for carbon that gives investors confidence while providing certainty to make long-term investments in new low-carbon technologies. However, there needs to be safeguards in place, such as a ceiling or safety valve that allows the introduction of increased allowances, to protect consumers from sky-rocketing energy prices.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

N/A

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

N/A

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

APGA has no comment on this question.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

APGA has no comment on this question.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

APGA has no comment on this question.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

APGA has no comment on this question.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

APGA has no comment on this question.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

APGA has no comment on this question.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

APGA has no comment on this question.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

APGA has no comment on this question.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

APGA has no comment on this question.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

APGA has no comment on this question.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

APGA has no comment on this question.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

APGA has no comment on this question.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

APGA has no comment on this question.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

APGA has no comment on this question.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

APGA has no comment on this question.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

"It is Important that Congress have a clear definition for an "offest" before establishing an overall greenhouse gas reduction program. Congress could ask the Administration to form an inter-agency working group including the Departments of Energy, Interior, Agriculture, Treasury, State, EPA and others that would provide a guidance document to Congress that would give recommendations on the definition of an "offset." Proceeding to establish a greenhouse gas reduction program without a properly defined offset that has been properly vetted by several agencies would creates uncertainty and could potentially undermine the legitimacy of an emissions reduction program.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE SUBMITTED BY AMERICAN PUBLIC POWER ASSOCIATION

American Public Power Association
1875 Connecticut Avenue, NW
Suite 1200
Washington, DC 20009-5715

Ph: 202.467.2900
Fax: 202.467.2910
www.APPAnet.org

Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name:

Mark Crisson

Title:

President & CEO

Organization:

American Public Power Association

Address:

[Redacted]

Email:

[Redacted]

Introduction:

The American Public Power Association (APPA) is pleased to submit comments to the House Agriculture Committee regarding the "White Paper" released in mid-March. APPA represents the interests of more than 2,000 publicly owned electric utility systems across the country, serving approximately 45 million citizens. APPA member utilities include state public power agencies and municipal electric utilities that serve some of the nation's largest cities. However, the vast majority of these publicly owned electric utilities serve small and medium-sized communities in 49 states, all but Hawaii. In fact, 70 percent of APPA's members are located in cities with populations of 10,000 people or less. Further, while public power systems collectively own 9.8 percent of installed generating capacity, most publicly owned utilities are not generation self-sufficient but depend, at least to some extent, on wholesale power purchases to meet the retail loads of the communities they serve. A majority of public power systems are completely dependent on wholesale purchases in order to meet demand.

Introduction:

Many of the questions you have set forth in this document understandably focus on the agriculture industry and are not applicable to public power electric utilities. To be as useful to you and the Committee as possible, therefore, I have responded to the questions directly applicable to APPA's members.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why? ***Please respond in 600 words or less.***

The public policy question of how best to address global climate change and relevant reductions of greenhouse gases is extremely challenging. In order to help APPA's members and staff sort through the complex scientific, technological and economic issues associated with climate change and public power's generation needs, our Board of Directors formed a CEO Climate Change Task Force in 2006. This group has already met on several occasions and, among other activities, has recommended a general set of principles to guide federal legislation on this issue. A copy of the principles is enclosed.

Essentially, APPA supports federal legislation to address greenhouse gas emissions, but we have not taken a position on the type of mechanism to be employed to achieve this goal. However, APPA has adopted an additional set of principles related to a cap-and-trade approach (also enclosed and delineated in brief below) that appropriately conveys our concerns about the costs and complexity of such a regime if it does not include strong cost containment mechanisms such as a safety valve and if it auctions rather than allocates allowances, among other things.

More specifically our policy states that any federal cap and trade program should:

- Include a safety valve (which sets a maximum allowance price) or other stringent cost control mechanisms that mitigate price volatility and protect consumers.
- Minimize the initial auction amount to no more than five percent of total allowances to allow time for efficient markets to develop, to protect consumers and ensure continuing reliable operation of the electric system.
- Require the federal government to conduct regular reviews of allocations and auction of allowances in order to ensure they do not create windfall profits.
- Provide for effective market oversight, including strong enforcement and penalties, to prevent market manipulation

- Allow auction revenue to only be used for targeted R&D, energy efficiency, and mitigation of cost impacts on consumers.

- Provide for allowances sufficient to maintain reliability and to allow time to adapt. Generating units of 25 MW or less should be exempted from mandatory participation in the program.

- Allow credit for early action.

- Allow for regular reviews of the program to determine if changes are warranted to prevent the transfer of wealth and jobs to other countries that have not implemented climate legislation.

- Ensure that offsets are additional, permanent, independently verified, enforceable, and measurable. In addition, offset allowances should be available from an expansive set of sectors and activities without arbitrary geographic or quantity limits on the use of qualified offsets to meet cap requirements.

Our task force will continue to meet to analyze various proposals and to make further recommendations to APPA's full membership on this complex issue, and we will communicate any relevant decisions in this regard to the Committee.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not? ***Please respond in 300 words or less.***

In March 2008 the U.S. Environmental Protection Agency released new figures under its "Inventory of U.S. Greenhouse Gas Emissions and Sinks." According to the report, the residential sector is responsible for 5% of the U.S. total emissions, the electric power sector 34.3%, the transportation sector 28%, the commercial sector 5.7%, U.S. industry 19.2%, and the agriculture industry, 7 percent. While percentages differ from sector to sector, the report makes it very clear that all sectors of the U.S. economy contribute to the emission of greenhouse gases. Given this situation, APPA would urge Congress to enact an economy wide program that accounts for all greenhouse gas emissions in the U.S. because: (1) dramatic emissions reductions will be required to meet projected targets; (2) all economic sectors contribute to greenhouse gas emissions; and (3) everyone must fairly share responsibility for reductions. Therefore, APPA believes no sector of the U.S. economy should be excluded from meeting emission reduction targets.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances? ***Please respond in 600 words or less.***

As indicated in our climate principles, APPA does not support a 100% auction of carbon allowances. Given our extremely negative experiences with certain auctions, including those in markets with "regional transmission organizations" (RTOs) that run single clearing price auctions for wholesale electricity, and other issues, APPA has serious concerns about auctioning allowances. Therefore, any auction should proceed cautiously and prevent unintended harm. APPA supports minimizing the initial auction amount to no more than 5% of total allowances to allow time for efficient markets to develop, to protect consumers, and to ensure continuing reliable operation of the electric system. In addition, the structure and operation of such an auction should be as transparent, simple and straightforward as possible. For the same reasons, APPA supports maximizing allocation of allowances.

It is also worth noting that an auction unfairly disadvantages small, not-for-profit entities like public power entities, and favors large, for-profit national and multi-national corporations. Under an auction, those entities that can afford to pay more are rewarded with allowances, and those that cannot match the auction price are left with either inadequate access to electricity or high prices. Moreover, an auction will expose our consumers to the risks of unpredictable cost increases and heightened regional economic inequalities.

One of the rationales we have heard for relying so heavily on an auction is that the legislation should avoid giving industry a "windfall profit" at the expense of consumers (which has been the case with the European cap-and-trade system). However, in the case of not-for-profit, consumer-owned public power entities, we cannot reap any windfall or other profit by definition. Public power entities operate at cost, and any additional costs (such as buying allowances at an auction) will be passed directly to consumers, while any costs avoided result in direct savings to our consumers. These additional costs will be imposed on regions of the country most economically impacted by climate change legislation such as those heavily dependent on coal.

On the issue of "windfall profits" if federal climate legislation calls for a 100% auction process, for-profit national and multi-national corporations will be the ones reaping windfall profits. For example, under a 100% auction process, these companies, that may or may not have obligations to reduce emissions under a cap- and-trade system, will be able to buy the credits at a low price at the auction and then sell them on the open market once the price has increased due to a decline in the amount of available credits.

Additionally, the annual emissions cap will ensure reductions in emissions regardless of whether allowances are auctioned or allocated. Allocating a certain percentage to covered entities in the utility sector during a transition period will give utilities time to make investments to reduce emissions without unduly burdening end-use customers with exorbitant rate increases. Some parties are concerned that customers will not alter their behavior to reduce consumption unless their cost of energy increases substantially (through the addition of allowance prices). However, utilities and their regulators can agree to substantial investments in energy-efficiency programs to achieve the same goal of reduced electricity consumption.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why? ***Please respond in 600 words or less.***

APPA does not have a position o this issue.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain. ***Please respond in 300 words or less.***

While APPA supports effective market oversight of any cap and trade regime, we do not have a position on whether an existing government agency should regulate it or a new agency should be created. However, whatever entity oversees such a market should have the appropriate "tools in its toolbox" to provide sufficient oversight, including the necessary staff, expertise, and legal authorities to ensure that the regime is effective – particularly if any type of auction mechanism is put in place. But even more important than the regulatory and enforcement tools the chosen agency has at its disposal is its "mindset" regarding protection of consumers. The nation has experienced in the last year a stunning failure by the federal agencies tasked with protecting investors and consumers from harm resulting from malfeasance and reckless behavior in financial markets. It is now well-acknowledged that agencies such as the Securities and Exchange Commission did not take sufficient action to protect the nation's investors and financial markets. Given these events, APPA has substantial concerns about the ability of federal agencies over the long run to act vigorously to police speculation and potential manipulation if carbon emission allowances are auctioned.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain. ***Please respond in 300 words or less.***

It may be best for the same agency that regulates the actual emissions allowances market and auctions to also regulate forward trading instruments keying off of those allowances and auctions. APPA has seen the negative effects resulting from the "split jurisdiction" of the CFTC and the FERC over natural gas, with FERC having jurisdiction over the natural gas "physical" market and the CFTC having jurisdiction over natural gas futures markets. The result has been a very unproductive jurisdictional spat, which in APPA's view has interfered with FERC's ability to prevent harm to natural gas consumers paying natural gas prices that are inflated due to manipulative activities of financial players in the forward markets.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? ***Please respond in 600 words or less.***

The inevitable result of allowing commodities and financial instruments keyed off of those commodities to trade on multiple markets with varying levels of regulation and transparency is that market players will migrate their activities to those markets which are less transparent and more lightly regulated. Moreover, they will be tempted to arbitrage their activities between and among those markets. Such activities, if successful, inevitably benefit such market players at the expense of end use consumers of those commodities. Again, natural gas markets are an example of this phenomenon at work. For these reasons, APPA generally favors requiring the use of more regulated and transparent markets.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products. ***Please respond in 600 words or less.***

As noted in our introduction, 70 percent of APPA's members are located in communities with populations of 10,000 people or less. Therefore, APPA has concerns about a cap-and-trade program – specifically the cost impacts on consumers and the reliability of the electric system, particularly in more rural. In addition, any cap and trade program will certainly increase electricity cost for millions of consumers. These cost increases will pose special challenges for low- and moderate income families living in rural areas as these consumers tend to spend a larger share of their budgets on energy related products. Therefore, any cap-and-trade program implemented to address greenhouse gas reductions should be realistic and achievable, and include adequate protections for low-income families to help them meet the increase cost in electricity and goods and services that will result from such policies.

According to a May 9, 2008, report issued by the Center on Budget and Policy Priorities entitled, "Designing Climate-Change Legislation that Shields Low-Income Households from Increased Poverty and Hardship," climate change legislation designed to reduce greenhouse-gas emissions work in part by raising the prices of fossil-fuel energy products to encourage energy efficiency and the of substitution of clean energy sources for certain fossil fuels. While APPA supports programs to protect the environment, we also realize that any cap and trade program will raise costs to consumers for a wide array of products and services, from gasoline and electricity to food, mass transit, and other products or services with significant energy inputs. These cost increases will pose special challenges for low- and moderate-income households because, as Congressional Budget Office studies have shown, they spend a larger share of their budgets on energy than better-off households do. Moreover, these costs will grow over time as the emissions-control targets become stricter, thus putting more and more pressure on low-income families.

In conclusion, APPA believes that any federal cap-and-trade regime should achieve the goals established by Congress with the least possible adverse economic impact on consumers of

energy and the U.S. economy. Thus, such a program must include a safety valve (which sets a maximum allowance price) or other stringent cost control mechanisms that mitigate price volatility and protect consumers.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts? ***Please respond in 300 words or less.***

As noted in our attached climate principles, APPA believes that all net proceeds generated from any auctioning of allowances by federal or state governments should be used only for targeted R&D, energy efficiency, and mitigation of cost impacts on consumers. Specifically, the revenue should be funneled back to the utilities which are governed by "Local Governing Bodies" or the "State Regulatory Commission." Upon receiving the revenue, the federal government should then mandate that the utilities pass these monies to their consumers in the form of rebates on their utility bills or other cost mitigation mechanisms.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance? ***Please respond in 300 words or less.***

While APPA does not have a position on businesses outside the utility industry, we do support the concept of the utility industry receiving freely allocated allowances during the transition period to ensure that we are able to continue to do business and serve our customers.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions? ***Please respond in 300 words or less.***

APPA does not have a position on this issue.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain. ***Please respond in 600 words or less.***

As noted in our attached climate principles, APPA supports the inclusion of a safety valve (which sets a maximum allowance price) or other stringent cost control mechanisms that mitigate price volatility and protect consumers in any climate change legislation passed by Congress. Furthermore, the inclusion of an economic safety valve, similar to the proposal included in a bill from the last Congress -- S. 1766, the Bingaman-Specter "Low Carbon Economy Act of 2007" -- is a critical element of any cap-and-trade proposal.

Currently, no one knows with certainty what the cost of complying with any cap and trade bill will be, and estimates vary widely. One key element of a politically- and economically-sustainable climate change policy is the need to provide regulated entities with some planning certainty – particularly in the case of capital-intensive industries like the electric utility sector. If consumers and businesses cannot plan for new costs systematically, policy makers will be introducing significant uncertainty and economic shocks that will undermine the political will to

significantly reduce greenhouse gas emissions over the long term. Inclusion of a safety valve is essential and is the easiest, most effective way to ensure that uncertainty is minimized.

In addition, as we discuss in question #3 above, the allocation of allowances would minimize the costs of compliance with a cap-and-trade regime as well as the price volatility associated with auctions.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry? ***Please respond in 600 words or less.***

Many lessons can and will be learned from the European Union's Emission Trading System (ETS). One of the most significant consequences resulting from problems with the ETS is the push by many Members of Congress to ensure that any cap and trade regime contains a 100% auctioning of allowances process. One of the rationales we have heard for relying so heavily on an auction is that the legislation should avoid giving industry a "windfall profit" at the expense of consumers (which has been the case with the ETS) as we also discuss in the answer to question #3 above. However, in the case of not-for-profit, consumer-owned public power entities, we cannot reap any windfall or other profit by definition. Public power entities operate at cost, and any additional costs (such as buying allowances at an auction) will be passed directly to consumers, while any costs avoided result in direct savings to our consumers. These additional costs will be imposed on regions of the country most economically impacted by climate change legislation such as those heavily dependent on coal. It is also important to point out that the ETS has failed thus far because of the method used to freely allocate allowances. In other words, the system failed because they over allocated and not be cause of the allocation itself.

Part II: Carbon Reduction Program Administration and Implementation

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors? ***Please respond in 600 words or less.***

APPA does not have a position on this issue.

15) Should the total number of offsets issued annually by the government be limited? If so, how much? ***Please respond in 300 words or less.***

As stated in our climate principles, APPA supports the broad availability of greenhouse gas emissions offsets in connection with any cap-and-trade market from projects that achieve emission reductions. Qualified offsets should be additional, permanent, independently verified, enforceable, and measurable. In addition, offset allowances should be available from an

expansive set of sectors and activities without arbitrary geographic or quantity limits on the use of qualified offsets to meet cap requirements.

It should be noted that many of APPA's members, as units of state and local government, are restricted from investing internationally (this varies somewhat depending on their individual governing statutes) and therefore must rely on domestic offsets. Public power utilities should not be disadvantaged because of this understandable restriction.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)? ***Please respond in 600 words or less.***

APPA has not taken a position on this issue.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program? ***Please respond in 600 words or less.***

APPA has not taken a position on this issue.

18) What should be the criteria for assessing offset projects? ***Please respond in 300 words or less.***

APPA has not taken a position on this issue.

19) How should Congress design a system for verifying offset projects? ***Please respond in 300 words or less.***

APPA has not taken a position on this issue.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program? ***Please respond in 600 words or less.***

APPA has not taken a position on this issue.

21) What should be the relationship between offsets and allowances? ***Please respond in 600 words or less.***

APPA has not taken a position on this issue.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility? ***Please respond in 300 words or less.***

APPA has not taken a position on this issue.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)? ***Please respond in 600 words or less.***

APPA has not taken a position on this issue.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits? ***Please respond in 600 words or less.***

While APPA has not taken a position on early action credits for producers and landowners, APPA does support credit for early action taken by public power entities. In accordance with our climate principles, APPA supports January 1, 1994, as the appropriate date beyond which credit for early action should be allowed.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction? ***Please respond in 300 words or less.***

APPA has not taken a position on this issue.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner? ***Please respond in 300 words or less.***

APPA has not taken a position on this issue.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures? ***Please respond in 300 words or less.***

APPA has not taken a position on this issue.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies? ***Please respond in 600 words or less.***

APPA has not taken a position on this issue.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation? ***Please respond in 300 words or less.***

APPA has not taken a position on this issue.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

In summary, APPA supports congressional action to address climate change; however, APPA has concerns about a cap-and-trade program; specifically the cost impacts on consumers and the reliability of the electric system. We are also concerned about the volatility of federally created allowance markets and the potential diversion of funds generated from those markets away from R&D or mitigation of cost impacts on consumers. Most importantly, any cap-and-trade program implemented to address greenhouse gas reductions should be realistic and achievable, and provide ample time to develop, demonstrate and deploy new low-and zero-emitting technologies.
Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE SUBMITTED BY AMERICAN SOCIETY OF AGRONOMY (INTERNATIONAL CERTIFIED CROP ADVISORS); CROP SCIENCE SOCIETY OF AMERICA; SOIL SCIENCE SOCIETY OF AMERICA

Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Karl M. Glasener

Organization(s) you represent

American Society of Agronomy (International Certified Crop Advisers), Crop Science Society of America, Soil Science Society of America

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Director of Science Policy (based in Washington, DC)

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
   Please respond in 600 words or less.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
   Please respond in 300 words or less.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
   Please respond in 600 words or less.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
   Please respond in 600 words or less.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
   Please respond in 300 words or less.

   Existing agency with regulatory authority should be in charge.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
   Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

They should be managed so the soils can sequester the greatest amount of carbon which would include implementing the appropriate best management practices.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

The goal of the Kyoto Protocol is "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system." The Protocol commits Annex B Parties, or industrialized countries that have ratified the Protocol, to individual, legally-binding targets that will limit or reduce their greenhouse gas emissions. Many non-industrial signatories are engaged in clean development mechanism (CDM) agreements with Annex I countries designed to generate emissions reduction credits for the industrialized country. While non-industrial signatories are not bound to specific requirements, they do have a "common but differentiated responsibility" to move toward similar goals of reducing emissions. "Differential responsibility" considers the particular economic, social and environmental situation of developing countries when adopting environmental measures. Many non-industrial signatories are engaged in clean development mechanism (CDM) agreements with Annex I countries designed to generate emissions reduction credits for the industrialized country. While non-industrial signatories are not bound to specific requirements, they do have a "common but differentiated responsibility" to move toward similar goals of reducing emissions. "Differential responsibility" considers the particular economic, social and environmental situation of developing countries when adopting environmental measures. Many non-industrial signatories are engaged in clean development mechanism (CDM) agreements with Annex I countries designed to generate emissions reduction credits for the industrialized country.

One example of a CDM project related to agronomy, crops and soils is at EARTH (Escuela de Agricultura de la Región Tropical Húmeda) in Limón, Costa Rica. At EARTH, researchers evaluate the capacity of reforestation projects on the campus to sequester carbon in above ground biomass. According to the Protocol, any forest established after 1990, the baseline year, can be considered as a net "sink" or "a process, activity or mechanism which removes a greenhouse gas… from the atmosphere" (United Nations Framework Convention on Climate Change, UNFCCC). EARTH receives payments from the port of Rotterdam in the Netherlands for offsetting CO2 emissions. These payments alleviate some of the financial pressures on the University whose student body consists of 400 students mostly from South and Central America, 80% of which are afforded with whole or partial tuition assistance.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

There should be agreed upon performance standards so everyone is working with a known entity and goals.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

In the carbon market, the buyer needs assurances that domestic offsets purchased are real, quantifiable, affordable, and achieve the carbon goal. Under any program, establishment of on-the-ground reference plots which standardize the baseline using tested models such as CENTURY, EPIC, etc. provide rigorous baseline measurements which document additional carbon sequestration originating from a given sequestration practice.

Certified Professional Agronomists, Crop Advisers, Foresters, and Soil Scientists who have long-term, trusting relationships with producers and land managers, to ensure high quality offsets, which address additionality, leakage, and permanence issues which would otherwise undermine the value of offsets in the marketplace.

Production resource management and natural resource management are both dynamic processes that are influenced by the soils, topography, weather, climate and the livestock and cropping system decisions of the agricultural producers.

To assist producers in meeting the goals of an environmentally-conscious society, a streamlined process that combines production and natural resource assessment components and agricultural professionals was developed. This project contains an index-based assessment, training and certification program, a resource management plan and a resource assurance process.

The assessment component, the Rapid Whole Farm Resource Assessment (RWFRA) uses USDA and university developed indices and similar assessment tools to succinctly describe the resource management of the farm operation for each common management unit. Examples of these tools include the soil conditioning index, soil tillage intensity rating, a phosphorus index, the habitat suitability index, various water quality rankings, and the MinnFarm feedlot water quality index. Several other indices exists that can be applied toward air quality, carbon sequestration and water quality.

Combining this whole farm assessment with that of a governmental and industry accepted conservation delivery system will provide the framework to provide 'reasonable assurance' that on-farm resource management is being conducted in a manner that meets natural resource stakeholders' goals.

This assessment process will be supported by a certification process collaboratively developed with the American Society of Agronomy. Due to the numerical characteristics of this assessment process an on-line reporting system will be developed. Data management practices that allow resource parameters to be collated on a watershed basis will be developed.

This project is part of USDA CIG proposal and has been tested in the field with satisfactory results.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

See response to # 17.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

We have a similar for response as for Question 17.

In the carbon market, the buyer needs assurances that domestic offsets purchased are real, quantifiable, affordable, and achieve the carbon goal. Under any program, establishment of on-the-ground reference plots which standardize the baseline using tested models such as CENTURY, EPIC, etc. provide rigorous baseline measurements which document additional carbon sequestration originating from a given sequestration practice.

ASA believes that the same software, consulting, and combined assessment component could be used to understand and quantify the farm resources, and then verify reduced emissions or soil carbon sequestration later after implementation. First setting the base line for the farm then monitoring or verifying with the same tools so you could compare "apples to apples".

A different certified professional should be engaged so the one who did the assessment is not also doing the verification to avoid any conflict of interest. The code of ethics signed by all American Society of Agronomy and Soil Science Society of America Certified Professionals would preclude the professional's involvement where there exists a potential conflict of interest.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Pre-calculated values will be involved, but Congress should not calculate them but leave it to scientifically trained authorities - e.g. teams comprised of agronomic, crop, economic, forest, soil, and wetland scientists, USDA, EPA and state extension. A standards Committee should be formed which includes such scientific expertise, while also involving and considering input from stakeholder representatives.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Realistic time frames related to the practicality of the stated practice for agriculture and forestry should be develop and implemented. Contracts need to reflect the intentions of the landowner, allowing for some flexibility and the closest approximation of the GHG sequestration/reduction values according to the science and economics.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

All existing programs should be required to meet the new standards as established by Congress or discontinued. Otherwise you will end up with multiple systems with differing standards and not truly gain the goals as stated.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Each farm should be ranked using the Rapid Whole Farm Resource Assessment described in the answer to question 17. Yes, stacking credits should be permitted and encouraged.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

If the practice is covered by a binding contract, then the language in the contract would describe what needs to be done. The practice must be measureable and appropriate.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Congress through legislation sets the policies and the appropriate agency develops the details to implement the programs.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Technical assistance by those who truly understand production agriculture and appropriate funding to implement the best management practices. In a survey done in 2008 by ASA related to nutrient management practices specifically, but conservation practices in general, found that the number one reason why practices were not implemented was funding. There need to be attainable standards, a somewhat stable market price, and solid contracts for ag. and forest offsets in order to overcome these obstacles. .

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

An overall farm plan approach would be most effective in assisting farmers to obtain GHG efficiency and will show where practices can complement each other, giving way to opportune credit stacking. The Rapid Whole Farm Resource Assessment described in questions 17 would help develop the overall farm plan approach.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

The request for a list of practices needs to be accompanied by identification, for each practice, of the site-specific conditions governing the efficacy of the practice, and appropriate limits for those conditions.

The list below is lacking in a box for suggestions regarding managed wetlands. They are a very important part of the GHG cycles.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Forestry:	Moderate	Excellent	Low	High
Forestry: Plant species (such as Longleaf Pine) which have longer life cycles (combines well with extending rotations)	Excellent	Excellent	Medium	Medium
Forestry: Stock at higher densities, where wildlife considerations allow	Excellent	Moderate	Low	High
Forestry: Convert poorly drained soils to wetland hardwood species or reclaim mined lands	Excellent	Excellent	Medium (conversion) to Low (mined land reclamation).	High
Forestry: Using compost, processed municipal waste, course woody debris/residue to amend tree plantations for better soil quality	Excellent	Excellent	Medium	Medium

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
No tillage crop production	Good	Good	Low	High
Conservation tillage > 30% residue coverage following planting--still tilling	Moderate	Good	Low	High
Intensify crop rotations, particularly adding a cereal crop to the rotation	Good	Good	Medium	Medium
Strip tillage	Moderate	Good	Medium	High

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
AMERICAN SOYBEAN
ASSOCIATION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Johnny Dodson

Organization(s) you represent

American Soybean Association

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

President

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

As Congress approaches the climate change issue, the American Soybean Association (ASA) urges a very cautious approach to ensure that U.S. agricultural producers and the industries that we depend on for inputs, processing, and transportation are not disadvantaged relative to our competitors. Congress should be mindful that production and processing capacity can be moved to overseas locations that won't face the increased business costs imposed by climate change legislation, and that remaining U.S. production and processing capacity and exported product can be greatly disadvantaged in comparison to competitors that may not face similar costs.

If Congress or the federal government is going to attempt to address climate change and limit greenhouse gas (ghg) emissions, a cap-and-trade approach would be the least harmful approach in terms of adverse impacts to agriculture. A cap-and-trade approach is more desirable than addressing emissions through a carbon tax or through EPA regulations. A cap-and-trade approach would provide some potential to limit the economic costs of an emissions cap and potentially provide agricultural producers a market to recoup increased energy input costs that will likely be passed along to them.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

The agriculture sector should not be subject to a ghg emissions cap. Agricultural practices should be eligible for any ghg offsets market that is established under a cap-and-trade framework. Agriculture should be exempt from the emissions cap and eligible for the offsets program, because 1) U.S. farmers provide low-cost food and fiber for the world. Additional regulations or compliance costs will result in higher food and fiber costs at a time when increased productivity is needed to meet the demand of a growing world population; 2) due to the number, lack of uniformity, and dispersal of farms, the cost of administering and enforcing an emissions cap on agriculture could cost more than the ghg benefits it would provide; 3) ag offsets are a cost-effective way of reducing or sequestering ghg emissions. Low cost ag offsets will help limit the adverse impacts of the emissions cap on the economy.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

ASA does not have a position on how emissions allowances should be distributed across all sectors. We believe that more free allowances to covered entities would result in lower costs of compliance, but also lower value for carbon offsets. The more allowances that are auctioned, the higher offset prices received, but also the higher costs will be to consumers, including agriculture producers. As energy consumers, farmers will likely be subject to increased input costs due to the caps or regulations placed on energy providers and fertilizer manufacturers.

Allowances for the agricultural sector should be allocated at no cost in order to increase incentives for carbon reduction and carbon sequestration projects.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

ASA does not have a position on this issue at this time.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

If a cap-and-trade program is established, existing government agencies should administer the programs. Specifically, USDA should administer any agriculture offsets program. USDA has the experience and expertise on farming practices and programs as well as an established relationship with farmers that would enable them to most effectively administer any agriculture offsets program.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

ASA would support the CFTC as regulator for carbon under a cap-and-trade program. The CFTC already has proven ability to regulate derivatives, and staff with expertise to do so.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

All methods of trading derivatives should be transparent and reported in a manner available to the public.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

While we have seen very little analysis of the specific impact that a carbon reduction program will have on different sectors, we believe it is likely that as energy consumers, agriculture producers will experience increased input costs. The cost analysis that we have seen indicate that production costs will increase for all crops. The production of fertilizer is likely to be significantly impacted and the increased costs passed onto farmers. Rural areas whose primary source of electricity is produced from coal would also likely experience increased energy costs and have fewer alternative sources of energy production. Similarly, commodity and food processors are likely to be impacted.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Any revenues derived from a carbon reduction program should be provided to those entities and consumers that incur increased input costs as a result of the carbon reduction program. Consideration should also be given to sectors, such as agriculture that produce goods essential to our economy and well-being. Additional funds not returned to consumers or essential sectors should be invested in research and development of renewable energy sources, including renewable biomass.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

Yes, as indicated in the previous response, assistance should be provided to those entities and consumers that incur increased costs as a result of the carbon reduction program.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

The inclusion of public lands could significantly limit the value of agricultural offset credits.

We do believe that care needs to be taken to ensure that private working lands that are used to provide carbon offsets continue to be used to produce food, feed, fiber, and energy. Measures should be established to ensure that working lands are not retired from food production by current landowners (e.g., long-term retirement of productive farmland), or are not purchased by regulated industries and then retired from food and feed production(e.g., farmland purchased by a utility and then planted with trees to provide offsets), in order to produce offsets.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

ASA is seeking additional information to inform our position on this issue.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

ASA has no position.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

ASA believes that a voluntary offset program that compensates farmers for actions that reduce or sequester emissions and allowances that compensate farmers for increased input costs incurred as a result of a carbon reduction program would be most effective for agriculture.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

The total number of offsets should not be limited.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Offsets and allowances should be separate. Congress should not distribute offsets; offsets should be marketed by producers as they do any other commodity.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

The U.S. Department of Agriculture should establish, through rulemaking and public comment process, the offset measurement criteria. ASA believes there should be uniform and consistent measurement accounting criteria. The methods for measuring offsets are still emerging and evolving and we believe that USDA is the appropriate entity to review the practices and establish the criteria. Any legislation should delegate this responsibility to USDA and give it the flexibility to consider and incorporate new technologies.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

ASA does not have enough information at this time to specify the appropriate criteria for assessing offset projects. The criteria should be established by USDA through rulemaking and public comment process.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

USDA should be responsible for verifying agriculture offset projects. USDA could incorporate methods and processes similar to those used to administer and enforce existing crop and conservation programs.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

A standards-based approach would likely be most efficient and effective, as long as USDA is delegated authority to update the standards and values. A project-by-project approach would be extremely cumbersome and costly to administer, and likely would preclude many producers from participating. A standards-based approach should be utilized and project based information used to improve the accuracy of the standards

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Offsets and allowances should be separate programs. There should be both a robust market for selling offsets as well as an allowance pool to mitigate any potential input increases for various sectors.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Existing conservation programs that provide for payments on working lands could be used as a model to address permanence and duration of offsets, including factors such as contract length and flexibility.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Existing projects and practices should be eligible for future government established allowances or offset markets. Early actors should be rewarded, not excluded.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Early actors should be fully eligible for future government allowances or offsets markets. Early actors should be rewarded, not excluded. Farmers should be allowed to stack credits that have multiple benefits that apply to other environmental markets.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

The producer should be eligible to market carbon offsets, even if federal or state assistance was provided for the project, and even if the original intent of the activity was not ghg reductions.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Offset projects should be subject to contractual agreements with the issue of permanence determined according to the type of project. If a project ceases to reduce or sequester carbon, then the payments would end. Producers should not be liable for natural disasters. Insurance could potentially address the potential of natural disasters reversing carbon sequestration.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Legislation should provide adequate parameters, including a list of eligible offset projects. This list would not be all-inclusive and should allow for emerging projects and technologies. USDA should be responsible for devising the protocols and procedures for agriculture offsets. USDA should be given significant flexibility to devise the protocols and procedures.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

The obstacles faced by producers and landowners include cost, absence of a market or market uncertainty, uncertainty surrounding future government policy, liability for carbon release caused by disasters, and the technical uncertainty around issues such as measurement and verification.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon

and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation? *Please respond in 300 words or less.*

Most analysis suggests that significant emissions reductions or sequestration can be provided through agriculture and forestry practices. Therefore, that would suggest that sufficient incentives do not currently exist to spur more widespread implementation of such practices. Additional financial incentives and technical assistance would result in greater participation and implementation of conservation practices.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Biofuels can be a significant means of accomplishing ghg emission reductions. Based on the existing U.S. Department of Energy's GREET model, which measured direct emissions, soy biodiesel achieves a 78% reduction in ghg emissions relative to petroleum diesel.

Maintaining and extending federal policies, such as the biodiesel tax credit, that support biofuels is essential to ensuring that the benefits of biofuels are realized. Stability and certainty are extremely important to the biodiesel industry, given the volatility of the commodity markets that biodiesel production is tied to.

The life-cycle analysis of fuels is of great importance and must be based on established science, and conducted in a fair and accurate manner. Unproven assumptions, particularly those related to indirect emissions and indirect land use, that have been proposed to be included in the life-cycle analyses for the Renewable Fuel Standard, must be more thoroughly vetted. ASA strongly believes that a fair analysis will clearly demonstrate that increased biofuel production in the U.S. is not responsible for deforestation in South America or other parts of the world. The impact of a low carbon fuel standard depends on how it is implemented and how the ghg emissions are measured. We would also note that any inclusion of indirect emissions must also be applied to the petroleum fuel to which the biofuel is being compared in order for it to be a relevant and fair measurement.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
No-till/carbon soil sequestration	Excellent	Excellent	low	high
Cover Crops	Good	Excellent	medium	high
Nitrogen Use Efficiency technologies	Excellent	Excellent	n/a	low
Avoided fossil fuel emissions from substitution for fossil fuel combustion (e.g. liquid transportation fuels, thermal biopower, renewable electrical power	Excellent	Excellent	High	High

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
AMERICAN WIND ENERGY
ASSOCIATION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Denise Bode
Tom Vinson

Organization(s) you represent

American Wind Energy Association

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Denise Bode, CEO
Tom Vinson, Environment Legislative Manager

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

The American Wind Energy Association has supported cap-and-trade legislation. It is a market-based approach that will result in the least cost emissions reductions being pursued. That said, AWEA is also open to a carbon tax or a hybrid approach, but it would depend on the details. For that matter, whether a cap-and-trade program will actually lead to deployment of renewable energy depends on the details of the actual legislation as well. AWEA's focus is on appropriately structuring whatever legislative vehicle is chosen to ensure it will deploy significant quantities of non-emitting renewable energy.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

AWEA has no position on this matter.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

AWEA can only comment on our preference for the renewable energy sector. Our strong preference is for renewable generators to receive an allocation of allowances. This would provide financial recognition for the emission reductions benefits of wind energy. We have supported output-based allocation, where allowances are provided to all electric generators based on megawatt hours generated. As an alternative, we support setting aside a specific percentage of allowances for renewable generators, with distribution based on a formula of at least one allowance for every two megawatt hours.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

AWEA has no position on this matter.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

AWEA has no position on this matter.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

AWEA has no position on this matter.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

AWEA has no position on this matter.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

AWEA has no position on this matter.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

One way to reduce the cost of compliance of any climate program is to deploy renewable energy. A portion of the revenue generated should be used to encourage rapid deployment of existing clean technology to ensure achievable emission reductions and environmental benefits are not delayed into the future, and to reduce the societal cost of achieving those reductions. The deployment of wind energy is itself a cost containment measure.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

AWEA has no position on this matter.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

There are significant renewable energy resources on public lands, including in areas controlled by the Bureau of Land Management, the Minerals and Management Service and, to some extent, the Forest Service. Ensuring that these agencies have reasonable and effective policies for siting renewable energy projects, and adequate staffing to ensure timely review, can play a helpful role in reducing greenhouse gas emissions.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

While the cost of climate legislation is an important concern, efforts to contain costs should first rely on the immediate deployment of currently available, cost-effective options, such as renewable energy technology, as well as market-based mechanisms like banking, borrowing, and offsets.

While the wind energy industry has not taken a position on the exact mix of cost containment provisions or percent of offsets or kind of offsets that should be allowed, we would note there is a concern that unlimited offsets will significantly limit price signals, which could impact the incentive to invest in renewable energy. Government modeling has shown that unlimited offsets would reduce allowance costs by 71 percent. While there is a desire to keep the cost of emission reductions low, there is also a need to allow price signals to be strong enough to drive deployment of the emission reduction solutions, like wind energy

To the extent that additional cost-containment options are under consideration, the details should be carefully developed so as not to unduly limit the incentive to invest in non-emitting energy technologies. If any type of limit on carbon price limitation (i.e., a safety valve or a strategic reserve of allowances to be auctioned with or without a reserve price) is included in cap and trade legislation, it makes separate and complementary provisions in the allocation and auction revenue sections even more important to ensure that incentives to encourage deployment of carbon-free renewable energy are not undermined.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

AWEA has not position on this matter

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

AWEA has no position on this matter.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

See response to question 12.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

AWEA has no position on this matter.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

AWEA has no position on this matter.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

AWEA has no position on this matter.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

AWEA has no position on this matter.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

AWEA has no position on this matter.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

AWEA has no position on this matter.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

AWEA has no position on this matter

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

AWEA has no position on this matter

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

AWEA has no position on this matter

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

AWEA has no position on this matter

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?

Please respond in 300 words or less.

AWEA has no position on this matter

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

AWEA has no position on this matter

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

AWEA has no position on this matter

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

AWEA has no position on this matter

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
ARCADIA BIOSCIENCES
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Eric Rey

Organization(s) you represent

Arcadia Biosciences

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

President and CEO

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Congress should address climate change and limit greenhouse gas (ghg) emissions through a cap-and-trade framework. A cap-and-trade approach would be the least costly way to reduce ghg emissions. A cap-and-trade approach is more desirable than addressing emissions through a carbon tax or through EPA regulations. A cap-and-trade approach would provide some potential to limit the economic costs of of an emissions cap and potentially provide agricultural producers a market to recoup increased energy input costs that will likely be passed along to them.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

The agriculture sector should not be subject to a ghg emissions cap. Agricultural practices should be eligible for any ghg offsets market that is established under a cap-and-trade framework. Agriculture should be exempt from the emissions cap and eligible for the offsets program, because 1) U.S. farmers provide low-cost food and fiber for the world. Additional regulations or compliance costs will result in higher food and fiber costs at a time when increased productivity is needed to meet the demand of a growing world population; 2) due to the number, lack of uniformity, and dispersal of farms, the cost of administering and enforcing an emissions cap on agriculture could cost more than the ghg benefits it would provide; 3) ag offsets are a cost-effective way of reducing or sequestering ghg emissions. Low cost ag offsets will help limit the adverse impacts of the emissions cap on the economy.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Emissions allowances should be distributed through a combination of auctioned and free credits. Allowances for the agriculture sector should be at no cost.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Arcadia does not have a position on this issue at this time.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

If a cap-and-trade program is established, existing government agencies should administer the programs. Specifically, USDA should administer any agriculture offsets program. USDA has the experience and expertise on farming practices and programs as well as an established relationship with farmers that would enable them to most effectively administer any agriculture offsets program.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

Arcadia would support the CFTC as regulator for carbon under a cap-and-trade program.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

Arcadia would support the allowance of derivatives markets in carbon reduction.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

While we have seen very little analysis of the specific impact that a carbon reduction program will have on different sectors, we believe it is likely that as energy consumers, agriculture producers will experience increased input costs. The production of fertilizer is likely to be significantly impacted and the increased costs passed onto farmers. Rural areas whose primary source of electricity is produced from coal would also likely experience increased energy costs and have fewer alternative sources of energy production.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Any revenues derived from a carbon reduction program should be provided to those entities and consumers that incur increased input costs as a result of the carbon reduction program. Additional funds not returned to consumers or essential sectors should be invested in research and development of clean or green technologies and clean renewable energy sources.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

Yes, as indicated in the previous response, assistance should be provided to those entities and consumers that incur increased input costs as a result of the carbon reduction program.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Management of public lands should take into consideration options for reduction of carbon emissions and/or increased sequestration of carbon.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Carbon prices should be determined by market forces.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

It is not clear to us that there are lessons from the ETS that are directly releant to agriculture, particularly since agriculture has not been directly included. While there are numerous international programs directed towards carbon sequestration through agriculture and forestry, to our knowledge the number of programs directed towards reduced emissions from agriculture are quite limited. We believe that the IPCC has approved at least one methodology for reduced emissions from animal agriculture, and in 2008 the IPCC approved one limited methodology for reduced emissions from crop agriculture based on the use of seed inoculants in soybeans to reduce application of nitrogen in the form of urea. We believe that it is significant that this particular methodology appears to calculate carbon credits which include those associated with reduced emissions from urea manufacturing.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

Arcadia believes that a voluntary offset program that compensates farmers for actions that reduce or sequester emissions would be most effective for agriculture.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

The total number of offsets should not be limited.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Offsets derived from agricultural practices should be a priority.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

The U.S. Department of Agriculture should establish, through rulemaking and public comment process, the offset measurement criteria. Arcadia believes there should be uniform and consistent measurement accounting criteria, and, to the extent possible, these

criteria should be consistent with criteria under internationally-established systems. The methods for measuring offsets are still emerging and evolving and we believe that USDA is the appropriate entity to review the practices and establish the criteria. Any legislation should delegate this responsibility to USDA and give them the flexibility to consider and incorporate new technologies.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

We believe the criteria for assessing offset projects should be the amount of emissions reduction achieved relative to an established baseline of emissions that occurred under previous practices. The criteria should be established by USDA through rulemaking and public comment process.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

USDA should be responsible for verifying agriculture offset projects. USDA could incorporate methods and processes similar to those used to administer and enforce existing crop and conservation programs.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

We believe that a standards-based approach is highly likely to be more efficient to implement and administer. We believe that ongoing direct measurement of field results is impractical.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Offsets and allowances should be separate programs.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Existing conservation programs, such as CRP could be used as a model to address permanence and duration of offsets, including factors such as contract length and flexibility. However, we believe that opportunities for emissions reductions (as opposed to sequestration) should be specifically recognized, and that any offsets earned through such reductions should be considered permanent.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Existing projects and practices should be eligible for future offset markets established by the federal government, if those practices meet the criteria. Early actors should be rewarded, not excluded.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Early actors should be fully eligible for future government offsets markets. Early actors should be rewarded, not excluded. Farmers should be allowed to stack credits that have multiple benefits that apply to other environmental markets.

Consistent with the position that credits should be stackable, we believe that additionality tests are difficult to apply to agriculture and would ultimately reduce the opportunity to achieve emissions reductions.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Arcadia has no position on this issue.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Offset projects should be subject to contractual agreements with the issue of permanence determined according to the type of project. If a project ceases to reduce or sequester carbon, then the payments would end. Producers should not be liable for natural disasters. Insurance could potentially address the potential of natural disasters reversing carbon sequestration.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Legislation should provide adequate parameters, including a list of eligible offset projects. Reduction in nitrogen fertilizer use or increase in nitrogen use efficiency should be specified as an offset eligible practice. This list would not be all-inclusive and should allow for emerging projects and technologies. USDA should be responsible for devising the protocols and procedures for agriculture offsets. USDA should be given significant flexibility to devise the protocols and procedures.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

The obstacles faced by producers and landowners include cost, absence of a market or market uncertainty, uncertainty surrounding future government policy, and the technical uncertainty around issues such as measurement and verification.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Most analysis suggests that significant emissions reductions or sequestration can be provided through agriculture and forestry practices. Therefore, that would suggest that sufficient incentives do not currently exist to spur more widespread implementation of such practices. Additional financial incentives and technical assistance would result in greater participation and implementation of conservation practices.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Nitrogen Use Efficiency technologies	Excellent	Excellent	TBD	Low
	TBD			
	TBD			

RESPONSE TO QUESTIONNAIRE SUBMITTED BY ARCHER DANIELS MIDLAND COMPANY

Archer Daniels Midland Company
[Redacted]
Washington, DC 20005

April 10, 2009

The Honorable Collin Peterson
Chairman, House Committee on Agriculture
1301 Longworth House Office Building
Washington, D.C. 20515

Dear Chairman Peterson:

On behalf of our CEO, Archer Daniels Midland Company (ADM) appreciates being included as a stakeholder in the global climate change discussions being held by the House Committee on Agriculture. We also appreciate the Committee wanting a better understanding of the related issues and concerns of all stakeholders in this important debate.

Every day, ADM processes more than 2 million bushels of corn, 1 million bushels of wheat, and 3 million bushels of oilseeds to meet the demands of a growing world. As the operator of one of the world's premier crop origination, processing and transportation networks, ADM understands that responsible, sustainable business practices are essential to meeting the world's growing needs for food and energy and to the ongoing success of our business.

However, like many other companies, we are still in the assessment phase of determining our global carbon footprint and believe it would be premature to answer the Committee's questionnaire at this time. Nonetheless, we will be contributing to a response by the National Oilseed Processors Association (NOPA) of which we are a member.

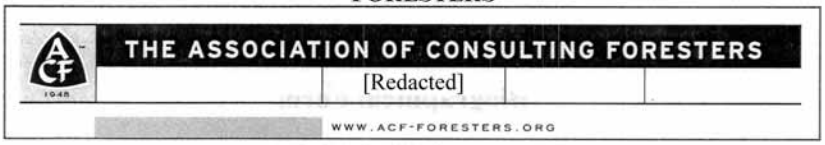
Given our investments in the Midwest and position in the agricultural value chain, we both want to see agriculture succeed. We share a deep pride in American agriculture and American agriculture is lucky to have your strong voice in the Congress.

Thank you again for including ADM as a stakeholder in the climate change discussions being held by the Committee.

Sincerely,

Shannon S. Herzfeld
Vice President for Government Relations
Archer Daniels Midland Company
[Redacted]

RESPONSE TO QUESTIONNAIRE SUBMITTED BY ASSOCIATION OF CONSULTING FORESTERS



United States House of Representatives Committee on Agriculture

Federal Carbon Reduction Program Survey Response

By

The Association of Consulting Foresters of America (ACF)

April 8, 2009

About ACF:

The Association of Consulting Foresters of America, Inc. (ACF) was founded in 1948 to advance the professionalism, ethics, and interests of professional foresters whose primary work was consulting to the public. ACF is the only national association for consulting foresters. Currently, there are more than 675 members in 38 states.

ACF is organized into state or multi-state chapters located in most forested regions of the U.S. There are 26 chapters which hold regular meetings and pursue regional issues. A national office is maintained in the Washington, DC area to pursue national level issues and interact with other organizations involved in forest management.

ACF members operate in corporations, partnerships, and sole proprietorships with 1 to 100+ employees. Many are general foresters while others have professional specialties within forestry. Clients include landowners, forest industries, investment & financial industries, attorneys, government agencies, bankers, trusts, Native American corporations, and many others. Many operate within their own localities, while others consult worldwide. ACF also has members in Canada, the United Kingdom, Ireland and France.

Biographical Form

Survey completed by:

Lynn C. Wilson, Executive Director
Executive Director
Association of consulting Foresters

[Redacted]

Mr. Matthew Smith, ACF, CF, EMS-A
volunteer, member of ACF
Director of Ecosystem Services
FORECON Inc.

[Redacted]

(biography attached)

Survey Responses:

1) **Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?**
Please respond in 600 words or less.

Both cap and trade and carbon taxes or fees effectively allocate the cost of emitting greenhouse gases to the atmosphere to those that emit the pollutants. *ACF believes that the use of a cap and trade system is more desirable than a carbon tax* as a programmatic solution to this problem for the following reasons:

- Cap and trade allows for the realization of net reductions in emissions through a wide array of reduction options including: point source reductions, purchase of allowances, and the use of offsets.
- Cap and trade allows emitters to seek out the lowest cost, most effective solution to compliance, thereby mitigating the economic impact of reduced emissions in the future.
- Cap and trade allows for the use of offsets which, if designed properly, can enhance the economic opportunities in rural communities, encourage sustainable agricultural and forestry practices, and reduce changes in land use that may contribute to greenhouse gas (ghg) emissions.
- By controlling the ultimate costs of realizing ghg reductions, the use of cap and trade could mitigate the negative economic consequences of ghg reductions on goods and services to American citizens.

2) **Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?**
Please respond in 300 words or less.

In order to effectively realize reductions in ghgs a Federal cap and trade program must identify those sectors, industries, municipalities, or individuals that represent the most significant emissions.

ACF supports the establishment of *de minimus* levels of entity wide or operational emissions levels, below which, organizations, industries, or individuals would be exempt from ghg reduction requirements. Examples of this type of approach are evident in many of the current voluntary programs and markets for ghgs (such as the Chicago Climate Exchange). This minimum emissions level approach allows for the recognition of significant emitters of ghgs without singling out a specific sector, industry, or individual.

It should be noted that under the current voluntary carbon reduction programs, most forestry and agricultural programs are exempt from status as a direct emitter.

3) **If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?**
Please respond in 600 words or less.

Allowances for emitters should be distributed equitably to groups of emitters with similar emissions profiles. Within these groups, allowances should be auctioned. The end result would be the blended average allowance price for those units issued. Funds generated by the auction can be used to cover program administration, program or technical assistance, education, and other support efforts.

Under the de minimus recommendation provided in item 2 above, most forestry and agricultural operations would be exempt from consideration as direct emitters of ghgs. Those operations whose emissions exceed the de minimus limits would be very large, unique, or those operations that include large manufacturing facilities. As designated direct emitters, these entities should also be grouped with other emitters of similar impact across other sectors to participate in the auction of allowances.

4) **Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?**
Please respond in 600 words or less.

ACF believes that there has been a tremendous amount of innovation and experimentation in the voluntary carbon space in the last decade. The absence of a regulatory program for ghg reductions here in the U.S. has resulted in a flurry of voluntary programs, standards, and markets over the past 8-10 years. These efforts have developed fairly autonomously, resulting in a highly variable set of policies, processes, requirements, and obligations for participants. The result of this era of development has been a somewhat confusing array of approaches to mitigation and especially offset development in the voluntary space. As a result, a "link" to a current program may not be advisable, however, considering and recognizing the early actions and innovation provided by these programs in the past as the Federal program takes shape is strongly encouraged.

The evolution in carbon policies and processes has resulted in some programs that are extraordinarily rigorous and costly to participate in to programs that have more open policies and lower participation and enrollment costs. Consequently, there is a tremendous difference in the perceived "quality" of reductions or offsets realized under one program or market vs. another.

Federal officials charged with the development of the regulatory program for ghg reductions should capitalize on the early action, project precedence, innovation, and mistakes experienced in the voluntary space over recent years. ACF believes that for the agriculture and forestry community, that means a blended set of Federal ghg policies,

derived from current voluntary programs. ACF also believes that in order to realize the maximum value in the forestry and agriculture sectors, these policies must be *scientifically correct, technically accurate, and economically feasible*.

In order to achieve this objective regarding the recognition of specific voluntary programs and markets in the forthcoming Federal program, those programs and markets that have developed a policy structure that parallels the Federal policies should be recognized. It may be possible to recognize most prominent voluntary programs (i.e. RGGI, CCAR, CCX, VCS, CCB, and others) through a process of crediting that discounts the early action under these programs in an equitable manner, considering how divergent the voluntary program's requirements are from the final Federal program structure.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

ACF endorses the concept of regulating ghgs within the current governmental structure. The administration of a Federal ghg program should be modeled on the successful regulation of the SOx and NOx programs over the past two decades.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

ACF has no comment on this issue.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

ACF has no comment on this issue.

8) **Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.**

Please respond in 600 words or less.

The shift to a low carbon economy in the U.S. will undoubtedly have both positive and negative impacts on our society. Of course, the ghg reduction targets, program flexibility, program fees, cost of carbon, and ghg reduction options included in the Federal program will heavily influence who is most affected, and to what degree.

ACF believes that the forestry and agricultural sectors stand to be affected through the costs of goods and services such as fertilizers, fuels, power, and the costs of ghg reductions should they be subject to a cap. Any Federal policy must address these potential negative impacts on rural communities, especially in consideration of the current economic condition in these regions.

As a result of these potentially negative economic impacts on rural communities, forest and farm owners will be under increased pressure, struggling to manage their lands with increased operational costs. This economic pressure can result in the inability of some landowners to manage sustainably for the future, resulting in potential conversion of open space to other land uses, and a reduction in the social (jobs), economic (commodities) and environmental (ecosystem services) benefits provided by our nation's rural lands.

ACF strongly encourages policy makers to carefully measure the economic, social and environmental benefits and costs associated with ghg reductions. The ACF believes that sound ghg policy options exist that can maintain or enhance the strengths of rural landowners and communities while achieving positive climate change results.

9) **How might revenue generated under a carbon reduction program be best used to offset any negative impacts?**

Please respond in 300 words or less.

ACF supports the development of a Federal program that considers rural landowners and the burdens it places on their interests for the future. We also understand that regardless of the final policy decisions, some landowners will be influenced more severely than others. As such, the Federal government will need to be positioned to offer assistance in the form of education, facilitation, low cost loans, cost sharing programs, and other forms of assistance as landowners in the agricultural and forestry sectors make the transition to the Federal program requirements. Funds generated through the development of the Federal carbon reduction program could be used to implement these programs.

It should be noted that as the Federal government considers the use of funds from the program, the ACF strongly discourages the use of these funds to create opportunities for the government to compete with private sector interests in the area of carbon offsets.

10) **Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?**
Please respond in 300 words or less.

Managing the economic consequences of a Federal cap on ghgs is the cornerstone to a successful program. Realizing the added costs of goods, services, and program compliance could have catastrophic economic consequences to some businesses. ACF is particularly concerned with the family farms and forests in the U.S. in this regard. Farm and forest owners are already under significant economic, social, and regulatory pressures today. Adding to this the costs of a lower carbon economy could have wide ranging impacts on the economic viability of farming and forestry as a land use practice and business.

ACF supports the development of a Federal program that considers rural landowners and the burdens it places on their interests for the future. A successful plan to manage the economic burden of a nation wide ghg program should include assistance mechanisms for businesses affected either directly or indirectly.

11) **What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?**
Please respond in 300 words or less.

The role public lands should play in carbon programs has been a hotly debated topic in the voluntary space. To date, the perceived role of public lands in carbon reduction programs has been in one of two areas: as a tool to bring municipalities into compliance with a cap, or as an offset opportunity.

ACF does not oppose the use of public lands as a sequestration tool to mitigate the ghg impacts of Federal or municipal interests that emit ghgs. Regarding the use of public lands as true offsets, ACF does have significant reservations. One of the key policy filters influencing the eligibility of offset projects currently is additionality. This commonly used term in the carbon space has many interpretations such as financial, business as usual, base year, activity based, and regulatory (as well as others).

Of particular relevance to the eligibility of public lands as offsets is the impact of regulatory additionality. It is this core interpretation of additionality that has precluded the participation of public lands in the voluntary carbon markets to date. Essentially, this policy means that, because the activities that take place on public lands are governed by laws, resulting in sequestration that cannot be considered in addition to regular practices, the carbon sequestered by them is non additional. ACF agrees with the current treatment of public lands in today's voluntary carbon programs, precluding their participation as true offset projects.

12) **Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.**
Please respond in 600 words or less.

ACF believes that the primary driving forces in setting the price of carbon should be supply and demand. The open market approach will allow emitters and producers to balance the costs of point reductions with the use of other tools such as the purchase of additional allowances or offset credits, seeking the lowest possible cost solutions over time. ACF believes that this situation of open supply and demand should be the ultimate goal, but one that may not be achieved without temporary price controls early in the program.

If we review the brief history of both mandatory and voluntary markets for carbon around the globe we can see that these young markets have, as a group, been quite volatile. Large swings in pricing and trading volume have been experienced by these markets as program administrators, emitters, and offset producers gain knowledge, make mistakes, identify programmatic inadequacies, and build experience. This volatility has led to lower consumer confidence, social pressures for increased rigor in carbon programs, a call for additional regulation, and others.

Based the lessons learned from these young but established markets, some cost control mechanisms may be desirable in order to avoid this market volatility in the early years of the Federal program. Price increase or decrease limits by percent, threshold policies targeted on price limits, or other tools could be used to gradually build market structure and confidence over the initial phase(s) of the market. Eventually, as the market stabilizes, these controls may be relaxed or removed, allowing the market to fully govern the pricing of ghg instruments. Programs using these types of controls include the RGGI and the CCX.

13) **What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?**
Please respond in 600 words or less.

The EU ETS has led the way with the most robust market for mandatory climate change instruments globally. As a leader in this new realm, much of what the EU ETS has done can be referenced for the successes and failures it has experienced. Listed below are some key lessons learned from the brief trading history in the EU:

- Base emission caps on high quality data and levy reduction requirements against those sectors that represent significant volumes of emissions.
- Program rules should be consistent, predictable, and transparent across all sectors.
- The program should be manageable in scope and efficient throughout.

- The program should include an initial pilot phase of implementation and should be adaptive over time.
- Program compliance and participation should be simple, with initial and ongoing program administrative cost requirements kept to a minimum.
- Revenues generated through the auctioning of allowances should be used to finance programs to encourage participation and implementation.

As we look at carbon reduction programs internationally, it is evident that both forestry and agricultural practices have taken a back seat to offset activities resulting from "green technologies." In fact, the only bright spot for terrestrial offsets in reduction programs around the globe is the use of tree planting or afforestation projects. This is largely due to the clearly additional activities associated with planting trees in open spaces, the ease of quantification, and the ease of verification of the climate change benefits of planting new forests.

When considering other terrestrial offset opportunities in agriculture and forestry like forest management, forest protection (REDD), no till, and grasses, we find that these project types do not fit as cleanly into the Kyoto based ideologies of additionality, permanence, leakage, etc. As a result, viable rule sets for these activities have been part of the dialogue internationally, yet slow to gain traction. It is apparent however, that the international community appreciates the significant role that agricultural and forestry play in managing our climate. Most programs continue to seek methods to integrate some or all of these practices into their reduction efforts.

Terrestrial offsets such as forestry and agriculture present the U.S. with tremendous opportunities to sequester atmospheric carbon using natural processes. These activities not only provide society with climate change benefits, but a host of ancillary benefits including; clean water, biodiversity, habitat, esthetic landscapes, cultural values, recreational values, rural economic opportunities, and many others. In fact, terrestrial offsets provide exponentially more environmental values to our society than clean technology projects. *ACF strongly encourages Federal policy makers to lead the way for agricultural and forestry offset policy. In order to realize this goal the Federal government should network with professionals working in the voluntary carbon space to develop and apply sound rules to recognize the enormous potential of these terrestrial offset types.*

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) **What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?**
Please respond in 600 words or less.

Ideally, agriculture and forestry offset projects should be recognized along side other offset types in the Federal program. This effort would guarantee a place for these offsets into the future under a U.S. ghg reduction program. In order to accomplish this task, equitable, efficient, practical, credible, and transparent performance standards will need to be developed to recognize the carbon instruments or credits generated by agriculture and forestry. These protocols must do so in a manner that ensures that the units generated by these terrestrial offset projects are equivalent to green technology offsets in the mandatory program. This approach will yield higher values for offsets from agriculture an forestry, fully recognize the offset values of these offset types, and maximize the returns from these offsets for rural communities and the environment.

Depending on the nature of the cap placed on ghg emissions by the U.S. government, a voluntary market for non compliance credits could exist. As evidenced by the European model, demand for voluntary carbon offset credits can exist along side a mandatory market. This could be a viable option for some forestry and agricultural credits for the future in the US. The positive side of this possibility is a potential market for terrestrial offsets into the future. The down side of the voluntary solution, is that the consumer base in the non regulated sectors may not be very large, leading to reduced prices for carbon instruments when compared to the mandatory markets. Also, there is a risk that other offset types could satisfy the demand on the voluntary market without the consideration of agriculture and forestry projects.

15) **Should the total number of offsets issued annually by the government be limited? If so, how much?**
Please respond in 300 words or less.

The voluntary market has several models for the limitation of offsets. Most notable is the use in limits on the volume of offsets used by emitters to reach the reduction commitment (as used in programs such as the CCX and RGGI). Essentially, there are no limits to offset production. There are however limits to offset use.

Offsets provide emitters with a potentially low cost mitigation solution as new point source reduction technologies are under development. Considering the potential negative economic impact of carbon reductions on the U.S. economy, the role of offsets is critical to mitigating the cost impacts to consumers for goods and services. It is

therefore the recommendation of ACF that at least initially, emitters be permitted to realize a 15% to 20% reduction from the purchase of domestic offset credits. As the real reduction requirements for emitters rises over time, this threshold could gradually decrease over time, shifting the burden to real point source reductions as new technology and innovation becomes available and financially attractive.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

ACF advocates for little control of the issuance of offset credits by the government. In accordance with item 15 above, by allowing all emitters to use offsets to meet a maximum percentage of their reduction requirements, no controls by the government are required. Eligible offset projects that have registered units available can trade allowances with emitters in an open market forum with the only limits governed by the amount that can be used by each emitting body.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

Voluntary carbon programs have proven that the policies adopted for quantification, verification, and monitoring are core critical to developing an economically feasible, credible, and transparent offset program. With over 60% of the nation's private forests in ownerships of 100 acres or less, managing the cost implications of these policies is a huge factor in making the carbon market viable for the private sector landowner. Based on our review of the current carbon programs, solutions to these three items are provided below for your consideration.

Quantification

ACF endorses the use of the most transparent, scientifically credible, and economically feasible means by which to quantify, verify, and monitor forestry projects.
The goal of a Federal ghg offset policy should be to provide a defined level of accuracy and precision to satisfy market and regulator demands while avoiding excessive requirements that would create costs out of proportion to the value of the carbon credits.

When reviewing the quantification methods used in early voluntary programs, there are many models to reference, some are very rigorous, while others require less effort. Perhaps the easiest solution for forest quantification is the yield or look-up table. Look-up tables, while inexpensive and easy to use, are a reflection of average growth rates across a species and region and can be significantly inaccurate for a specific project area. The more desirable and rigorous solution for forestry would be direct measurement.

Direct measurements, done by a competent forester using standard inventory techniques or new technologies such as remote sensing, are more accurate, and the more plots measured, the less the uncertainty in the growth or carbon sequestration rates. This obviously raises the issue of cost versus precision.

Verification

ACF strongly believes that forest and agricultural offsets can only result in real climate change benefits if they are guaranteed to be equivalent to reduction in point emissions. In order to guarantee equivalence in the mandatory program, policies and procedures must be developed that set the appropriate level of rigor for program components, and project participants (on both the supply and demand sides of the market) must be verified for compliance with the program performance standards.

Under a mandatory program, verifications become a matter of compliance with the law. As such, verifiers should be trained, credentialed, and if needed, certified to perform verifications of either carbon emissions or sequestration by offsets. Verifications should follow a defined process for implementation and reporting and should be performed by independent parties, or potentially by government officials. This process may be modeled after the International Standards Organization or ISO process.

Of particular interest in producing a verification requirement for forestry and agricultural projects is the cost of verification. Policy makers should appreciate that overly onerous verification requirements can lead to the elimination of many offset projects due to the economic impact of this cost. *As a result, ACF recommends that verification periodicity be determined in accordance with offset project productivity.*

Monitoring

Monitoring is defined as the periodic re-measurement of project performance. This activity has also been proven to represent a significant cost hurdle to some terrestrial offset projects. The activity impacts the economic viability of some projects depending on both the intensity of monitoring activities and the periodicity of required field measurements. Forests grow fairly slowly, and although it is possible to re-measure plots annually, the effort probably does not improve the quality of the inventory enough to make the expense worthwhile. Many markets can use longer time periods between measurements by allowing participants to use validated growth models to report estimated annual carbon stock changes. *ACF endorses the concept of using direct measurement techniques at the project level combined with modeling solutions that allow forest owners to stretch the measurement periods out to intervals that make economic sense and can maintain credible estimates of carbon accrual. In most instances this would be between 8 and 12 years.*

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

ACF is focused on opportunities for privately held forestlands in the US. As such, our comments for this item will be specific to this demographic. ACF endorses the concept that only credible, high quality offset projects can be recognized as eligible under a mandatory cap and trade program. *ACF believes that only those forestry projects that can be clearly defined and transparently measured in terms of net carbon change should be included in a climate change program. These projects should include the following project types and should be subject to the following policy options.*

Forestry Project Types

- *Afforestation.* Planting trees after January 1, 1990, on land that has been in a non-forest land use for a number of years.
- *Reforestation.* Planting trees after January 1, 1990, on land that had previously been in forest but has lost forest cover and is not recovering naturally. Severely burned western forests may qualify under this definition if they show no recovery after a time period.
- *Forest management.* Managing a forest to protect and/or enhance carbon stocks. Reporting forest management normally requires forest-wide reporting.
- *Forest products.* Providing credit for harvested wood. (This is usually connected to forest management and the periodic harvesting of forests.)
- *Forest conservation or protection.* Preventing a land-use change that would destroy or degrade an existing forest, such as conversion to agricultural or development uses.

Preferred Forest Policy Options

All five forestry practices should be included in a national program, with the following rules:

- *Afforestation.* Planting trees on suitable land that has been in another land use for 10 or more years (including riparian forests, windbreaks, mined land reclamation, etc.).
- *Reforestation.* Planting trees on former forestland where forests damaged through natural events if they have not begun to regenerate after two years.
- *Forest management.* Managing forests sustainably under either a sustainable forest management standard or other suitable criteria
- *Forest products.* Providing credit for the carbon that remains out of the atmosphere in harvested forest products at the end of 100 years. Carbon credit values and their assignment can be determined between a landowner and a timber buyer via contractual arrangements.
- *Forest conservation.* Protecting forests from land-use change with conservation easements, contracts, or other legal instruments.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Based on lessons learned in the voluntary market for forestry offsets, managing the costs of periodic verifications is critical. Verification programs should be transparent, defined, regular, replicable, and efficient. These items are critical to ensuring compliance and to managing the costs of verification programs for project owners. Project owners would benefit from clearly stated performance standards and verification criteria, resulting in less judgment and interpretation in requirements to ensure compliance.

From a logistic standpoint, a great deal of the costs associated with verifications are the costs of getting the verifier to the project or verification site. This is particularly costly for forestry and agricultural projects that are remote and or spread out geographically over large areas. In consideration of this nuance for terrestrial offsets, ACF endorses the concept of using local resource professionals from both the public and private sectors (such as ACF foresters) to conduct agricultural and forestry verifications country wide. With the appropriate training and credentialing, these local experts can reduce verification costs, and bring local expertise to bear for project sites serving as offsets.

Another means by which the costs of verifications could be mitigated is to subsidize the costs with revenues generated by the government as a result of the carbon reduction program. This would greatly ameliorate the cost to project owners and expand the opportunities for smaller rural offset projects to participate in the program.

Any verification program implemented in the Federal carbon program should include a system of verification and verifier approval, review, and oversight. Ensuring the transparent, credible, and ethical verification is critical to maintaining the integrity of the Federal program.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

While any Federal program should contain standards for eligibility of offsets, there are significant benefits to relying on real field results at the project level. One of the significant benefits of the voluntary program has been the tremendous amount of innovation in offset project techniques. This has also led to a wide array of project qualities and differences in precision of carbon calculations. *ACF endorses the concept of assessing offset eligibility and performance based on specific measures related to the unique characteristics of each project.* We believe that forestry and agricultural offsets can produce real and measurable climate change benefits. Experience in the voluntary space with standards based approaches has led to reduced consumer confidence, and

understatements in carbon potential for some offset types. If policies are structured in such a manner as to be reasonable, efficient, and credible, basing offset eligibility and productivity on a per project bases on field measurements is the optimal and equitable solution.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

ACF believes that one unit of sequestration should be equivalent to one unit of emissions. For forestry and agriculture, quantifying one equivalent unit presents some challenges. Forest carbon stock changes are typically derived from statistical sampling (direct measurement), reference tables, or models and are thus less accurate than gas emissions measured in a meter. As a result, it is reasonable to expect that forestry and possibly agricultural carbon estimates should be adjusted in some way as a result.

Historically, concerns over forestry equivalence have often prompted decision makers to respond by saying, "If it's too complicated to understand, or if it's uncertain, let's avoid it." This approach has had a dampening effect on potential forest projects, such as managed forestry in the past. Significant discounting because of uncertainty provides a disincentive, particularly at low offset prices.

In the voluntary market, proposals have been made to discount forest credits across the board to protect against uncertainty or impermanence. Some forms of insurance or reserves have also been utilized. Most forestry project proponents have encouraged project planners to make carbon stock measurements, calculations, and projections intentionally conservative so that any imprecision is more likely to benefit the environment than to incur a deficit.

For managed forest offset projects, ACF suggests that the Federal program require that forest inventories be based on sound forestry standards and minimum statistical assurances. Policies should encourage inventories designed to produce high levels of precision and accuracy, while balancing the economics and practical nature of inventory programs. Base the discount on the growth component of change in carbon stocks on the actual measured error of the forest inventory. If project owners want to invest in more accurate and precise inventories that provide for a lower error, they should be allowed to apply a discount that matches it. Require calibration of growth models to continually adjust the difference between the actual harvest and the planned (modeled or inventoried) harvest.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

The permanence challenge is complicated by the natural dynamics of forest ecosystems and the long-term social and economic forces that affect forest management. One

popular approach to address this problem is to require a perpetual conservation easement on the forest project lands. In the United States and other developed countries, this may provide protection against land-use change, but it has no force against catastrophic disturbances that may destroy the forest carbon stocks. Furthermore, if conservation easements mandate prescriptive forest management practices based on current technology or requirements like mandatory reforestation, they may create future barriers for meeting additionality requirements.

ACF believes that a more promising approach is to enter into short-term contracts with landowners to sequester and maintain forest carbon stocks. These contracts protect the buyer of carbon credits from loss during the contract period. If the forest carbon stocks are lost, the buyer must be reimbursed for that loss. At the end of the contract, the buyer (emitter) is still liable for those emissions and must either cover those obligations by repurchasing forest credits that are still valid or find other sources of offsets.

A similar approach to managing forest carbon permanence would be to assign liability for forestland carbon stocks, both increases and decreases, to the landowner of the carbon asset being registered, not the land. The landowner can then use various options to mitigate any losses or decreases in registered forest carbon stocks and capture value from the carbon via "market mechanisms" under any future cap-and-trade carbon trading program. Forestland owners could then use one or more of the following options to address permanence:

- *Banking.* Depositing some or all of any annual carbon stock gains as a hedge against future reductions.
- *Insurance.* Indemnification against carbon stock losses, wherein the insurer would provide a payment that could be used to purchase replacement carbon reduction units (credits).
- *Pooling.* Bringing a wide variety of projects together to reduce the risk for each owner. The larger and more diverse the pool, the less likely it is that one disturbance will affect all projects.
- *Like-kind pools.* Forest carbon management units created to act as a replacement reserve.
- *Physical risk management.* Methods to reduce the risk of fire, pests, and other *force majeure* risks.
- Force majeure *safe harbor.* Provisions to allow carbon stock losses due to fire, wind blow-down, disease, and pest damage to be subtracted from the inventory baseline, without the recording of emissions, if the landowner re-grows (regenerates) the carbon stocks to the levels equal to the amounts lost. Such increases would be considered not additional but a replacement for the lost carbon stocks. As the replacement stocks are generated, they would be added to the baseline until the full loss is replaced.

One program that employs this type of approach is the Chicago Climate Exchange or CCX. The CCX calculates both emissions and offset credits on a "vintage year" basis. That is, emissions in 2004 must be covered by a forest carbon credit that was valid for

2004. Once retired, that forest carbon credit must be maintained for a long time to remain valid as a 2004 offset. If the forest contract ends, the emitter is responsible for finding a new credit to continue the long-term obligation of offsetting those past emissions.

Forest carbon credits that are used to offset industrial emissions should be maintained in place for long periods of time. Where that is not feasible, short-term (five- to 15-year) contracts that guarantee the validity of the credits for the contract period should be considered. An emitter that purchases a short-term contract remains liable for the offsets claimed and at the end of the contract must either extend the forest credits or purchase replacements to cover the emissions liability. Market pricing in a trading system will establish the value of these short-term contracts in consideration of permanent offsets. An alternative is to assign liability for forestland carbon stocks, both increases and decreases, to the owner of the carbon asset being registered, not the land. This will enable the landowner to use various options, such as banking, insurance, and reserve carbon pools, to mitigate any losses or decreases in registered forest carbon stocks.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Those projects that have been developed in the voluntary market represent early action by forward thinking, responsible, and innovative individuals or organizations. As early actors in the carbon space, these project owners should be recognized for their contribution and for setting important precedence for how offsets can or should be developed. *ACF strongly encourages the Federal government to grant recognition to credits generated and traded in the early voluntary programs.*

For voluntary carbon offset credits that have been registered, verified, and have not yet been traded, some considerations may be needed. This process should recognize the level of synergy between the existing project structure and qualities vs. those required by the mandatory program. In some cases it may be reasonable to expect that the wide array of banked or non traded voluntary carbon credits generated to date should be recognized, but possibly under a discount under the mandatory program in proportion to their similarity with the Federal requirements.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

When considering early actors in the offset market, project owners should not be penalized due to a change in interpretation on items such as additionality. Perhaps the

most highly debated policy in the carbon realm is that of additionality. Participants in the early voluntary programs frequently comment that there are as many interpretations of additionality as there are programs, standards, and markets.

As was stated in item #23 above, the grandfathering of historically registered, verified and traded credits is recommended for project types considered marketable under the Federal program. For registered, verified credits that have been banked or not traded, the application of some discounting process based on the project qualities when compared to the mandatory performance standard is suggested.

As has been detailed above, one of the greatest advantages of terrestrial offsets like forests and agriculture is the host of ancillary environmental benefits that they offer to our society. As we look at the way these ancillary benefits have been addressed in the voluntary market, we find a wide array of approaches. Some programs ignore these secondary benefits to carbon uptake and storage such as RGGI, some programs such as the CCX require guarantees of sustainable management in order to ensure that the climate change benefits from the project site are not at the expense of other environmental values, and lastly, some retail purchases of carbon may even reward projects with high environmental performance beyond carbon with premiums paid for carbon credits from them.

It should not however, be assumed that management of an offset for carbon benefits automatically maintains or enhances other environmental benefits. ACF recognizes that the benefits from forest offset projects are the direct result of well conceived sustainable management. Forest owners make management decisions based on the qualities of their forest, economic variables, their values, regulations, and objectives. *Their decision to enhance non regulatory environmental values such as water, biodiversity, or other values for which markets are evolving should not have a bearing on their standing or eligibility to capitalize on markets for carbon.* The beauty of sustainably managed forests are that these values can be addressed in concert with one another, providing opportunities to stack values and reward responsible management through environmental markets.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Environmental markets are effective because they transfer the cost of pollution to those that pollute. One of the schools of thought around the concept of additionality argues that unless a cost is incurred in the realization of the climate change benefit, it is not additional. Under this school of thought, cost sharing for practices that result in carbon sequestration would not be credited to the project activity. This would not preclude the entire project eligibility, but would heavily discount the sequestration benefits from the activity site where cost sharing had influence. ACF believes that this approach is necessary in a mandatory program.

ACF does not however, agree with this concept in the case of limited technical assistance in the form of education. Offset project design and implementation requires knowledge and competency in order to be successful. ACF believes that the sharing of this knowledge in the form of technical assistance should not preclude market eligibility for an offset.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

The decision for an offset provider to enter the carbon market is one that involves the assumption of some level of risk. As a participant in programs such as the CCX, project owners commit to sequestering positive levels of carbon for a term. If they do, they generate bankable or marketable credits. If they do not realize their commitment, resulting in an emission from the project, they must compensate the market for that loss, either in credits or in cash (with the exception of catastrophic natural events). This is the risk each participant assumes in order to guarantee positive climate change results to the market. ACF agrees that this is a reasonable relationship in a mandatory program.

In the event that the loss is incurred through a natural disaster, project owners should benefit from the use of risk mitigation tools or mechanisms within the program policies. As was outlined in item #22 above, there are many options to choose from in order to mitigate these losses. These options are repeated below:

- *Banking.*
- *Insurance.*
- *Pooling..*
- *Like-kind pools..*
- *Physical risk management.*
- Force majeure *safe harbor.*

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Based on the rapid evolution of carbon policies in the voluntary market, ACF recommends that the Federal program structure remain as flexible and adaptive as possible. This may require that the program role for offsets be stipulated within legislation, while the particulars for offsets be developed by agencies outside of this documentation.

In the forestry and agriculture sectors, the USDA and DOE have been the most active agencies researching and contributing to offset project policy development. The actions of these two agencies have resulted in a great deal of literature, research, and advocacy as the voluntary market has evolved for forests. Perhaps the most comprehensive contribution to date has been the U.S. DOE 1605b guidelines. This set of policies and procedures provided a solid structure from which to adapt current forest carbon offset policy. *ACF highly suggests that the USDA and DOE work cooperatively with private sector input to adapt these guidelines for the mandatory program.*

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

ACF believes that the current obstacles for farm and forest owners are the uncertainty in the market, the diversity of program requirements, the future requirements for the impending Federal program, and the intangible nature of the commodity itself.

ACF also believes that in order for participation in a mandatory program to become scalable for rural landowners they will need to become *educated* on the development of offset projects, the process of marketing environmental values, the commitments necessary to participate, risks, and benefits. Most forest owners can visualize the production and management of forests for traditional values. Integrating carbon values or other environmental markets into their management planning process will require a broad understanding of the synergies and trade-offs of carbon management vs. management for these traditional values.

For many forest owners, there are ideological barriers as well. Not fully understanding or agreeing with the issue of climate change and anthropogenic impacts on it is a significant barrier for some potential project owners. While some individuals will not be swayed, others may view the issue differently with better information on the topic.

Financial barriers may also exist for some terrestrial project owners; however, the degree of financial challenges will depend heavily on the cost of carbon vs. its market value in a compliance market. Provided sufficient economic potential exists for forest offsets, project development should not be restricted due to financial barriers.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Forest and farm owners in the U.S. are subject to increasing pressures: taxation, regulation, social expectation, fuel costs, and many others. The Federal government has recognized the significant challenges these landowners face, creating conservation programs such as cost sharing, technical assistance, and others. Unfortunately, these programs alone have not been able to turn the tide of land use change and unsustainable management in many regions of the country. In the absence of sufficient incentives to change behavior, these activities have negative impacts on climate change.

The potential to realize positive revenues through the responsible management or enhancement of their terrestrial carbon storage will have both positive economic and environmental benefits for rural communities. These benefits can be realized if the forthcoming mandatory program controls the cost implications and provides scalable opportunities for these landowners. Should program costs be outweighed by carbon prices from well managed forests, few additional incentives will be required by the government in order to accelerate adoption / implementation of carbon projects. ACF does, however, feel that the role of government in the education and promotion of carbon market opportunities is critical to rapid success.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Additional Comments On A Federal GHG Reduction Program (ACF)

Harvested Wood Products

Long-term storage of carbon in harvested wood products in use is a core value provided by the management of our forest resources. Carbon in harvested wood is transferred from the forest inventory in the year it is harvested. If it is placed into product manufacturing channels, much of the carbon is not emitted immediately, and some is not emitted for decades or centuries. Emissions reductions from the long-term use of wood should be recognized in a carbon mitigation program.

The 1605(b) program guidelines provide for harvested wood products (HWP) accounting methods of carbon in use or in landfills at 100 years after harvest. Carbon amounts can be reported in one of two ways: 1) an annual report based on the annual decomposition rate; or 2) a single report, done in the harvest year, based on the table estimates of the amount of carbon contained in the wood-in-use and the wood products in landfills at the end of 100 years.

ACF strongly advocates for the utilization of the options for calculating carbon amounts either at the time of harvest or after the industrial products have been manufactured, as provided in the 1605(b) guidelines. The assignment of any permissible carbon credits can be determined contractually when a market transaction between a landowner and primary manufacturer occurs. Policies on the issue of HWP accounting should also recognize the potential for future innovation and the development of new mechanisms, such as including carbon transfers down the supply chain and the recognition of HWP credits transferred through approved wood procurement systems.

Sustainability

ACF believes that carbon stock accounting should recognize the significant advantages of forests managed to meet sustainability objectives. Forest certification should be encouraged and recognized as a significant advantage within a greenhouse gas emissions reduction policy but not as a prerequisite for participation. Achieving certification of sustainability is not the purpose of a carbon accounting system.

Sustainable forestry has been defined as managing forests to meet the needs of today without compromising the ability of future generations to meet their own needs. The development of specific methods to meet this goal, along with the identification of performance standards, measures, and indicators, has been a major undertaking that has

reached all the way from the U.N. Convention on Forests to individual landowners and forest producers.

Forest certification schemes have matured since the early 1990s and have developed formal forest sustainability standards. Certification of forest carbon project lands to a sustainable forest management standard provides three distinctive advantages to carbon programs: 1) certification assures buyers that the environmental quality of the carbon credits is high; 2) in well-functioning forest product markets, where sustainable forest management is practiced across the entire forest ownership, leakage will be a non-issue; and 3) certification audits may provide necessary opportunities for verification of carbon accounting systems.

It should be noted that although certification is almost universally practiced by medium and large forest landowners, major forest products firms, and many state and local public forests, it is not suited to all situations. Family forest landowners, who provide much of the wood to the forest products industry, have often found the costs too high for occasional harvests of small amounts of timber. In those circumstances, other proposed methods may indicate that harvested wood comes from forest areas that are meeting sustainability objectives.

Summary

As policymakers at state, Federal, and international levels seek ways to reduce greenhouse gas emissions to mitigate the effects of global climate change, the role of forests and forestry has been much discussed. Forests sequester carbon as they grow and convert atmospheric carbon dioxide (CO_2) to stable forms, such as carbon in wood and soil organic matter. Some of the wood from managed forests is converted into forest products, where it can remain sequestered for long periods.

Thus, forests are important environmental and economic contributors as people and nations work to constrain the growth in atmospheric greenhouse gases. As forestlands face increasing population pressures and land-use change, public policies that encourage their maintenance and sustainable management can be a significant part of global greenhouse gas mitigation efforts.

There is little controversy in the idea that forests store carbon in both live and dead trees, both above and below ground, as well as in understory plants, on the forest floor, in forest soils, and in forest products. Carbon is added to the forest ecosystem as plants grow, and it is emitted as they die and decompose or burn. A portion of the carbon stored in forests is emitted when timber is harvested; another remains stored in the harvested wood. Carbon is moving in and out continuously, and the change in the net total of carbon in the system determines whether the forest is a source (net emissions to the atmosphere) or a sink (net sequestration from the atmosphere). Overall, for the United States, the sequestration services provided by forests are substantial. Currently, it is estimated that U.S. forests sequester about 10 percent of the industrial emissions of greenhouse gases.

This equates to more than 200 million metric tons of CO_2 equivalents per year.

In addition to climate mitigation, many other environmental values are provided by well-managed forests: wildlife habitat, biodiversity, water quality protection, watershed stabilization, air quality improvement, and maintenance of rural landscapes. These ecosystem services are increasing being monetized and traded. Major state, regional, national, and international scientific studies in recent years have shown how specific forest carbon changes qualify as fungible credits that can be used for meeting an industrial firm's legal commitments to reduce emissions.

With approximately 80% of the nation's forest land in private ownerships, ACF feels strongly that any Federal carbon reduction program must recognize the climate change benefit potential and limitations of this critical group. Forests can be a significant part of the U.S. solution for ghg reductions provided the policy structure for forest offsets is designed in a manner that is technically accurate, scientifically credible, and economically feasible.

The Association of Consulting Foresters is thankful for the opportunity to provide the U.S. House of Representatives Committee on Agriculture with this input. We applaud the efforts of the committee to seek such wide ranging stakeholder interests. We would like to offer our continued assistance on the issue of carbon reduction legislation as policy makers move forward on this significant undertaking.

Matthew S. Smith, CF, ACF, EMS-A
Director of Ecosystem Services
FORECON EcoMarket Solutions LLC

[Redacted]

Mr. Smith is a graduate of SUNY Environmental Science and Forestry College at Syracuse, NY with a BS in Forest Resource Management. He is also currently a certified forester (#1579) and member and of The Society of American Foresters (SAF), Association of Consulting Foresters (ACF), and is the current WNY Chapter Chair for The SAF. Also, Matt has served as the Programs Chair of the AFC chapter of the New York Forest Owners Association from 2000-2005 (NYFOA). Recently, Matt has also been approved as an Adjunct Professor of Forestry at SUNY College of Environmental Science and Forestry.

For the past 21 years, Matt has worked intensively in the area forestry and natural resource management. In 1997 Matt was appointed to the position of Director of Land Management and was charged with the responsibility of FORECON's timberland investment clients. To date, Matt continues to contribute to the administration of the management of nearly 250,000 acres of high quality hardwood timber land for Forecon Inc. Most of this timberland has been third party verified under the Sustainable Forestry Initiative (SFI) program or the Forest Stewardship Council (FSC) program. Matt has been heavily involved in forest certification programs for many years. In 2002 Matt completed the ISO 14001 EMS auditor training course, in 2004 he completed the ATFS Group Certification Lead Auditor Training. Since that time Mr. Smith has participated in ISO 14001 and SFI certification audits throughout the eastern and southern US. Matt has also consulted in the development of certification programs for private and industrial landowners across the eastern US.

Since early in 2004, Matt has played a key role in the area of ecosystem service markets at FORECON. Matt has worked extensively in the area of carbon sequestration through sustainable forestry projects in an effort to assist FORECON clients in realizing new return drivers from sustainable practices. This effort has resulted in extensive and intensive forest carbon modeling and analysis work covering over 6 million acres from Canada to South America. Matt has also developed several managed forest carbon offset projects in the U.S. under the CCX program. As a result of these significant efforts, Matt has developed and maintained a wide reaching understanding of carbon policy, programs, calculations, and challenges. Consequently, Matt is widely recognized as a leader in the area of forest carbon markets, carbon policy, and carbon project development in the US. As a result of the knowledge Matt has gained through research, verification, policy analysis and modeling of carbon, he has served as an experienced presenter, consultant and advisor to organizations such as the Chicago Climate Exchange (CCX) Forestry Committee (member), Federal, State, and local governments, carbon registries, investment groups, non profit organizations, private landowners, and ENGO's both domestically and internationally.

Early in 2007 Matt assisted in the development of a subsidiary of Forecon Inc, FORECON EcoMarket Solutions LLC. This business focuses on forest carbon sequestration, but also addresses other ecosystem services such as biodiversity, and water, and the market based mechanisms to manage them. In 2007 this subsidiary of Forecon was certified as a participant member and aggregator for the Chicago Climate Exchange. As the

Director of EcoMarket Solutions LLC., Matt is currently working on offset project development, marketing, and investment strategy under many programs and standards, and for many forest owners in the US. Matt has been successful in the development, approval, and implementation of several forest carbon offset projects including the first TIMO owned offset, an aggregated NIPF project, the approval of several carbon modeling and quantification technologies including LiDAR, and the first ENGO owned CCX offset project in the US. Lastly, Matt has authored and co-authored white papers, books, and informative articles on the topic of carbon sequestration for landowner publications, professional organizations, and scientific journals. In May of 2007 Matt was one of seven professionals chosen to participate in the SAF national Task Force on Climate Change. Matt currently serves as a member of the 25 by 25 National Carbon Working Group, and the SAF Forest Carbon Education Group.

Most recent publications:

- "Carbon Market Opportunities for Forest Landowners", Forestry Source March 2007, FLA magazine August 2007, NYFOA Magazine June 2007.
- "The Role for Managed Forests in Climate Change Mitigation: A Policy Paper" (co-author) August 2007. The Journal of Forestry, September 2007.
- "Managed Forests in Climate Change Policy: Program Design Elements" December 2007. A white paper developed for use by the Forestry sector for advocacy in the area of climate change policy in the US.
- Three part series on Forests and Climate Change run in the New York Forest Owner Magazine throughout 2008.
- Society of American Foresters Climate Change and Carbon Sequestration Task Force Report: "Solutions for Mitigating Climate Change through Managed Forests and Forest Management in the United States" Developed in the fall of 2007, published in abbreviated form in the April/May 2008 Issue, this 100 pg report will be available from SAF early in 2009.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* **GHG** emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for Agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Afforestation	Excellent	Excellent	High	Low
Reforestation	Excellent	Excellent	High	Low
Sustainable Forest Management (including harvested wood products)	Excellent	Good	Moderate	High
Forest Protection or REDD	Good	Good	Low	Medium
Urban forestry	Good	Excellent	Moderate	High
Forest Improvement or restoration	Excellent	Good	High	Medium

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* **GHG** emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for Agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* **GHG** emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for Agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
ASSOCIATION OF FISH AND
WILDLIFE AGENCIES
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Jen Mock Schaeffer

Organization(s) you represent

Association of Fish and Wildlife Agencies

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

I am employed by the Association as the national Agriculture Conservation Policy Analyst representing the interests and positions of all the state fish and wildlife agencies across the country specifically on all Farm Bill conservation and forestry provisions.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

N/A

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

No. The agriculture and forestry sectors should not be covered by a carbon program. These sectors are comprised of numerous small sources and sinks, whose regulation would not only be disruptive to their operations, but it would be enormously burdensome to the relevant federal regulatory agencies.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

N/A

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

N/A

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

A new cap and trade program should be administered by existing agencies, such as the U.S. Environmental Protection Agency, which should be responsible for developing the fundamental regulatory architecture of the program, and the Department of Agriculture, which should be responsible for overseeing the accreditation of carbon offsets from agriculture and forestry operations. Similarly, the Departments of Interior, Agriculture and Commerce are well suited to oversee natural resources adaption programs related to climate change. These agencies, and others in the federal government, have the expertise to administer a cap and trade program; there does not appear to be a need to create a new federal bureaucracy.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

   Please respond in 300 words or less.

N/A

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

   Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

N/A

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

   Please respond in 600 words or less.

N/A

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

   Please respond in 300 words or less.

Impacts from a carbon reduction program to agriculture communities would be significantly ameliorated through the dedication of carbon-derived revenues to federal and state natural resource adaptation programs. Agriculture communities through informed land management can contribute significantly to sustaining functioning ecosystems. Functioning ecosystems, in turn, provide ecosystem services in the form of clean air, clean water, flood attenuation, and vital natural products. Functioning ecosystems also provide the opportunity to capture carbon through sequestration, thus reducing carbon levels in the atmosphere. Finally, functioning ecosystems provide quality habitats to sustain fish and wildlife populations. The role of the agriculture communities in helping realize these benefits, and in providing services to the Nation for these benefits, is not only significant, but will employ citizens in jobs directly related to sustaining ecosystems, and in all of the support goods and services that derive from fishing, hunting and wildlife-related recreational activities, and the use of natural products such as timber.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

N/A

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Federal public lands managed for multiple sustainable use by the Forest Service and the Bureau of Land Management are extremely important in maintaining sustainable populations of fish and wildlife under the threat of global climate change because they typically occur in large contiguous tracts containing crucial areas of habitat and connective migration corridors between large, ecosystem-level protected areas. In Idaho, Montana and Wyoming alone, the BLM manages about 38.3 million acres and the Forest Service manages nearly 50 million acres that are characterized by extensive grasslands, shrub-steppe grasslands, forests, high mountains, arctic tundra and desert landscapes.

Public lands also offer buffers against the increasing human development pressures occurring on adjoining private lands. Failure to protect Western public lands will result in the pathways and wildlife connections between regional ecosystems being discontinuous at best, and could create a series of fragmented core "habitat islands" leading to extirpation of resident wildlife because of negative genetic influences (inbreeding) common among small, isolated populations of wildlife, the effects of natural disasters, and the inability of wildlife to re-colonize an area.

Scientific management, protection and enhancement of grasslands, riparian buffers and wetlands Federal public land could be critical means to increase soil carbon sequestration. Reforestation in heavily logged areas could also provide significant carbon sequestration.

Federal land management policies for sustainable multiple use currently allow for the accommodation of state-promulgated fish and wildlife habitat improvement and management goals in BLM Resource Management Plans and Forest Service Land and Resource Management Plans. Public land management plans can be increasingly directed towards amelioration of climate change by Federal laws, regulations and executive orders.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

N/A

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

N/A

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

The most effective approach would be a combination of voluntary offsets and allowances for selected agriculture and forestry activities. Offset credits should be available for any voluntary activity that generates verifiable, additional, and permanent reductions in greenhouse gas emissions and/or sequestration of greenhouse gases. In addition, the cap and trade program should offer allowances – taken from within the cap – to activities like no-till farming practices that have been undertaken for many years prior to the establishment of a cap and trade system, and which legitimately sequester carbon each year, but since they have been occurring for many years may have difficulty meeting a strict definition of additionality.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

Since we believe that any project that generates verifiable, additional, and permanent reductions in greenhouse gas emissions and/or sequestration of greenhouse gases should get offset credits, we do not believe that there should be an artificial cap placed on these projects. To do so would discourage projects that could contribute to a solution to climate change and could lead to higher aggregate compliance costs.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

N/A

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

N/A

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Offset projects should be judged by whether they generate verifiable, additional, and permanent reductions in greenhouse gas emissions and/or sequestration of greenhouse gases. Ideally, offset projects that involve plantings of trees, shrubs, grasses, restoring wetlands or other activities that create wildlife habitat should be awarded bonus allowances or money from auction revenues for the features of these projects that help wildlife adapt to climate change. Foresters, ranchers and farmers should be given guidance from USDA as to the types of projects that both sequester carbon and create habitat for fish and wildlife so that they can achieve a wide range of objectives and societal benefits.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Congress should seek to balance the need to establish credible and rigorous verification standards that would be applied by third-party verifiers with the goal of minimizing the costs of verification activities so that they do not substantially erode the net value of these offset projects. In fact, Congress should consider providing USDA with auction revenues and/or allowances that could be used to both 1) cost-share monitoring and verification activities and 2) provide additional financial incentives to farmers, ranchers and foresters for the wildlife habitat benefits associated with certain carbon sequestration projects, particularly those that enhance and improve habitats and ecosystems.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

N/A

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Congress should authorize unlimited use of offsets for projects that result in verifiable, additional, and permanent reductions in greenhouse gas emissions and/or sequestration of greenhouse gases. A pool of allowances from within the cap should be set aside for USDA to reward ongoing carbon sequestration practices like no-till farming that began prior to the establishment of the cap.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

N/A

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Credits traded on existing voluntary registries like CCX or registered with the federal government under the 1605(b) program at DOE are of varying quality. If Congress intends to consider honoring some of these credits under a mandatory cap and trade program, EPA and USDA should first evaluate them against the standards developed for projects under the mandatory program. Credits that were generated under protocols that fail to meet the standards of the mandatory program probably do not deserve credit under that new program.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Producers and forest owners that have already undertaken positive activities to sequester carbon or reduce greenhouse gas emissions should be included in an offset program. Program guidelines should not serve as a disincentive that would encourage abandonment of positive activities in order to establish a lower "baseline" from which positive activities could be demonstrated. Activities undertaken to sequester carbon and reduce greenhouse gasses should be allowed in conjunction with activities beneficial to water quality and wildlife habitat. Many USDA and state level conservation programs are voluntary-incentive based in nature and by allowing "stacking" of benefits/payments where compatible with various program objectives, will support making these programs more economically viable and competitive. Furthermore, it provides an opportunity to maximize conservation opportunities and societal benefits with every dollar invested.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Payments from other Federal or state programs should not prohibit inclusion in an offset program. Offset payments should be skewed toward proportionally higher payments per acre for practices that demonstrate both higher levels and longer term levels of sequestration and/or reduction while enhancing the sustainability of our natural resources and ecosystem functions.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

N/A

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

The legislation should establish general standards for judging the quality of potential offset projects, focusing on addionality, permanence, and verifiability. However, it should leave the development of specific criteria and protocols to the relevant agencies. In the case of terrestrial carbon sequestration, USDA should take the lead. For other projects, such as geological sequestration, it probably makes sense for EPA and the Department of the Interior to share the responsibility.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Producers and landowners face a steep educational curve regarding how their individual land management decisions impact carbon sequestration and greenhouse gas emissions. Designing offset programs that fit in conjunction with multiple program objectives will require almost an unprecedented level of discussion/input from various agencies and constituent groups to ensure various programs/policies are not compromised but are continued or enhanced by inclusion of offset program objectives.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

The benefits of reducing greenhouse gas emissions and sequestering carbon are so significant that Congress should offer as many incentives as are practical to encourage participation in conservation and forestry programs. We support under the appropriate guidelines, the use of "stacked" incentives to maximize benefits; the provision of low interest loans and tax incentives to encourage landowner participation; and, of course, the provision of the technical assistance to the private landowner to manage their land to produce maximum public benefits. For example, land management plans and activities should be designed to achieve the multiple benefits of soil stabilization, carbon sequestration, and fish and wildlife habitat. The add-on benefit is that landowners, should they so desire, could benefit even further by providing access to their property for fishing, hunting and other wildlife-related activities. Additionally, enhancing native habitats, when possible, and ecosystems through conservation and carbon sequestration actions could reduce producers and forest land owners risk and exposure to potential regulatory problems by precluding the need to list species as threatened or endangered under the Endangered Species Act. For example, hybrid poplar may be popular for the amount of carbon it can sequester, but a forest of hybrid poplar may not provide the habitat needed by wildlife species endemic to an area and could cause the decline of some species by replacing vitally important native habitats with unsuitable habitats. This would increase producers' potential regulatory risk from an increase in species listed under the Endangered Species Act. State fish and wildlife agencies, with the provision of appropriate funding, have the expertise and are in an excellent position to assist landowners in the design of programs that meet these multiple benefits.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

We wish to amplify on the need for climate-derived dedicated funding for state and federal natural resource adaptation programs.

While there are many potential uses of funds derived from a climate change regulatory protocol, there are few if any of these uses that will deliver as many significant public benefits as natural resources adaptation programs. In short, functioning ecosystems provide services in the form of clean water, clean air, and other benefits that ensure the quality of human life. Ecosystems can significantly capture carbon thorough sequestration, thus being part of the solution to reducing carbon levels. In addition, functioning ecosystesm provide quality habitat for sustaining fish and wildlife and provide billions of dollars in direct economic benefits.

Federal and state fish and wildlife managers know what needs to be done to sustain species. They have a successful track record for successfully managing species and habitat restoration programs. When the public understands that doing management not only benefits fish and wildlife but also enhances their quality of life, their support increases significantly. For example, analysis of the success of bond issues on the ballot in the western U.S. substantiates that land issues have slightly less than 50% acceptance, but if you add water which is so vital to the West, the acceptance level climbs to 60%. Water quantity, quality, and availability will be affected by climate change everywhere. In some places there will be too much too fast, in others, not enough, and yet in other places, permanent inundation.

Following are examples of the value of functioning ecosystems to citizens:

1. One of the primary reasons for the creation of the National Forests was to "secure favorable conditions of water flow". The U.S. Forest Service estimates that the total value of high quality fresh water flowing from National Forest Service (NFS) lands in terms of instream and offstream uses exceed, $7.2 billon annually. NFS lands contribute nearly 20% of the Nation's water supply, and in the western U.S. more than 50% of the region's water supplies. Approximately 60 million citizens rely on water flowing from NFS lands for their drinking water.

2. The Catskill watershed provides New York City with most of its clean drinking water. Replacing the natural water filtration services provided by this watershed with a treatment plant would cost nearly $8 billion dollars plus annual operating costs of $300 million.

3. Wetland systems such as coastal marshes and mangrove forests attenuate floods and buffer coastal and inland communities from storm surges. A recent study estimates that coastal wetlands provide $23 billion annually in services

4. Wetlands store significant amounts of carbon in their soils, which can be released if wetlands are drained, become dry or if permafrost wetlands melt. Northern peatlands sequester carbon but if these wetlands are impacted by climate change, they will start releasing more carbon than they sequester.

5. For over 100 years, our Nation has benefited from the foresight of great leaders of conservation such as Teddy Roosevelt, Gifford Pinchot, Aldo Leopold and Rachel Carson to name just a few. The U.S. system of conservation, implemented through the North American model of wildlife conservation, has resulted in great conservation and restoration successes, and is the envy of the world. Climate change threatens not only this investment, but also those made in our public lands, and the very future of natural resources conservation in this country.

6. Natural resources provide enormous contributions to our national, state and local economies. If outdoor recreation activities such as fishing, hunting, hiking, camping and other wildlife-dependent recreation were combined into one business, it would rank in the top 10 Fortune 500 companies.

7. One out of every 20 jobs in the country is related to fishing, hunting and wildlife – related activities, goods and services, and these activities stimulate 8% of all consumer spending. The 2006 National Survey of Fishing, Hunting and Wildlife-Associated Recreation found that over 87 million Americans pursued outdoor recreation in 2006 and spend $120 billon that year on those activities. Climate change has the potential to greatly disrupt this economic engine.

8. Protecting fish, wildlife and natural resources employs our citizens and protects our economy through shovel-ready jobs. Activities such as native habitat restoration increases ecosystem resiliency, maximizes carbon sequestration and ensures fire retardation and resiliency, a challenge which will only grow with climate change. Other activities such as removing invasive species and renovating damaged watersheds provide green jobs and improve the environment.

Appropriately so, state and federal agencies are approaching fish and wildlife conservation increasingly from a landscape perspective. Initiatives like the Western Governor's Association Wildlife Corridors Initiative; State Wildlife Action Plans; Migratory Bird Joint Ventures, and National Fish and Habitat Action Plan Partnerships are examples of how state and federal natural resource agencies and the conservation community understand and apply the need to manage across landscapes. The confluence of all these efforts can significantly inform our responses to climate affected habitats and systems, as we manage for resiliency to ensure the function and vitality of these systems while minimizing the risk and exposure of our Nation's producers and forest landowners to potential federal regulatory actions. But it will take a modest investment from climate derived revenue to make all of this happen. The investment is small compared to the long-term dividends it will pay for the future quality of life for our citizens, the delivery of ecosystem services, fish and wildlife, and the security of our Nation.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
ATLANTIC BIOMASS
CONVERSIONS, INC.
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Robert Kozak

Organization(s) you represent

Atlantic Biomass Conversions, Inc.

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

President and Company Founder

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

A carbon tax, in addition to Clean Air Act CO2 standards, enforceable with CAA regulations, is the preferred choice, if the goal of the US Congress is to quickly reduce US GHG emissions.

A cap-and-trade program has three significant drawbacks. First, there are no incentives to reduce the targeted emission, in this case GHGs, below the established cap. Second, since all start-up scenarios will draw the majority of initial capital from emitters, they will be able to keep the cost of initial permits lower than the cost of deploying of GHG reduction technology. And, has been shown in the EU cap-and-trade program, the cost of out-year carbon credits continues to stay lower than the levels projected to equal technology deployment. Therefore, cap-and-trade becomes a "pay-to-pollute" program. Third, with an open (anyone may buy or resell a credit) cap-and-trade program, there is no clear link between the profits produced by the sale of carbon or GHG credits and investments in GHG reduction technologies. The "carbon-market" would be like any other stock market where the goal is maximizing individual profits over any societal goal such as raising money for start-up GHG reduction firms. One only has to look at the NYSE over the last ten years.

As shown by recent reduced energy use, especially driving behavior when gasoline hit $4/gallon, there is a price where fuel costs respond in a classic elastic sense. A "carbon tax," on all non-renewables, tied to that price level would maintain a consistent disincentive to non-renewable fuel use. At the same time, the tax would provide a direct source of revenue for loans and R&D grants for GHG reduction technologies. And finally, the price difference between non-renewable and renewable transportation fuel would give a direct and immediate market advantage to 2nd and 3rd generation biofuels. This price incentive would resulting in their commercial availability being sped up considerably, most likely 2 to 3 years.

The "carbon tax" would be the difference between the market price of fuel and the elastic target price. For example, if the target price of oil was $150/barrel and the market price was $50/barrel, the tax would be $100/barrel. As the market price rose, the tax would fall. The net effect would be price stability, and if properly structured, increase private investment in GHG reduction technologies (see #2 below).

A "carbon tax" should also include the following provisions: 1) all non-renewable fuels, including oil, coal, natural gas, and fissionable material, based on equal energy content, would be included; 2) any firms (including agricultural entities) paying the carbon tax that

were either producing renewable fuels or GHG reducing technologies or were funding R&D research in those areas, would be granted tax credits on a 1:1 ratio for that funding, 3) the tax would be phased-in over a 5 year period, 4) taxes would be payable by primary non-refined fuel purchasers, i.e. electrical producers, refiners, and industrial producers, 5) taxes could be passed on to customers, provided that the proceeds of any tax credits are deducted from the amounts being passed through, and 6) being a tax program, it would be subject to IRS rules and enforcement.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Yes. On balance, especially with the 1:1 biofuel tax credit program described above, the agricultural and forestry sectors will benefit from such a program. They will be the driving force that will allow the US to convert most transportation fuel use to non-food biomass based advanced biofuels. Already the pulp and paper sector is able to claim biofuel credits and many growers are owners or investors in 1st generation corn-to-ethanol plants and are benefiting from biofuel credits and subsidies. As more growers become involved with 2nd and 3rd generation advanced biofuel biomass sources and the forestry industry becomes a full-time presence in the biofuel industry, the income derived from biofuel production will dwarf any carbon taxes that would be paid under an equitable program that includes tax credits for biofuel production.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Since I cannot see any set of circumstances that would require a cap-and-trade program, I will not be answering this question.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Since I cannot see any set of circumstances that would require a cap-and-trade program, I will not be answering this question.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

Since I cannot see any set of circumstances that would require a cap-and-trade program, I will not be answering this question.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

While I cannot see any set of circumstances that would require a cap-and-trade program, having any agency other than CFTC regulating it would be a disaster in waiting. CFTC has a very good record of maintaining a market that: 1) delivers food to the table of Americans, and 2) provides a fair price to growers. That is a record the regulators of Wall Street or the banking industry cannot point to.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

I think the horrors produced by the financial derivative markets argue not only for their exclusion from any energy/carbon market but also against a cap-and-trade program to reduce GHG emissions. It should be clear to everyone that no matter the best of intentions, intelligent traders with funds available to influence legislators and regulators will be able to create unregulated trading instruments that will defeat the intent of the cap-and-trade program while benefiting their investors.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

No. First off, a sustainable advanced biofuel industry will be a tremendous benefit for the rural economy; growers, processors, suppliers, and everyone else. Any government policies that will allow the quick formation of such an industry will only benefit rural communities. As for populations that would be affected adversely by increased food prices, a sustainable advanced biofuel industry would benefit them in two ways; 1) advanced biofuels are

produced from non-food crops grown on non-food crop lands-food price pressures would decrease, and 2) the use of home-grown biofuels and locally owned renewable electricity by the rural economy will further reduce cost pressures on food production. Any well-thought out equitable carbon tax system will be of benefit to everyone that grows or eats.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

As stated above, revenue generated by a carbon tax should be used only to reduce GHG production. To assure such a situation, all taxes should go into a GHG Reduction Trust Fund, based on the Highway/Transportation Trust Fund, and not into the General Fund. Primary uses of that fund should be limited to: 1) R&D grants/investments, 2) GHG technology deployment loan guarantees (90% minimum), 3) a short term (5 years) low-mileage vehicle replacement fund/loan program, 4) a short-term (5 years) high energy use appliance replacement fund/loan program, and 5) a transit user assistance funds based on the very successful METRO employer/employee system.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

If businesses, or business function fall into one of the five categories listed in #9 yes. In addition any energy use/conversion businesses that also produce GHG reducing technologies or biofuels should qualify for the tax credits listed in #1.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

Public lands could and should play a significant role in the production of biofuels and the reduction of GHGs. However, without both a coherent national policy and a set of regulations that are based on science, disastrous consequences will surely result. Therefore, the following steps should be taken:

1. An up-to-date census of available Federal lands that includes vegetation history, current rainfall/nutrient characteristics, and most importantly 20 and 50 year projections of Climate Change effects (rainfall decreases, water level increases, etc.) should be compiled. This census should use the existing POLYSYS model and GIS analysis being developed by US DOE.
2. Using this data the USDA, Dept. of Interior, BLM, etc. should produce a "best-use" sustainability guide for the land. The purpose would be to establish which crops/trees would be sustainable (including carbon removal parameters) in the various ecosystems.

3. On the basis of #2, a nationwide plan that would produce sustainable biomass, capture CO2 in perennial plants and trees, and meet US goals for recreation, and other uses should be produced.
4. On the basis of that plan, long-term bioenergy and GHG capture leases with enforceable sustainable "best-practices" should be granted.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Please see the answer to #1 above on the carbon tax.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

I do not think I can add anything to the GAO study on the ETS (GAO-09-151). As stated in the summary of that report;

"According to available information and experts, the ETS phase I established a functioning market for carbon dioxide allowances, but its effects on emissions, the European economy, and technology investment are less certain. Nonetheless, experts suggest that it offers lessons that may prove useful in informing congressional decision making. By limiting the total number of emission allowances provided to covered entities under the program and enabling these entities to sell or buy allowances, the ETS set a price on carbon emissions. However, in 2006, a release of emissions data revealed that the supply of allowances—the cap—exceeded the demand, and the allowance price collapsed. Overall, the cumulative effect of phase I on emissions is uncertain because of a lack of baseline emissions data."

Or in other words, there are significant systemic problems in the implementation of a GHG cap-and-trade program which argue strongly for not using it to reduce GHG emissions.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

As discussed above, the agricultural and forestry sectors will become the major players in the new biofuel/bioenergy economy and will derive significant economic benefits. Already the Midwest far exceeds the rest of the nation in the use of renewable biofuels.
Also as discussed above, the use of any type of cap-and-trade program should be avoided because of the inability of such a market to efficiently reduce GHGs, and to accurately determine the quantity and value of offsets. Furthermore, the administration of such a program requires a substantial bureaucracy and a budget.
Therefore, I strongly recommend that the entire concept of cap-and-trade and the assignment of offsets to make up for inefficiencies in the cap-and-trade system be abandoned for all sectors.
Instead, a simple but equitable "carbon" tax as discussed in #1 in conjunction with enforceable Clean Air Act CO2 standards will be the fastest and simplest route to GHG reductions, which I assume is the purpose of this whole exercise.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

Since I cannot see any set of circumstances that would require a cap-and-trade program and the required offsets, I will not be answering this question

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Since I cannot see any set of circumstances that would require a cap-and-trade program and the required offsets, I will not be answering this question

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Since I cannot see any set of circumstances that would require a cap-and-trade program and the required offsets, I will not be answering this question

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Since I cannot see any set of circumstances that would require a cap-and-trade program and the required offsets, I will not be answering this question

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Since I cannot see any set of circumstances that would require a cap-and-trade program and the required offsets, I will not be answering this question

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Since I cannot see any set of circumstances that would require a cap-and-trade program and the required offsets, I will not be answering this question

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Since I cannot see any set of circumstances that would require a cap-and-trade program and the required offsets, I will not be answering this question

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Since I cannot see any set of circumstances that would require a cap-and-trade program and the ancillary offsets, I will not be answering this question

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Since I cannot see any set of circumstances that would require a cap-and-trade program and the required offsets, I will not be answering this question

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also

be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Please see response to #29 below.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
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Please respond in 300 words or less.

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27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Since I cannot see any set of circumstances that would require a cap-and-trade program and the required offsets, I will not be answering this question

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Since I'm not a grower I do not feel qualified to address this issue.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

The current USDA conservation reserve programs (CRP) offer very good incentives for the protection of non-crop lands for traditional environmental objectives such as water quality improvement and wildlife habitat restoration. Approximately 33 million acres are currently in CRP. These programs would in general support carbon capture goals. However, since these programs were never focused on maximizing carbon capture, the USDA approved list of plant and tree species for conservation areas may have to be changed to achieve any measurable GHG reductions.

A key component of mitigating climate change is the replacement of non-renewable fuels with sustainable non-food crop biofuels. Currently, this goal is generally incompatible with USDA conservation reserve goals, since periodic harvesting of grasses or trees in the reserve areas is not allowed. Furthermore, current bioenergy test harvests of CRP lands designed to maintain CRP habitat objectives yield about 1 ton/acre which is not economically viable. Therefore, Congress should strongly consider establishing another category of reserve land called the "Energy Conservation Reserve" that would address this need. An initial goal should be approximately 15 million acres. These reserves would consist primarily of CRP land determined to be on the lower end of environmental sensitivity that could be harvested on at least an annual basis. Native species with high biomass yields (at least 3-4 tons/acre) would be required as would planting and harvest procedures that would minimize the impact on nesting species. Since no substantial bioenergy harvest income could occur until about 3 years after initial planting, the establishment of such reserves would require some form of subsidy for this period.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Need For A National Biofuel/Biomass Policy

The primary reason the United States is able to deliver quality food at a reasonable price to all of the population while also providing sufficient stable income for growers is the presence of a strong national policy on behalf of the Federal government to accomplish that goal. With this goal having been in effect for over seventy years, Farm Bills have established not only economic frameworks but also methods to insure the adoption of more productive and more sustainable farming practices such as low or no-till. While some individual crop and nutritional programs may be in conflict, and there are periodic outcries about farm subsidies (usually involving low percentages of the total economic impact) the long-term effectiveness of the US food production system is stunning, especially when compared to other nations with similar or better natural resources.

Presently, a similar national policy on biofuel/biomass/bioenergy production does not exist. And, with effects ranging from feedstock storages for cellulosic fuels, wide swings

in fuel prices, contradictory federal and state biomass use objectives, no clear direction to USDA/ARS or DOE bioenergy research, and lack of private investment it shows.

Studies such as the 2005 "Billion Ton" report and subsequent updates have shown that "home-grown" biomass transformed into advanced biofuels, in conjunction with somewhat more aggressive CAFE standards, could reduce US dependence on foreign oil by at least 70% of current use in a sustainable manner. But, without a strong Federal government goal and the commitment to achieve it, the chances of getting off foreign oil and reducing GHG emissions within 10-15 years rely more on luck, wishful thinking, and foreign investment.

Therefore, it is imperative that this Congress and this Administration develop a strong Federal Biomass/Biofuel/Bioenergy policy and provide the commitment to it that Congress and the Roosevelt Administration first did over seventy years ago.

If the United States is truly serious about ending importation of oil and gas and reducing GHG emissions, while also providing a rebirth of the rural and domestic energy economy, then a Federal policy that elevates sustainable energy biomass production to an equal but balanced role with sustainable food production must be adopted. Without it, decisions on annual versus perennial crops, subsidies versus tax credits, or ethanol versus green crude will continue to be made on the basis of parochial, short-term interests. This will ultimately hinder the creation of an economically and environmentally sustainable bioenergy economy.

Why Cap-and-Trade? What Needs Fixing?

The two most significant and pieces of environmental legislation in the country are the Clean Air Act (CAA) and the Clean Water Act (CWA). Both relied primarily on "old-fashioned" regulations and enforcement. Perhaps the most successful part of this legislation was Title II of the CAA which regulated emissions from motor vehicles. (Conversely, one of the biggest environmental failures is the cleanup of Chesapeake Bay where a regulatory approach was discarded for a voluntary, incentive based program.)

The motor vehicle cleanup approach was simple, establish performance standards and leave the technology up to the manufacturers. The result was not only clean vehicles, but with the adoption of computer controls, fuel injection and oxidation/reduction catalytic converters, a generation of high performance and very reliable vehicles.

Somewhere along the line, however, the electrical production industry convinced a large portion of the legislative community and the public at large, that regulations did not work in their industry and instead, they would not reduce emissions unless they were given: 1) economic incentives, and 2) the right to control how those incentives were distributed. The result is cap-and-trade.

So, while GHG reductions in the motor vehicle industry (approximately 35-40% of GHG emissions) remain under specific regulatory control, CAFE standards and the RFS, the

electrical production industry (about 35% of GHG emissions) demands a separate cap-and-trade program.

The question that everyone in the US Congress needs to ask is why should the electrical production industry get this lenient approach when: 1) the existing environmental regulatory approach isn't broken, 2) the EU cap-and-trade experience has shown it is less effect than regulations for reducing GHG emissions, and 3) recent experience with electrical deregulation in California shows how ineffective "market-based" system are at distributing and pricing energy.

Fortunately, many in the Senate and House are now reassessing cap-and-trade. Hopefully, it will not see the light of day for the control of GHG emissions.

Low-Carbon Fuel Standard

Currently the State of California is in the rule making process on a "low-carbon" fuel standard. (It should be noted this may be moot if EPA either turns down their waiver request or decides to regulate CO2 emissions nationwide under the CAA authority verified by the Supreme Court.) The California effort is based on a system analysis, seed-to-tailpipe model. While in theory, this is the appropriate approach, the very complexity of the overall system almost guarantees that significant mistakes will be made in the early attempts to implement it. For comparison, climate change models, which have a similar degree of complexity, have taken over 10 years to achieve the degree of accuracy that the California Air Resource Board (CARB) assumes they will achieve on the first try. Furthermore, California wants to regulate the production and use of all transportation fuels (including electricity) on the basis of the 1st generation of that model.

It is hoped that the US Congress and this Administration will not follow a similar course to implement the renewable fuel standard in the 2007 Energy Bill. It is vital that EPA be directed to not adopt the CARB model. Furthermore, EPA/DOE should fund the development of several different approaches to calculate the GHG effects of all transportation fuel use, including electricity. These models should include input from the biofuel development sector, be peer reviewed and tested head-to-head under the auspices of the National Academy of Science.

The importance of following a careful, science-based approach cannot be overstated. Vital long-term investment and farming decisions will be made and early modeling errors could irreparably damage the future of our country.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
SUSAN BARNEY
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Susan Barney

Organization(s) you represent

n/a

Address
[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

n/a

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Not well versed in this

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Yes, definitely. Agriculture is a responsible for 18% of global emissions if you are looking at the half life of the gases over a 100 year period. If we need to act more quickly, which we do, livestock contribute more like 24% of global emissions because methane is hotter over much shorter time periods and has a higher potency 20 years after it is emitted than 100 years. Livestock are the single largest source of human-caused methane on the planet. Methane actually dissipates out of the atmosphere in 8 – 15 years, whereas CO2 from fossil fuels dissipates out in hundreds. Scientists are saying we need to focus on reducing the shorter lived gases to bring about rapid cooling, and protect Antarctica, Greenland and the permafrost from melting, which would lead to catastrophic sea level rises and emission releases in the next generation and possibly our lifetime. Methane also contributes to ground level ozone, another greenhouse gas, which dissipates out of the atmosphere in hours or days, so any reductions in the levels of livestock if people were to lower or eliminate meat and dairy consumption would lead to a rapid cooling in the planet. I do not ascribe to working with the animals to reduce their methane, ie methane capture from manure pools, vaccinations or changing their feed as the IPCC estimates this would have a very minimal effect by 2030. Giving carbon credits for forests is great, as a report Climate Benefits of Changing Diet estimates reducing meat and returning pastureland to forests could reduce the cost of mitigating climate change by 50 to 80% by 2050. This would allow ranchers a new business to transition into.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Not knowledgeable about this.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Not knowledgeable about this.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

Not knowledgeable about this.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

Not knowledgeable about this.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

Not knowledgeable about this.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

Yes. In many regions the pasture land is viewed as marginal and may not be suitable for changing from ranching to another industry. For example, in Sublette County, Wyoming, the temperatures in the summer are often below freezing so they have a negative growing season. Other regions may be able to plant trees and earn income from carbon credits for the trees, others may not. In other regions, I think other solutions can be found. As mentioned above, the Netherlands Environmental Assessment Agency authored a report Climate Benefits of Changing Diet finding that if people reduced meat – eliminating all methane producing animals, the resulting pastureland could be turned returned to forests, which would be absorbing CO2 by 2030, and would thus decrease the costs of mitigating climate change by 50%. If people eliminated all meat, the costs would be reduced by 70%, and if people adopted a vegan diet, costs of addressing climate change would be reduced by 80%. Because producing plant based nutrition is so much more efficient than meat and dairy based nutrition, excess land could be used for growing biofuel or replanting forests, both of which farmers and ranchers could earn income on. This approach would still allow for all the green jobs being created because we still need to get to a zero carbon economy, but it would address the challenge of having CO2 currently forecast to be in the atmosphere and warming it for hundreds if not thousands of years to come. Regarding places like Sublette County, Wyoming, which is at 7,000 feet in the high desert plains, it may be possible to shift ranchers to growing crops traditional to the Bolivian Altiplano, such as quinoa, which is a complete protein and can become popular in the shift away from animal products towards a plant based diet.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Not well versed in this

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

Yes definitely!!!!! Everyone has a right to a good livelihood. We are changing gears, and as the wealthiest country on earth, we should do all we can to help those who have faithfully fed us with unhealthful and environmentally damaging foods to transition to healthful and environmentally sound plant-based diets.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Public lands should be managed in the most efficient way possible. Global warming is happening so fast right now that it should be all hands on deck.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Not well versed enough to offer an opinion.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Not well versed enough to offer an opinion.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

Meat and dairy are so damaging to our health, wasteful of precious water and damaging to the environment that their consumption should be discouraged as quickly as possible, while supporting farmers and ranchers to transition into other livelihoods. Anything that gets us there fast will be good.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

No opinion.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

No opinion.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Reduction of animals, transition into new lines of business.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Google earth images.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse

gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Finding effective crops to plant to replace pastureland or intensive soy or corn production, changing infrastructure from one form of farming to another, supporting the public in eating newer foods farmers and ranchers could grow to replace animal foods, such as quinoa.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

As an elected official, we elected you to lead us. Sometimes that means following the will of the public. Other times, like a parent, it means encouraging us to do things we don't think we want to do, like doing our homework and banning things that are harmful to us. The speed at which climate change is happening is so fast there is an extremely real possibility of massive human extinctions and range wars for water here in the United States. That means we need to do things we would not otherwise have considered.
The fastest action anyone can take is to eat as close to a plant based diet as possible. It costs no extra money – unlike a new car or solar panels, it improves health, and it is the fastest way to bring about global cooling.
Switching to plant based diets will preserve dwindling water resources.
You no doubt know that droughts are a much more likely scenario under climate change, and we are already seeing the effects with wildfires burning up entire towns in Texas and Oklahoma, Southeastern states struggling and California experiencing the worst drought since records have begun to be kept. Virtually every water system in the US is in danger – the Ogallala Aquifer in the Midwest , Lake Mead supplying water to around 8% of the US population in the southwest, the Great Lakes, etc.
" Saving Water from Field to Fork" found that 70% of water us used by agriculture, and that vegetarian diets are more water efficient than meat and dairy centric ones. A report on "Water Inputs in California Food Production" found one serving of beef grown in California (including feed) uses 1238 gallons of water, one serving of chicken uses 330 gallons of water, but one complete nutritionally balanced meal of tofu, brown rice (grown in California with dry land farming) and two servings of fresh broccoli used only 98 gallons of water.
California also supplies 50% of the US grown fruits, vegetables and nuts, but the federal government is not allowing farmers to draw water this year, possibly threatening US food security this summer.
Plant based diets bring about the fastest global cooling.
If you start studying the types of gases causing global warming , you see how fast reducing meat and dairy consumption will cool the planet. Methane – 72 times more potent than CO2 20 years after it is emitted, but only stays in the atmosphere for 8 to 12 years. Livestock produce 37% of human caused methane on the planet. CO2 will be warming the planet for hundreds of years.
Livestock are also responsible for 67% of nitrous oxide emissions, mainly due to fertilizers put on animal feed. Because it takes 2 pounds of feed to create 1 pound of chicken, 5 pounds of feed for a pig, 2.5 to 5 pounds for a farmed fish, and 10 pounds for a pound of beef, switching to a plant based diet immediately creates excess farming land because a plant based diet is more efficient, lowering nitrous oxide emissions.
Embracing organic farming methods such as green manure/cover cropping reduces nitrous oxide emissions farther.

This is land that is freed up can be used to grow trees, earning farmers and former ranchers carbon credits and reducing the cost of mitigating climate change 80% (as mentioned in the report Climate Benefits of Diet Change).

We are having a health care crisis in this country that can be averted by a widespread shift to a plant-based diet. And yet doctors such as Joel Fuhrman MD, Gabriel Cousens MD, and Neal Barnard MD have repeatedly demonstrated that deadly diabetes can be reversed and cured – within a matter of weeks or months with a plant based diet. Dr. Caldwell Esselstyn MD showed a plant based diet could cure cardiovascular disease patients written off by the medical community. Dr. Dean Ornish MD demonstrated that people not treating their early stage prostate cancer could lower their PSA with a plant-based diet. And the American Dietetic Association states well planned plant based diets are nutritionally sound.

Many make the mistake of thinking shifting to fish will solve the problems, but our oceans have lost 90% of predatory fish (the ones we tend to eat) since the 1950's, and the oceans are under so much threat from ongoing fishing, pollution and climate change that it is predicted there will be a global fisheries collapse by 2049. And while the fish can survive in the ocean without a healthy land animal population (including us) we cannot survive on land without a healthy ocean, and no fish in the ocean would constitute a dead ocean. Even farmed fish require 2.5 to 5 pounds of little fish to grow the farmed fish, or they take 5 pounds of grain – still a waste of resources.

You are probably concerned that people will rebel if you come out strongly advocating a reduction in the consumption of animal products. But like a parent, this is a time you must lead and call the shots for the good of us all. No use being re-elected for making a popular decision if the planet cannot sustain your kids and grandkids into old age.

Also, once you learn how to make good vegan meals, you will enjoy them. I end with an appeal to support a reduction or elimination of animal foods as the fastest way to cool the planet , ensure adequate clean water supplies and reduce our national health challenge with a quote from Oprah when she went on a 21 day vegan "cleanse" (using no sugar, wheat or wine in addition to a vegan diet).

"Wow, wow, wow! I never imagined meatless meals could be so satisfying. I had been focused on what I had to give up—sugar, gluten, alcohol, meat, chicken, fish, eggs, cheese. "What's left?" I thought. Apparently a lot. I can honestly say every meal was a surprise and a delight, beginning with breakfast—strawberry rhubarb wheat-free crepes."
Oprah Winfrey

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
100% Elimination of animal agriculture	Excellent	Excellent	Medium	Medium

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
RACHAEL BEDDOE
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Rachael Beddoe

Organization(s) you represent

University of Vermont Rubenstein School of Environment and Natural Resources

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Graduate Student – I'm not responding on behalf of my organization.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

A hybrid is the best option.

Taxation is not enough. First, market mechanisms offer flexibility and the ability to innovate. Second, under the cap-and-trade system, the market would determine the price of emissions according to the cap, and the cap would be set according to our best understanding of science (i.e., the carry capacity of the ecosystem services in question). Taxation would require our best guess as to what the price of emissions should be to get us to the appropriate emissions level, and so is more subject to error.

A cap-and-trade system would be better served if taxation were also an option. First, taxation could help ensure prices are less vulnerable to market fluctuation. Second, taxation could help generate revenue for federal investment in infrastructure. Third, under a hybrid system, the government could sell additional emissions permits if the permit price rose above a predetermined level.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Yes. AFOLU (Agriculture, Forestry, and Other Land Use) accounts for 20% of the world's carbon (1). No mitigation strategy is complete without addressing AFOLU-related emissions.

Take forestry, for example. Forests are the world's most important terrestrial storehouses of carbon. The world's remaining forest ecosystems store an estimated 638 gigatonnes (Gt) of carbon, 283 Gt of which are in the forest biomass alone. This is approximately 50% more than all the carbon in the atmosphere and approximately 60% of the carbon stored in terrestrial ecosystems (1). Currently, forests are a source of carbon emissions through deforestation and degradation of forest lands. Depending upon the period examined, deforestation worldwide is estimated to have added 20-30% of the increased carbon dioxide in the atmosphere since the dawn of the industrial revolution. However, US forests currently remove an equivalent of 12% of this nation's carbon dioxide emissions; and there is excellent potential to increase and maintain this carbon "offset" as part of a bridging strategy (2). The Stern Report says that the costs of reducing the effects of climate change can be significantly lowered if reduced deforestation and reforestation options are used effectively.

As well as serving to reduce emissions and reduce the costs of climate change mitigation as we work to find alternative sources of energy, including forest protection in a mitigation strategy could enhance co-benefits and strengthen ecological health. Climate change is occurring during and contributing to the sixth-largest species extinction spasm ever documented (3) and concerns about water quality and shortages are rising. Forests can be managed to enhance co-benefits such as biodiversity, water quality, soil maintenance, recreation, and others.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

My only suggestion here is that there be an option for auctioning to ensure funding for community and urban forestry efforts.

Community-based and urban forestry (CBUF) represents a significant piece of overall forestry both abroad and in the US. Eighty percent of the world's forests are public (4) and thirty five percent of all US forest land are "family forests" (5). Metropolitan areas support nearly one quarter of the Nation's total tree-canopy cover (6). It's important to include CBUF in any climate mitigation strategy, since focusing carbon sequestration management solely on national or state forests precludes a significant percentage of forestland, perhaps individually marginal but cumulatively significant. As CBUF is a vibrant movement that's growing around the world, investing in management by small-scale forest landowners improves the long-term sustainability of significant acreages of forests.

My work has determined that, because of high transaction costs, low returns, lack of support, and the opaqueness of the complexity of carbon markets, access is difficult, if not impossible, for many CBUF efforts. Creativity will be needed to ensure that this important piece of ecological health is not omitted from a climate mitigation strategy. Government agencies traditionally tasked with the guidance and support of forestry activities would be a logical funnel for auctioned funds to support CBUF.

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2. Harmon, Mark. Testimony Before the Subcommittee on National Parks, Forests, and Public Lands of the Committee of Natural Resources for an oversight hearing on "The Role of Federal Lands in Combating Climate Change", March 3, 2009. Accessed April 10, 2009 at:
http://resourcescommittee.house.gov/index.php?option=com_jcalpro&Itemid=58&extmode=view&extid=228

3. Bayon, R., Hawn, A., Hamilton, .K (Eds.) (2007) *Voluntary carbon markets: an international business guide to what they are and how they work*. London, Sterling VA: EarthScan.

4. Charnley, S. and M. R. Poe (2007). "Community forestry in theory and practice: Where are we now?" Annual Review of Anthropology 36: 301-336.

5. Butler, Brett. 2008. "Family: Forest Owners of the United States, 2006". General Technical Report NRS-27. Newtown Square, PA, USDA Forest Service, Northern Research Station. 72 pp.

6. Dwyer, J. F., et al. (2000) *Connecting people with ecosystems in the 21st century: an assessment of our nation's urban forests.* Gen. Tech. Rep. PNW-GTR-490. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

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Please respond in 300 words or less.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
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7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
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Please respond in 300 words or less.

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Please respond in 600 words or less.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

It's possible for landowners to be held to performance standards, but they need to be compensation for the ecosystem services they're providing the planet. Ecosystem services such as carbon sequestration should be brought into the marketplace and give a value.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

On which end? The amount projects can sell or the amount the private or public sector can purchase?

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Congress should identify what they want to fund and strategize from there. If carbon sequestration from improved soil management is thought possible and desirable, either incentivize the creation of credits that can be put up for sale or allow the purchase of credits from that sector.

The important point is that the upfront costs for projects that create offset credits are often too high. Creative financing will need to be developed so that small-small participants are not effectively excluded.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

There's a tradeoff between flexibility and accuracy.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

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Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
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26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
BIOTECHNOLOGY INDUSTRY
ORGANIZATION (BIO)
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Matthew Carr

Organization(s) you represent

Biotechnology Industry Organization (BIO)

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Director, Policy, Industrial & Environmental Section

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
   Please respond in 600 words or less.

The Biotechnology Industrial Organization (BIO) strongly supports efforts to incentivize technologies to reduce and mitigate greenhouse gas (GHG) emissions. If applied intelligently, comprehensive global warming legislation, whether via a cap-and-trade program or other mechanism, has the potential to greatly accelerate deployment of these vital biotechnologies and begin to reduce our nation's greenhouse gas emissions.

Attainment of desired GHG reductions will require our economy to transition to cleaner and sustainable energy resources, achieve much higher levels of energy efficiency, and use agricultural biotechnology. BIO represents advanced technology companies that are developing innovative biological-based fuels, products and processes, and crops derived from biotechnology that will enable our economy to achieve these objectives. Examples of biotechnologies being developed commercially by BIO members are:

- Advanced biofuels utilizing conventional and biotechnology-derived non-food feedstocks;
- Crop varieties that improve yield, reduce energy use on the farm, enhance land use efficiency and enhance soil sequestration of CO2;
- Advanced biobased products such as bioplastics and renewable chemical intermediates;
- Biotech manufacturing processes and process changes that use microbial or enzymatic systems to sharply reduce energy use in industrial production and consumer manufacturing applications;
- Algae systems to capture CO2 from various emission streams and convert it biologically into renewable fuels and products; and
- New dedicated energy crops.

BIO urges, therefore, that climate change legislation include appropriate incentives for, and recognition of, biotechnology solutions that enhance agricultural productivity and enviroinmental sustainability, produce clean and sustainable fuels and products, enhance industrial energy efficiency, and protect and enhance soil carbon. To advance the growth in use of biotech tools for GHG abatement and mitigation, the following features should be included in any market-based cap and trade system:

1. Earmark auction proceeds to development and deployment of biofuels, bio-processes, biotechnology crops and bio-products.

2. Allocate special allowances to manufacturers and/or users of advanced biofuels, bio-processes, biotechnology crops and bio-products that can demonstrate GHG emission reductions.
3. Allocate a meaningful portion of allowances and/or revenues from the auction of allowances to aggressively fund crop research and existing DOE and USDA conventional and advanced biofuels and biobased products programs. A strong suite of federal programs exists to support the research, development and deployment of existing and advanced biofuels and biobased products, but few are funded at levels sufficient to drive the rapid commercialization necessary to achieve needed GHG reductions. An inventory of programs requiring additional funding is attached.
4. Offsets and credits. Offset language should expressly recognize biotechnology solutions that reduce energy consumption and GHG emissions, such as industrial bioprocesses that reduce heat/power consumption, sequestration technologies, such as algae, and crop varieties that increase plant yields and increase soil carbon sequestration.
5. Land-use. To the extent emissions associated with land use are considered, all technologies and land use choices must be evaluated on a level playing field, using rigorously developed and consistent scientific methodology that is uniformly applied and does not discriminate against biofuels production.

The successful development of myriad biotechnologies and their rapid deployment throughout the economy could advance the nation's goals of both sharply reducing greenhouse gas emissions and encouraging cleaner and more sustainable energy resources. BIO urges you to value the vital contribution that biotechnology solutions can make to achieve these goals by giving the above recommendations your strongest consideration.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

BIO does not believe that it is advisable at this time to regulate the agriculture and forestry sectors under a carbon cap. Instead, carbon reduction programs should provide incentives for efficient land use practices -- such as use of high-yield / low-input biotech crop varieties -- that provide the greatest greenhouse gas benefits.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

As articulated in question 1, it is critical that a meaningful portion of allowances and/or revenues from the auction of allowances be allocated to fund programs to mitigate climate change through more efficient use of agricultural and marginal lands, and for the production of renewable fuels and products from agricultural biomass. Land use is a vital component of the climate system, and any carbon reduction program must incentivize wise use of productive and marginal lands.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

To ensure strong investment in climate change mitigation technologies, a consistent greenhouse gas regulatory scheme is required -- including consistent, science-based methods for calculation of lifecycle greenhouse gas profiles. Thus, any federal GHG program should establish standards and methodologies for all regions of the country.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

No position.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

No position.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

No position.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

Any carbon reduction program should provide incentives and assistance to rural enterprises that help mitigate climate change. Biofuels and biobased products represent a tremendous rural and tribal development opportunity that also provides substantial greenhouse gas benefits. Investment in these technologies can benefit many of the populations of greatest interest to the agricultural community.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

A meaningful portion of revenues should be used to create quality value-added jobs in rural areas that deliver greenhouse gas benefits. Deployment of next generation biomass feedstocks through programs such as the Biomass Crop Assistance Program, and funding for construction and operation of next-generation biorefineries are excellent examples.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

No position.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

Public lands should play a role in addressing climate change. In particular, public lands should be made available, where appropriate and sustainable, for production of biomass for advanced biofuels and biobased products. Where agricultural production occurs on public lands, technologies that deliver greenhouse gas benefits should be encouraged, and not restricted.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

No position.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

One critical lesson that has emerged from California's effort to regulate carbon is that calculation of lifecycle GHG profiles for biofuels or other products must be based on established scientific consensus. The inclusion of estimates of emissions from indirect land use change (ILUC) in lifecycle GHG calculations threatens to chill investment in the very technologies that can provide the greatest benefit, while simultaneously holding U.S. agricultural producers responsible for land use decisions around the world. ILUC penalties must not be applied unless or until there is established scientific consensus that adverse ILUC impacts exist.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

Carbon reduction programs should incentivize desirable land use practices. The suite of incentives could include offsets and allowances for best practices, and voluntary sustainability certification systems, such as that being developed by the Council for Sustainable Biomass Production (CSBP).

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

No position.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Offsets should be provided to the projects and technologies that result in the greatest GHG benefits outside the regulated set of activities. Consideration must be provided to the full range of mitigation technologies, including biotechnology solutions that reduce energy consumption and GHG emissions, such as industrial bioprocesses that reduce heat/power consumption, innovative carbon capture and

sequestration technologies, such as algae, and crop varieties that increase plant yields and increase soil carbon sequestration.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

A major research effort is needed to better quantify and account for carbon and other greenhouse gases in land use. The results of such an effort could then be used to better verify the benefits of land-based offset projects or activities.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Offset projects should deliver real and verifiable GHG reductions.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

No position.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

No position.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Offsets should have the same value and fungibility as allowances. Projects involving land-use, biomass, or biotechnology should be subject to the same qualification and valuation rules, including any discounting, as apply generally to other projects and activities qualifying for offsets. .

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

No position.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

No position.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

No position.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Federal or state government support for projects that provide GHG benefits should not restrict a project's eligibility for additional incentives under a carbon reduction program.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

No position.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Procedures and protocols should be detailed in some respects, but flexibility is needed to enable regulations to adjust in future years. For instance federal regulators at this time have very little experience in understanding biotechnology based systems, but will be expected to grow as the U.S. government implements a program(s). Details might include the following:

Allocation Incentives –
Allocate special allowances to manufacturers and/or users of advanced biofuels, bio-processes, bio-products, and biotechnology crops.

Earmark auction proceeds to development and deployment of advanced biofuels, bio-processes, bio-products and biotechnology research.

Credits/Offsets Incentives –
Identify projects that measurably reduce GHG emissions due to deployment of bio-processes and bio-products as well as manufacturing process changes involving deployment of green biological based systems to substitute for traditional chemistry systems, as well as agricultural biotechnologies that also reduce GHG emissions.

Provide offset credits for manufacturers of bio-products and bio-processes, in addition to or as an alternative to project-based credits.

Manufacturers of bio-processes and bio-products could sell credits to their customers for increasing purchases of and use of bio-processes and bio-products that reduce their energy consumption or direct emissions. Such a specific manufacturer-customer credit is not currently included as a feature in existing offset provisions of pending GHG legislation.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Ag producers and land owners need easily accessible models to know how to manage and measure carbon on their land. For instance models are being developed to show how much corn stover can be removed for biofuels production without depleting soil carbon. Models can also show that no-till farming and cover crops can actually sequester carbon.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Conservation programs should incentivize sustainable production of biomass for biorefineries where appropriate and consistent with other conservation goals.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Congress should mandate and fund more R&D for improved biofuel feedstock crop yields, new advanced enzymes/ fermentation organisms, methods for accounting for soil carbon, and technologies to enhance biofuels sustainability, as well as development of

microbial systems to capture and recycle or sequester GHG emissions. This R&D effort must proceed in parallel with funding for scale up and commercialization of advanced biofuels. Additionally, it is critical that USDA and DOE produce yearly reports on the GHG benefits that are being produced by the nations' farmers and biofuels industry to increase public awareness and support.

Different emissions trading schemes cause different cost burdens. Distortion of competitiveness and carbon leakage is a real problem. Therefore a global emissions trading scheme is the best option.

Derivatives markets in carbon reduction proved successful in the EU-ETS. Access to as many actors as possible should be available in order to enhance liquidity of markets and motivating actors. This is especially true for spot markets.

For forestry, special provisions would be necessary on how events like wildfires would be treated.

The EU Emissions Trading Scheme is a very bureaucratic system. Windfall profits from power generation caused additional burden to energy intensive industry. Distortion of competition against producers outside of the EU is a fact. Carbon and job leakage is a real problem. For the third period beginning in 2013 auctioning will become more and more allocation method. Very complicated rules are in discussion to help most concerned sectors. In addition, participants covered by a scheme need time to develop and establish necessary internal procedures. Therefore, if a start is intended in 2012, regulatory framework must be finalized in mid 2010. Agro and forestry are not capped yet with the exception of New Zealand (esp. sheep catling), but both sectors can host offsets, under international standards (CDM) as well as under regional or voluntary schemes.

International offsets should be accepted as one means to link carbon markets internationally. Offsets of voluntary schemes should be accepted, if projects meet the criteria defined for domestic projects in the US.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Conservation tillage	Excellent			
Adoption of perennial crops	Excellent			
Sustainable collection of agricultural residues	Moderate			
Use of soil micro-organisms for sequestration of carbon	Excellent			

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
ROBERT C. BROWN
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Robert C. Brown

Organization(s) you represent

Bioeconomy Institute, Iowa State University

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Director, Bioeconomy Institute

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Most economists agree that a direct carbon tax is the fairest and most effective means for reducing greenhouse gas emissions. However, it also appears that anything labeled as a "tax" would have trouble getting political support, so we are likely to end up with a cap-and-trade program.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

All economic activity generates greenhouse gas emissions. Thus, a rational system of controlling greenhouse gases would apply to all economic activity, including agriculture and forestry. These sectors need to recognize that their future participation in biofuels markets will depend upon a system that assigns responsibility for harm to the environment to the parties that are directly responsible for this harm. Currently, agriculture and forestry gets a pass on their greenhouse gas emissions related to the production of food, feed, and materials. As a result, "biofuels agriculture" and "biofuels forestry" must pay for the carbon emissions arising from irresponsible land use for other applications. This occurs through the so-called indirect-land use change impacts currently be considered in evaluating low carbon fuel standards. It raises the absurd prospect of biomass farmers and biofuels producers in the U.S. being penalized for poor land stewardship practices of "food and feed" farmers in other parts of the world. The adoption of indirect-land use change impacts on the biofuels industry provides traditional agriculture no incentive to improve its environmental performance and does nothing to stop rain forest destruction and the associated emission of greenhouse gases.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Any program should not penalize early adopters of sustainable agriculture and forestry practices. Many proposals call for establishing baseline emissions calculated from the status quo, which advantages poor management practices and disadvantages good management practices - polluters get paid to reduce their high emissions while good

stewards of the environment have little opportunity to make significant improvements over their current practices. A more rational system would calculate the gross carbon emissions associated with producing a service or product (its carbon burden), for which the consumer of the product or service will have to pay according to the carbon burden tax rate. There is little rationale for limiting the tax to emissions above some baseline value, which rewards the status quo and makes it harder to adopt low carbon technologies. There is little rational for exceptions to any economic activity if we are serious about reducing GHG emissions.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

No. See answer to question 3.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

EPA would be logical.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

No opinion.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and

forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

"Special interest" groups within agriculture will not be unduly affected if consumers of products and services are ultimately responsible for paying for carbon burdens.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Revenue should be used to develop renewable energy technologies, which harvest energy flows in the biosphere. By their nature, their impact is landscape-scale and much of their benefit will be to rural areas of the nation.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

See response to question 9.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

Public lands are not synonymous with wilderness. Renewable energy and carbon sequestration are landscape-scale enterprises and will require public lands to implement.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

Prices should be determined by market prices as shaped by national targets for reducing GHG emissions. In times of national emergency, including recessions, these targets might have to be eased.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

Be careful about being too generous with credits.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

Performance standards based on total carbon emissions.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
CALIFORNIA ASSOCIATION OF
WINEGRAPE GROWERS
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Karen Ross

Organization(s) you represent

California Association of Winegrape Growers

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

President

Part I: Carbon Reduction Program Design

1)

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

The agricultural sector should not be subject to an emissions cap. There are too many, small sources of GHG emissions within agriculture (two million farms and ranches) to be tracked efficiently and effectively. A cap-and-trade program that does not include the agricultural and forestry sector under the cap, but allows for agricultural offsets to be traded as credits for compliance would provide greater environmental benefits.

Stimulating the implementation of agricultural practices that decrease emissions and improve carbon sequestration potential will also provide other environmental benefits in the form of cleaner water, air and better wildlife habitat while enhanced soil fertility and productivity. The most effective way to increase adoption of these practices is through a mix of measures, including voluntary incentive programs, offset opportunities in cap-and-trade programs, cost-share programs and grants.

3)

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

A collaborative effort involving all levels of government is necessary. While no single mandatory program has developed a comprehensive offset mechanism, it is important to recognize existing state and regional programs, specifically the California Global Warming Solutions Act of 2006, and build on the State's expertise and experience to ensure consistency.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

A combination of existing agencies will be necessary to regulate a cap-and-trade program. USDA should administer the development and implementation of agricultural offset policies. It has the scientific expertise, administrative structures and established working relationships with the nation's farmers and ranchers to be the effective regulator of ag offset policies. Furthermore, the 2008 Farm Bill provided USDA the authority to create and administer an agricultural offset program that works for production agriculture.

6)

7)

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

It is anticipated that a carbon reduction program will increase costs for energy, fertilizer, pest management tools and other inputs, as well as transportation. Increased input costs will impact farmers and ranchers and their local communities. Higher production costs could result in higher food prices.

Negative impacts from higher input costs could be mitigated with an unlimited ag offsets market and incentive programs for the implementation of voluntary emission reductions.

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Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

We believe a voluntary unlimited offset program would be the most effective way to incentivize beneficial practices in agriculture. A mix of incentive programs that includes research (little has been done to quantify carbon sequestration in vineyards and other perennial crops on the west

coast); education and outreach programs; cost-share payments to growers; and, grants will promote environmental benefits, stimulate innovation and help defray costs to growers.

The goal of offset systems should be to incentivize farmers and ranchers to meet performance standards rather than implementing regulations that may restrict innovation in offset development.

A cap-and-trade program should recognize early actors and innovators. Growers who have been early implementers of beneficial practices should be rewarded not penalized.

Carbon sequestration and greenhouse gas mitigation rates must be based on science. USDA has technical expertise and the science-based model. It should move quickly to implement 2008 Farm Bill directives to develop guidelines and protocols related to grower-owner participation in greenhouse gas offsets markets.

15) Should the total number of offsets issued annually by the government be limited? If so, how much? *Please respond in 300 words or less.*

It would be unwise and market distorting to place an artificial cap on the amount of domestic offsets. The goal should be to remove as much greenhouse gas from the atmosphere as possible. Our preference is for agriculture to have unlimited offsets that are effective and verifiable.

16)

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Offsets should be measurable and verifiable. Modeling with site specific testing should be used to reduce measurement costs for individual growers.

18)

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Based on its expertise, USDA should be given authority to design a system for verifying agricultural offset projects. If third-party verifiers are part of that system, they should be regulated by USDA.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Because of the expense of field measurement and the many variables that affect emissions and carbon sequestration potential, the most effective approach may be a mix of field measurement and models calibrated with project-specific data. Standards need to be appropriate for a wide array of offset types.

21)

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23)

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Early actors should be recognized and should not be excluded from compensation for future offsets that occur as a result of their early implementation efforts to reduce greenhouse gas emissions and sequester carbon. These practices should be eligible for other environmental market activities because they will provide additional public benefit in the form of clean water, wildlife habitat and reduced soil erosion. Growers should be allowed to stack credits to maximize their economic viability and the environmental benefit of their farming practices.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Activities paid for in part by government programs should be eligible for offset programs. The owner of the activity should be awarded payment from the sale of carbon credits. Activities that meet the requirements for greenhouse gas emission reduction or carbon sequestration should qualify regardless of the original intent of the activities as long as they provide the benefit of carbon sequestration or greenhouse gas reduction.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Many variables are out of the control of growers and that should be taken into account in the project review. Potential reversals or failure to meet agreements due to these variables should not result in grower liability.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

The 2008 Farm Bill directs USDA to develop guidelines and protocols related to farmer, rancher and forestland owner participation in greenhouse gas offsets markets.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

The lack of research in permanent crops, like vines, to quantify the impact of management practices and how they interact with soil types, climate and other variables and extending that information to growers creates a knowledge gap and obstacle to implementation of practices and technologies. Other obstacles include the cost of implementing practices and technology and available technical expertise through cooperative extension and the private sector.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

While there are no programs that have standards and incentives equal to a mandatory cap-and-trade market, the Farm Bill provides funding for conservation programs that encourage environmental stewardship practices that do mitigate climate change impacts. The California wine community has utilized several of these programs to invest in demonstration and outreach programs, on-line tools and research projects for the benefit of the industry. Individual growers have used cost-share programs for on-farm activities. Including these activities in offset programs will provide additional incentives for continual improvement of the practices and speed the adoption of new technologies.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

- Biomass utilization of agricultural crop residues that are technically available for sustainable energy and fuels production requires incentives (e.g., investment credits, low interest loans and fuel tax credits) and research support.

- A long-term program to encourage new technology for reduced tillage; organic fertilization; cover cropping; precision farming tailored to soil and permanent crop management to fit different conditions; and, low-input farming is needed. This should include research (in-field and modeling), monitoring and incentive, education and outreach programs for farmers to convert to new equipment and techniques.
- Web-based management tools to allow growers to select and quantify site-specific management strategies need to be made readily available to growers and all interested parties.
- Riparian restoration and farmscape sequestration provide other ways to store carbon on agricultural lands. These efforts can have additional benefits for erosion control, water quality and wildlife habitat. Research is needed to quantify the carbon storage from these practices and develop protocols that give landowners the ability to generate credits. Research should include economic and technology assessment.
- Fertilizer use efficiency and water management are of particular interest to California growers. Optimizing nitrogen and nitrogen-containing additive application rates requires more specialty crop research to develop well validated and calibrated biogeochemical simulation models that can estimate annual nitrogen budgets and minimize N_20 emissions. Frequent, low-volume irrigation may produce less N_20 than infrequent, high-volume irrigation. Various irrigation systems and patterns may differently impact greenhouse gas emissions from soils. Research is needed to quantify the differences in systems and management practices and equally important is increased investment in the extension of research results to farmers and landowners.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
CALIFORNIA CITRUS MUTUAL
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name
Joel Nelsen

Organization(s) you represent
California Citrus Mutual

Address
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capicity in which you are representing that organization, including any office or elected position you hold or if your are a volunteer.
President of voluntary grower membership association representing a Three Billion Dollar Industry with an estimated 12,500 employees.

CARBON REDUCTION PROGRAM DESIGN

1) Do you think Congress should enact a program that uses carbon taxes/fees, a cap and trade program, or a hybrid of these two approaches?

Citrus Mutual is conflicted as to the need for this type of program. The scientific community is split as to whether global warming and climate change is occurring and if so is our climate reverting back to what it once was less than a century ago. We profess to not know the answer to that question but we acknowledge that some preparedness is warranted **in case.** For this reason we believe the committee should take small steps towards this effort because there is so much we don't know and because of unintended consequences.

The committee must not deviate from a policy that self sufficiency in food and fiber production is the national priority; not the development of a cottage industry that creates a regulatory burden, adds to government bureaucracy and favors a segment of agriculture only. Today our farm policy favors a selected group of commodities while foreign nations mirror our policies but for a broader array of producers and commodities. This has created unintended but nevertheless real disadvantages in the competitive market place.

The committee must remember that agriculture is not one big monolith but a combination of producers with different dynamics. Therefore any policy will be a series of, or a hybrid of several concepts within this over arching subject. To create a policy and subsequent framework it must be a vehicle with several tools at its disposal.

Thus we favor a hybrid of these two approaches. A one size fits all approach cannot begin to address differing dynamics between specialty crops, permanent crops, row crops, grains, fruits or vegetables.

We also believe that small steps are necessary rather than a broad policy accompanied by regulatory implementation. Pilot programs for varied agricultural sectors must be implemented because this controversial science and new policy will not be totally correct at the outset. The committee may believe "modeling" can direct a pathway but that is too uncertain to establish one paved road on something as new and uncertain as this concept for agriculture.

The United States is now a net importer of food. The committee and Congress should not implement a new program that perpetuates that direction. On the contrary it must create an effort that stems that trend.

2) *Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?*

It is conceivable that agriculture and forestry could benefit from a carbon reduction program. *Covered* is a negative connotation that creates visions of regulations and paper burdens. The question is whether agriculture can **benefit.** For crops such as forestry, citrus and cotton real benefits because of ozone absorption could be realized. I'm certain other commodities could **benefit** but our working knowledge is limited to specialty crops.

To benefit consideration must be given to net benefits. If a producer runs his farm equipment across a citrus grove four times and regulators demand that the number is reduced to three to achieve a carbon reduction value that would negatively impact the product of fresh citrus. The production of citrus and resulting healthy tree absorbing ozone is the object so the net benefit must be plugged into any consideration for a carbon reduction program.

Again, the prime objective is producing food and fiber. That economic incentive must be maintained. That should be the primary revenue objective for a producer, not farming the government.

3) If a cap and trade program is chosen, how should emission allowances be distributed?

The knee jerk reaction is that something free is always less expensive but somehow that does not compute with the need for a regulatory apparatus to provide over site and support for this concept. Our working knowledge on this subject is extremely limited and I would venture that the vast majority of agriculture and policy makers specific to agriculture have a too limited **working knowledge** for the subject. Assuming that to be true then this reinforces the need for pilot programs within sectors.

4) Should a cap and trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs? If so, which programs and why?

Logically we would suggest yes since no one entity operates in a vacuum and a single effort is for naught in a region that has major carbon emission issues. However we are not well versed to evaluate other programs, should they exist as to their flexibility for agriculture benefits.

5) If a cap and trade program is established, should an existing government agency regulate it or should a new agency be created?

No more government expansion! Whether said agency should exist in EPA or USDA or Interior is better left to the policy makers. The fundamental criteria are that this should not create larger government. There are existing entities and individuals that can be retrained. There are agencies that have outlived their usefulness whether one chooses to admit it or not. The role is to create a more effective government, not a larger one. Again, moving forward to implement this program on a pilot basis offers existing government better opportunity to absorb and/or change to these new duties.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap and trade program, should the Commodity Futures Trading Commission continue its role as the regulator of this derivative carbon market, or should there be a different regulator.

As a specialty crop entity we have no working knowledge of this Commission. However the very nature of the question contains a bias towards specific sectors of agriculture.

7) Should derivatives markets in carbon reduction arising in the wake of the creation of a cap and trade program also be permitted to develop under similar options as for energy-based commodities?

Our knowledge of this subject is insufficient to response adequately.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interesting to the agriculture community?

If it does then the effort should be abandoned! Nothing should be done that compromises the food and fiber security of this nation. Nothing should be done that reduces the economic incentive to market agricultural commodities to the consumer domestically and around the world. Nothing should be done that stimulates farming for the government rather than the marketplace.

This program should be designed to stimulate production by creating an additional market for a revenue stream. This program should not create a disadvantaged sector. It should not negatively impact any sector described in the body of the question. It should not cause a dislocation of any sector within the agricultural community. What would be the benefit to the people if their jobs, revenues and economic way of life were adversely impacted? The economic environment has to be weighed equally with the desired results.

Note that we stated desired results. There is no guarantee that a program will work or the benefit goal achieved. But in the interim the development of a larger government, a restructuring of a region economically and the impacts on allied sectors will occur until the mistakes are corrected or more likely the effort abandoned.

Negative impacts cannot be accepted as collateral damage or acceptable losses!

9) *How might revenue generated under a carbon reduction program be best used to offset any negative impacts?*

It can't and to assume otherwise is to enhance the welfare and entitlement system. Our vision dictates that government is a facilitator for a program. Government is developing a policy that strengthens the economic base for agriculture hence the "profits" are plowed back into the farm and the region. If the purpose of the program is to create negative impacts thus requiring the dollars to be utilized for those sectors disadvantaged in the hopes that climate change or global warming is positively impacted then we have lost our way. Negatively impacting the people within a region is not positively helping them.

If our sole objective is to positively effect potential global warming impacts based upon modeling without creating the economic incentive to participate other than the expansion of a welfare system then the idea must be abandoned.

10) *Should businesses that are affected by higher overall costs due to a carbon reduction program receive transitional assistance?*

I guess the answer to this is what "higher overall costs" can be defined and whether the program and resulting market creates an adequate revenue stream to off set costs in a reasonable period of time. With the exception of permanent crops the return on investment can begin or be realized in a short period of time.

This then begs the question as to how one defines transitional assistance. Is it in the form of a subsidy? One time grant? Is it a low interest loan? Tax credits or benefits? What is the length of an assistance program? Once again this question creates a vision of bias inasmuch a narrow segment of agriculture receives government assistance. (narrow in terms of commodity number not economic value) Major processors may have to retool plants but once again an inherent bias is created in the formation of the program.

In a word we would have to come down on the side of **no.** There are too many opportunities for bias, too many opportunities for abuse and too many side issues to argue over. If the program is structured to be economically viable as well as environmentally beneficial there should be no need for direct assistance.

11) *What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?*

We have an inadequate knowledge base to provide comments

12) *Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established?*

In order to sustain the economic incentive to develop mechanisms to achieve the objective market forces should determine prices.

13) *What, if any, lessons can be learned from the European Union's Emission Trade System or any other carbon reduction program already underway or being developed?*

We have not witnessed nor experienced any other program from which we could comment with substance.

CARBON REDUCTION PROGRAM ADMINISTRATION AND IMPLEMENTATION

14) *What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program?*

From our perspective a combination of options would seemingly provide the greatest flexibility and therefore the greatest level of participation. We don't profess to understand all the options on the table. Nor do we profess to understand how the various agricultural sectors could participate. We do believe that different dynamics within each sector would dictate participation methods. Finally anybody that professes to have a thorough working knowledge of all the agricultural sectors is suspect.

Again the goal is to stimulate participation across all sectors. Limiting the methods in which a sector could participate would seemingly limit the participation level. Once again policy makers with limited practical knowledge of this newly organized program would be susceptible to faulty decision making simply because of their limited knowledge of the entire agricultural sector.

Here again each sector should be offered the opportunity to help design the carbon reduction program that best benefits the sector. The policy shouldn't come from the top down. The framework and objective or goal should be developed by the committee but the substance must be a partnership between the policy makers and the stakeholders to insure a viable program is developed and subsequently offered to industry.

15) *Should the total number of offsets issued annually by the government be limited?*

I have to ask why but must confess not to have sufficient knowledge to answer with substance.

16) *How should Congress prioritize the distribution of available offsets?*

As long as California Citrus gets to develop the offsets or credits I don't care about the rest!

17-25) Our knowledge base for this area is insufficient to adequately address those questions.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions?

This is going to be handled on a case by case basis. A good faith effort that does not yield the desired results is not the fault of the producer. Again, some areas of agriculture will be more advanced in their knowledge of this subject area. Others are on a steep learning curve. An Act of God should not penalize the producer inasmuch the Act more often than not adversely affected the farming operation as it is. If we takes small steps first then the penalty for not being correct is small. If we don't offer the reward until the project is past its infancy and actually achieving the results desired then the chances of a revenue miscue are reduced.

We think the appropriate implementation program will significantly reduce the chances for forwarding revenues erroneously.

27) Should protocols for the offset program be detailed in legislation, or should authority be delegate to the appropriate government agency?

The protocols should be developed within the entity with the greatest expertise on the subject and the industry segment being addressed. I'm not sure that Congress is the right vehicle.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

This question says it all. Too many segments of agriculture are not cognizant of the program, its concepts and its bureaucratic programs. First there needs to be an educational component to insure that all producers are aware of the environmental and economic potential.

Then each segment of agriculture needs to have a solid scientific foundation as to what their farming practices, commodity and industry does to impact or benefit the environment as it relates to emissions, carbon sequestration and other factors.

Then there needs to be an understanding as to how each benefit or impact can be strengthen or reduced. Finally there needs to be a more streamlined system for participation than what presently exists for FSA program participation. The actual act of enhancing benefits or reducing impacts a producer will readily identify if the program is not burdensome and economically viable.

29) Do existing conservation program and forestry programs provide sufficient incentives to encourage adoption and implementation of practices that mitigate.....

If they did wouldn't more producers and commodities be participating? There is a wide range of exposure, knowledge and practical participation within agriculture as it relates to

this/these programs. We are not a monolith. The transportation industry consists of the airlines, automobiles manufacturers, truckers, bus operations and trains. Do you believe they walk arm in arm and have the same knowledge base on all matters affecting their sector? No one assumes that United Airlines and Ford talk on a regular basis. Ditto in agriculture and specifically on this subject yet logically one would assume that permanent crops, starting with forestry, would have the most to offer.

Nor can one assume that just because California appears to be moving in a direction that does not mean the direction is clear, right, or available to everyone.

CARBON REDUCTION PROGRAM ADDITIONAL THOUGHTS

This outreach effort by the Committee is an excellent step to help sectors of agriculture to better understand *what they don't know*. Our view is that more sectors would be willing to explore, if not participate, in the program envisioned by this query. The major obstacle is a thorough working knowledge of the program and its nuances. On behalf of the California Citrus industry this is an avenue we would like to explore further both for the environmental benefits but also because of the alternate revenue stream potentially provided.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
CALIFORNIA CLIMATE ACTION REGISTRY/CLIMATE ACTION RESERVE
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Gary Gero

Organization(s) you represent

California Climate Action Registry/Climate Action Reserve

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

President

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
   Please respond in 600 words or less.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
   Please respond in 300 words or less.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
   Please respond in 600 words or less.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
   Please respond in 600 words or less.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
   Please respond in 300 words or less.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
   Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

   Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
   Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
   Please respond in 600 words or less.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
   Please respond in 300 words or less.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
    Please respond in 300 words or less.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
    Please respond in 300 words or less.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Although there are quite a few criteria that could be used to assess specific types of offset projects, for a reduction in greenhouse gas emissions (or increase in sequestration) to function as an offset, it should meet the following criteria:

Real: GHG reductions must have actually occurred (not merely be projected to occur), and should not be an artifact of incomplete or inaccurate emissions accounting. Methods for quantifying emission reductions should be conservative to avoid overstating a project's effects. The effects of a project on GHG emissions must be comprehensively accounted for, including unintended effects (often referred to as "leakage").

Additional: GHG reductions must be additional to any that would have occurred in the absence of a market for GHG reductions. "Business-as-usual" projects – i.e., those that would occur in the absence of an offset market – should not be eligible for registration.

Permanent: In order to function as offsets to GHG emissions, GHG reductions must effectively be "permanent." This means that if verified GHG reductions are reversed within 100 years after their registration (i.e., sequestered carbon is released back to the atmosphere), an equivalent number of emissions credits or allowances must be cancelled to compensate for the reversal.

Verified: GHG reductions must be verified on an ex-post basis. Verification requires third-party review of monitoring data for a project to ensure the data are complete and accurate.

Owned Unambiguously: No parties other than the registered project owner must be able to reasonably claim ownership of the GHG reductions.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Congress should lay out the general requirements and structure for an offset verification system. The administrating agency for an offset program could either undertake verification activities itself, or contract these out to independent third-party verification entities. For budgetary and administrative reasons, it will generally make sense to use third-party verifiers. A system of third-party verifiers should have the following characteristics:

Training and accreditation. All entities responsible for performing offset project verification activities should be accredited according to international standards (e.g., ISO 14065) and should demonstrate competence to conduct verifications for specific types of offset projects. The administrator of the offset program should conduct periodic trainings

for accredited verifiers to ensure that they are familiar with the protocols and methodologies they will verify against.

Random assignment. Project developers should be responsible for paying the costs of verification. However, the offset program administrator should decide which verifiers are assigned to specific projects (i.e., project developers should not be able to choose which verifier they wish to hire). This will avoid potential conflicts of interest.

Other conflicts of interest. Notwithstanding a system to randomly assign verifiers, the offset program administrator should take steps to ensure that no other conflicts of interest exist between and project developer and its assigned verifier (e.g., prior consulting arrangements).

Administrator review. The administrator of an offset program should review all reports submitted by third-party verifiers to check them for accuracy and approve, reject, or request corrections as appropriate. The administrator should retain ultimate authority to decide whether to accept a project's verification and issue offset credits on behalf of a project.

A verification system generally must accomplish two tasks: (1) project "validation," which consists of determining whether projects meet eligibility criteria; and (2) project "verification," which consists of verifying monitoring data in order to determine how many GHG reductions a project has achieved. Third-party verifiers should be allowed to conduct both tasks. If significant judgment calls are required in interpreting eligibility criteria (e.g., determining project "additionality") it may make sense to require that validation and verification be performed by different entities. Where eligibility criteria are clear and unambiguous, validation and verification criteria may be performed by the same entity.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program? *Please respond in 600 words or less.*

Generally this is not an "either/or" decision. There are several advantages to using a standards-based approach, including simplicity, transparency, and providing greater certainty to project developers and investors. That said, obtaining accurate estimates of a project's effects on emissions or sequestration will almost always require some project-specific field measurements. As a general rule, an offset program should rely on standardized methods to the extent possible without sacrificing accuracy and integrity.

A distinction should also be made between methods and criteria used to determine a project's eligibility, and the methods used to measure its effects, estimate baseline emissions, and calculate net reductions or sequestration. Eligibility criteria should be "standardized." That is, project eligibility should be determined using criteria whose interpretation is clear and unambiguous, and not subject to subjective analysis or assessment. Such criteria should be designed to exclude non-additional projects, while

allowing additional project to qualify. Methods for calculating emission reductions or sequestration should rely on at least some project-specific measurements and field data.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

For compliance purposes in a cap-and-trade program, a regulated entity should be allowed to surrender either one allowance or one offset credit for each CO2-equivalent ton of GHG emissions they emit. Discounting the value of an offset credit should be avoided. Concerns about the "realness" or additionality of carbon offsets should be addressed through conservative quantification and monitoring requirements and stringent additionality tests, not by arbitrarily discounting the value of credits. Quantification and monitoring requirements should be sufficiently rigorous to ensure that an offset credit truly represents the reduction or sequestration of one CO2-equivalent ton of greenhouse gases.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Where offsets are based on the sequestration of carbon out of the atmosphere, "permanence" should be ensured through the following mechanisms:

1. Requiring annual monitoring of project lands in order to verify that carbon for which offset credits have been issued remains sequestered for at least 100 years.

2. Requiring project developers compensate for any reversals of sequestered carbon, i.e., re-emission of carbon into the atmosphere, that occur within at least 100 years of the carbon's sequestration. Compensation should take the form of surrendering to the offset program administrator a sufficient number of offset credits or allowances to cover the total CO2-equivalent tonnage of any reversals.

3. To assist with requirement #2, requiring project developers to carry insurance against reversals due to natural causes (e.g., fire, pests, disease). Initially, this insurance should take the form of a set-aside to a program-administered "buffer pool" of offset credits.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

We believe that Congress should set forth criteria for the EPA Administrator or other body to evaluate existing offset programs and that offsets issued by qualifying programs should granted regulatory status for use in the cap and trade program. The provisions of the Waxman-Markey draft bill at Section 740 can serve as a model for this approach.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Early actors should be eligible to receive offset credits to the extent that they can meet all criteria established by a regulatory offset program for additionality, monitoring, quantification, and verification. Additionality criteria should sufficiently stringent to exclude "early actors" who did not anticipate receiving offset credits in deciding to undertake emission-reducing or sequestering activities.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

The receipt of assistance from government programs should not automatically be grounds for making projects ineligible as offset projects. However, additionality criteria should be sufficiently stringent to exclude projects that would have been implemented anyway (with or without government assistance) in the absence of a carbon offset program.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

If a project does not sequester carbon or reduce greenhouse gas emissions, any remedies should worked out in private contracts between the project owners and prospective buyers of the project's offset credits. There is no need for the offset program administrator to impose any special liability in these cases. The program administrator should only be responsible for determining a project's eligibility, reviewing project verification reports, and issuing offset credits on the basis of verified reductions/sequestration.

If a natural disaster results in the reversal of carbon for which offset credits have already been issued, then the project developer should be required to compensate the program administrator with a sufficient number of credits to cover the reversal. This requirement to compensate should be part of the project developer's contractual obligation for participating in the offset program.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

Legislation should lay out the general structure, principles, and requirements of an offset program. The development of project eligibility criteria, quantification protocols, and monitoring and verification procedures should be left up to the program administrator to devise, within the general principles and criteria established by legislation.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
CALIFORNIA FARM BUREAU
FEDERATION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Cynthia Cory

Organization(s) you represent

California Farm Bureau Federation

Address
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Director, Environmental Affairs

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

The California Farm Bureau Federation, like the majority of businesses entities in California opposed AB 32, the Global Warming Solutions Act of 2006. The details of this mandatory GHG emission reduction program are still being developed. One of the major reasons for opposition was having a stand-alone state program that would put our business community at a huge competitive disadvantage. If a climate change program was going to be developed, a national policy was the preferred approach.

The agricultural and business communities have been closely involved in the AB 32 development process. CA is proposing a cap-and-trade program as opposed to a carbon tax. The 25,000-mtCO2e GHG emission threshold does not include any production agricultural entities or livestock manure managements systems. As stated earlier, if Congress decides tp address climate change through a cap-and-trade system, a nationwide approach that incorporates the work already begun in CA is preferable to a state-by-state approach.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Agriculture and forestry should not be included as a capped entity in a carbon reduction program. These two sectors can provide voluntary carbon offsets that are real and verifiable using scientifically based protocols developed with production agricultural and forestry stakeholder input to insure effective adoption. These offsets will provide cost-effective GHG emission reductions to help reduce societal costs across the board of a mandatory carbon reduction program.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

The details of auction vs. allowance and cost have not been discussed in detail by the CA agricultural community since we are not designated as capped entities under the proposed state program. If allowances are to be allocated to the ag and forestry sectors, it should only be considered if this can be done in a manner that would not negatively affect the capped

entities. The potential capped entities provide key production ag inputs such as fuel, fertilizer and fuel and every care must be taken to insure their costs are not increased. The CA capped business community prefers allowances vs. auction.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Numerous state and regional programs are under various stages of implementation. While we believe a national program is the preferred model, the lessons learned by the various existing and emerging programs should be linked to the federal system. This will prevent voluntary early adopters from being punished for their innovation or lead to them undoing GHG emission reductions so they can participate in a national program.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

It is important to note CA is not using the Clean Air Act for AB implementation. In response to U.S. EPS's November 2008 ANPR, CFBF submitted comments that strongly oppose including CO2 as a criteria pollutant under the Clean Air Act to regulate GHG. We believe this would be completely unworkable and would doom any carbon reduction program from the start.

Our experience thus far in CA makes the case for giving clear implementation authority to one agency, but include clear direction on requiring cooperation with other key agencies. The California Air Resources Board, a division of California Environmental Protection Agency (CalEPA), is the lead agency. However, great care has been given to insure coordination among key state agencies to implement AB 32. Governor Arnold Schwarzenegger directed the CalEPA Secretary to coordinate with the Secretary of Business, Transportation and Housing Agency; Secretary of the Department of Food and Agriculture; Secretary of the Resources Agency; Chairperson of the Air Resources Board; Chairperson of the Energy Commission; and President of the Public Utilities Commission. The Secretary of CalEPA leads this 'Climate Action Team" made up of representatives from the agencies listed above to implement global warming emission reduction programs to meet the statewide GHG targets established in AB 32.

We recommend that a cooperative inter-agency model be adopted at the federal level. USDA should provide all oversight for the participation of the agricultural and forestry sectors in a carbon reduction program.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role

as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

While in the long term, energy efficiencies should feasibly provide cost savings to all parts of society; it will incur significant costs and not be an equitable or short-term path to reach these goals. There will be winners and losers without any doubt. Some agricultural sectors may be able to provide offsets to compensate for their increased input costs, while others will have few if any opportunities. Across the board, the ag community will experience increased energy prices that will impact many of the ag in puts such as fertilizer, fuel and feed. It is crucial that a flexible carbon reduction program be developed that awards short-term GHG reductions (i.e. soil carbon sequestration) as well as longer-term reductions from technologies that have not yet been developed.

There will be significant negative impacts to forestry community if the draft definition of renewable biomass proposed in the Waxman-Markey Climate and Energy bill is not changed. The definition prevents: a) Forest counties from participating in and benefiting from the economic stimulus and job development that the emerging biomass-bio-energy and bio-fuels industries will create. Unemployment rates in forest counties are some of the highest in America. b) Prevents federal land managers from restoring forest health, and protecting watersheds and wildlife, and reducing catastrophic wildfires, and therefore greenhouse gas emissions. c) Prevents forest counties from becoming an active and contributing partner in the campaign to reduce greenhouse gas emissions and reduces America's dependence on foreign oil for energy and fuel. d) Prevents the Federal

Government from generating increased revenues from U.S. Forest and BLM lands, which reduces the annual contribution of the U.S. Treasury to support the Secure Rural Schools and Communities Act (SRSCA). Biomass from federal lands should be eligible under federal law to be considered "Renewable Biomass", with adequate restrictions for special land designations such as wilderness areas, wild and scenic river corridors, and designated old growth. It is economically and ecologically irresponsible to declare federal land biomass off limits as "renewable biomass

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

While relief should be available to sectors negatively impacted by increased costs from a carbon reduction program, research and development will be crucial to the ultimate long-term success. Scientific and technological break through cannot happen without basic R&D followed by pilots and field-testing. Society does not have the majority of information or educated workforce we need to make a global climate change policy successful. This needs to be recognized and addressed in an implementation timeline to insure that expectations do not exceed reality and result in economic upheaval.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

To the extent possible, it will be important to insure sectors of the economy that will have no opportunity to counterbalance increased costs be provided transitional assistance. Since the agricultural community are price takers and not price setters, this will be crucial.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

Public lands could play a key role in GHG reductions by utilizing the same strategies developed for the private agricultural and forestry sectors as long as the land use benefits that they provide to the agricultural community are not diminished.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

A market driven carbon price is preferable to a regulated carbon price. There will need to be sufficient front-end work to insure a sound and credible cap-and-trade program based on viable GHG reductions. However, once a sound basis is established, a balanced trading program should follow.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Agricultural and forestry offsets should be included across the board. Protocols for offsets should be scientifically based but the approach taken using the Clean Development Mechanism was cumbersome and ineffective and served as an obstacle to reasonable GHG reductions. A streamlined approach for agricultural and forestry protocol needs to be developed that meets the necessary technical requirements.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

A voluntary offsets program developed under the authority of the USDA will be most effective for ag and forestry. The offsets must be real, verifiable, enforceable and meet appropriate levels of duration and additionality. In cases where the scientific data is insufficient or verification costs too steep, an allowance or incentive strategy might be more conducive. A general authority should be given to develop such a program under the leadership of USDA, with specific details developed by USDA and stakeholders with extensive research and review.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

EPA has conducted analysis that shows unlimited offsets will not deter a successful carbon reduction program. The cost of allowances is predominantly carried by the capped sectors, therefore, offsets should not be limited in such a way as to increase allowance costs.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Congress does not need to prioritize or distribute offsets. They should authorize a full set of offset opportunities and allow the market to work. Every encouragement should be given to allow the use domestic offsets vs. international offsets if a limit is enacted.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Offsets must be real, verifiable, enforceable and meet appropriate levels of duration and additionality. These are the criteria that USDA would use to develop sound and effective protocols for ag and forestry.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

USDA will use sound science for assessing offset projects.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

A verification system should be left to the authority of a designated body or agency but is not a role for Congress. What constitutes an ag or forestry offset should be developed by USDA. They can also certify third party verifiers. California is currently using the Climate Action Reserve which is a U.S. private nonprofit organization that brings together participants from the government, environment and business sectors. It works to ensure environmental benefit, integrity and transparency in greenhouse gas (GHG) emissions accounting and reduction and progressive movement in GHG emissions policy nationally and in the Western U.S.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

This is not the level of detail that should be included in statute. USDA should be given the authority to determine which approach is most appropriate, as there will be times when a standard-based approach works and times when a project-based is better.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Offsets and allowances should be fungible and exchangeable. If discounting of offsets is needed, it can be done within the quantification process. Capped sectors should be able to meet their emission reductions with either offsets or allowances.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Offset projects involving biological sequestration should utilize reserves, insurance or guarantees. Biological/terrestrial sinks provide shorter-term GHG emission reductions while longer-term (high technology) reductions are developed that should eventually negate the need for offsets.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Double payment must not be allowed, but concurrently, early adopters should not be penalized. This could be avoided by providing rewards for incremental reductions after a date certain that also meets the protocol criteria as developed by USDA and required for a national market.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Additionality is clearly not business as usual. The focus should be on carbon reduced and less on when practices are adopted. GHG emission reductions should be stackable and allowed to count towards other environmental benefits.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Most environmental practices have multiple benefits and there is no reason to discourage stackability. A practice that reduces carbon and enhances water quality should be able to partake in both the carbon and water quality markets.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Unintended reversals and other natural disasters can be addressed through insurance or credit reserve funds that are equitable to all parties. Producers should not be relieved for intentional reversals and should be liable for contract breaches.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Protocols and procedures for offset programs should not be detailed in legislation. Authority should be delegated so this extremely detailed process is developed with the appropriate stakeholders in a timely manner that allows flexibility, constant review and updating as new information becomes available. USDA should be the lead agency for agricultural and forestry protocols.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Scientifically valid protocols must be developed and made available in a manner that is user-friendly. Until these are widespread and growers have ready access there will be limited GHG emissions from production ag and forestry.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Even if current programs encourage carbon reduction, they do not quantify it in a way that would benefit growers. Congress should offer research funding and support for USDA that is distributed nationwide to insure all regions have the opportunity to undertake GHG reduction practices appropriate to their ecosystem and cropping patterns.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

California state government is considering a Low Carbon Fuel Standard on April 22, 2009. A balanced, science-based LCFS could potentially reduce our dependence on petroleum, mitigate climate change and bring new opportunity to the agricultural section. However, an asymmetrical LCFS based on untested preliminary modeling could exacerbate our

dependence on petroleum fuel, stifle innovation in the renewable fuel and agricultural sectors and delay meaningful reductions in climate change reductions.

GTAP, was the agricultural economic model used to estimate indirect land use effects for proposed regulation. Models such as GTAP need to be thoroughly valdiated against real word data and applied to local situations. Assumptions used in such modeling exercises must be completely transparent and readily available. As you are well aware, global commodity markets are extremely complex and it is difficult to ferret out direct casual relationships. There is a clear lack of scientific consensus and understanding about indirect effects for all fuels and we believe GTAP has not been validated and tested against real world data.

We are concerned that the use of the indirect land use policy and GTAP model to shape the proposed LCFS regulations may have lasting consequences on future agricultural land use, economic and climate change policies. We ask that you do not allow the indirect land use estimates from the CA LCFS be used in national climate change policy without further extensive review and revision.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE SUBMITTED BY CALIFORNIA FORESTRY ASSOCIATION

California Forestry Association

[Redacted]

web site: www.foresthealth.org

March 23, 2009

The Honorable Collin C. Peterson, Chairman

United States House of Representatives

House Committee on Agriculture
Room 1301, Longworth House Office Building
Washington, D.C. 20515-6001

Re: Response to AgQuestionnaire2009 regarding climate change legislation

Dear Mr. Chairman:

The California Forestry Association (CFA) is in receipt of your March 11, 2009 letter requesting comment on the Ag Questionnaire 2009 regarding climate change legislation. CFA is submitting these comments on behalf of our members. You have provided survey requests to some of our individual members so you are likely to also obtain comments from them individually.

CFA is a trade association whose members consist of forest products producers, forest landowners and natural resource professionals committed to environmentally sound policies, responsible forestry, and sustainable use of natural resources. Our members process over 90 percent of the wood products manufactured in the state of California.

Thank you for the opportunity to provide feedback. CFA's response is attached.

Sincerely,

Steven A. Brink

STEVEN A. BRINK

Vice President – Public Resources

California Forestry Association

Committee on Agriculture

U.S. House of Representatives

Biographical Form

Name –	Steven Brink
Organization you represent --	California Forestry Association
Address --	[Redacted]
Email --	[Redacted]
Capacity within the organization --	Vice President – Public Resources

Response to **AgQuestionnaire2009:**

Part I

1) Congress should either install a simple carbon tax system or a cap-and-trade system with no auction.

2) The Agriculture and Forestry Sectors should be separate sectors since Agriculture is likely to almost if not always a net source while the Forestry Sector is or will likely almost always be a net sink.
The Forest Sector should qualify for offsets under a voluntary carbon market program.

3) Emission allowances should be distributed by Sector by Facility at NO COST. By definition, they are "allowances"; there should be no auction of allowances. Distribution of allowances should be by cleanest technology to less clean technology. All allowances should be at no-cost.

4) A U.S. federal cap-and-trade program should trump any state or regional program. There should not be parallel or dual programs at both the Federal and State levels.

5) If there's a federal cap-and-trade program, U.S. EPA should be the primary responsible agency, however, other federal agencies should also have direct responsibilities. Two examples are U.S. Dept. of Agriculture who should be the responsible agency for review and approval of forest carbon projects and U.S. DOE who should be responsible for review and approval of biomass renewable energy credits, . . .

6) Hopefully a derivatives or futures market will be outlawed, however, if it arises, CFTC should continue its role as regulator.

7) Yes.

8) Yes. If, in any way, the agriculture or forest sectors were capped and allowances auctioned, there would be enormous potential negative economic and financial impacts to these 2 sectors. The Forest Sector should not be capped.

9) Revenue generated by a carbon reduction program must be 100% invested back into new and improved technology that leads to as rapid of emissions reductions as possible. The best situation would be that investment of revenue generated would have an emissions reduction accomplishment goal tied to the money so there would be a reasonability of the recipient to perform. If the recipient didn't perform within a specified time period, then they pay back the grant they received.

0% of any revenue generated should go for covering the costs of government bureaucracies; they should be "capped" to stay within their normal annual appropriations.

Preferably, there should be no revenue generation (auction) from a carbon reduction program.

10) No. Let the market place work and keep government out of it (no auction).

11) Public lands that have productive forest land (U.S. Forest Service and the National Forests particularly) can play a large role in net carbon sequestration and GHG emissions reduction. Active vegetative management on the Nation's National Forests could: 1) double current net growth and corresponding sequestration of CO2, dramatically reduce mortality from insects, disease, and wildfire (and corresponding release of CO2), and reduce wildfire emissions by at least 50-60 percent. Further an incentivized biomass removal program from the National Forests could provide tens of millions of bone dry tons of biomass for power generation and/or eventual biofuels production that would directly offset fossil fuel.

12) Let the market place work.

13) The ETS has taught the world that careful consideration of the amount of and distribution of allowances is vital to a successful cap-and-trade program. Only Afforestation and reforestation project types currently exist for forestry in the international carbon reduction programs.

Part II.

14) The most effective carbon reduction program for the Forest Sector is a Voluntary offset program. Not all forest landowners (particularly small non-industrial landowners) will want to or could afford to participate. Hence it needs to be voluntary. Performance standards for participants for the forest sector should be developed for Afforestation, reforestation, conversion, forest management, carbon stored in wood products and landfills, and renewable energy credits. Renewable energy credits would include both offsets associated with 1) wood product substitution for non-renewable building materials and 2) use of wood waste for power generation or eventually biofuels production, which directly offset the use of fossil fuels.

15) There should be no limit on the total number of offsets.

16) Congress should not prioritize distribution of available offsets; let the market place work.

17) The criteria, or design elements, for measuring and accounting for offsets needs to be in a set of North American protocols for both forest carbon and renewable energy credits. There is an

ANSI process underway (American Forest And Paper Association is Secretariat) with a parallel coordinated effort in Canada to establish these protocols.

18) See #17 above. U.S. Dept. of Agriculture should be responsible for assessing and approving forest projects and DOE should be responsible for renewable energy credits.

19) Approved 3rd party verification should be used.

20) Both. In many instances, default tables are sufficient to make reasoned estimates of values for certain design elements of any project type or renewable energy credit. In some instances, on-the-ground statistically valid measurements will be necessary for some design elements (such as standing forest inventory for a large landowner).

21) There need not be any relationship between offsets and allowances. Let the market place work. An emitter in need of offsets should be free to purchase as many offsets as they want.

22) Permanence for Forest Carbon should be 100 years. Short term contracts for temporary offsets should be allowed.

23) Grandfather them in, however, any future projects beyond the date of enactment of an Act shall follow the requirements of the Act.

24) First, the country has decided that CO2 is a pollutant. As a result carbon has become a commodity. Any cap-and-trade program needs to recognize that its goal is carbon reduction release to the atmosphere, period. Co-benefits should be totally outside of any cap-and-trade or carbon tax system.

Regarding additionality and consideration of "early actors" -- A state-wide mean inventory approach (U.S. Forest Service FIA data) should be used to establish the "baseline" that any registrant measures his or her standing inventory against. If a registrant's standing inventory is higher than the mean FIA number, then that additional amount of standing inventory above the FIA mean can be credited to the registrant's carbon pool for trading. If a registrant's standing inventory is below the FIA mean, the registrant is not penalized but gets not additional credit for their existing standing inventory.

Additionality would be measured on a net stock change approach including incorporation of carbon stored in wood products and landfills, on an annual reporting basis.

25) No accounting for State or Federal assistance should be required.

26) The Forest Sector should be a "voluntary" carbon program. No landowner should be required to participate. Registrants that do decide to participate must follow the requirements of the appropriate protocol. Those protocols would include accounting for natural disturbances including insect attack, disease, windthrow, and wildfire. The registrant should be 100% accountable for any sold carbon that was later lost due to a natural disturbance. The registrant should have the options of demonstrating he or she can responsibly be "self-insured", buy insurance, and/or pay the equivalent of insurance to an aggregator who would be the equivalent of an insurer by holding the pool of carbon for large numbers of registrants. The Registry itself could also decide to take on the responsibility of having sufficient carbon in reserve to be able to handle unforeseen natural disturbances.

27) Statutory direction to the appropriate agencies should be made to develop protocols and registry within a certain specific time period. U.S. Dept. of Agriculture should be responsible to develop forest carbon protocols; U.S. DOE responsible for renewable energy credits, . . .

28) Financial risk.

29) No.

Congress must require that USDA produce:

a) Simple sequestration protocols that will encourage landowner participation, both large and small.
b) Simple protocols for carbon stored in wood products and carbon stored in landfills to properly account for carbon sequestered for long periods of time.

Congress must direct U.S. DOE to establish:

a) Simple protocols that account for the use of biomass for power generation and biofuels production to measure the direct offset of fossil fuel.
b) Simple protocols that account for the use of wood products for building materials that are a direct offset of the fossil fuel energy requirements of equivalent non-renewable building materials (steel, concrete, vinyl, aluminum, and plastic).

Congress must direct all agencies in development of protocols to use full life cycle analysis (LCA) in establishing design elements to assure avoidance of unintended consequences. These life cycle analyses must include international sources of emissions if international sources of materials are being used to reduce GHG emissions in the United States. An example might be Chinese produced solar panels that used coal-fired electricity as the energy source to produce the panels. A life cycle analysis might show that the use of coal as the energy source and the transportation freight cost from China to the United States is a substantial increase in GHG emissions under a full LCA in comparison to other sources of energy.

Part III.

30) A little more about:

a) Carbon stored in wood products and landfills – we now know that the carbon dioxide decay rate in the atmosphere is almost identical to the decay rate of carbon stored in wood products and then as demolition wood in landfills. The ½ life of CO2 in the atmosphere has to be part of the equation in determining the benefit of carbon stored in long-lived wood products and then in landfills.

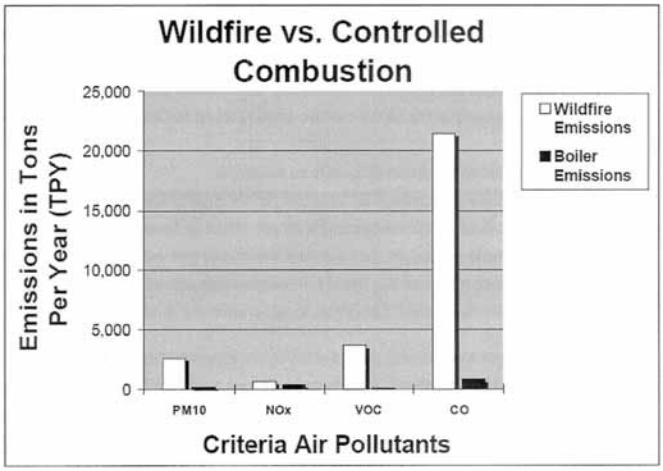
b) Renewable energy

(1) – Use of Wood Waste for power generation

We know that using wood waste (tops, limbs, small trees, pruning's, and brush) will have 98% fewer emissions if combusted in a boiler at a biomass powerplant than piled and burned in the field. Hence, there is a direct measurable offset achieved by use of wood waste to generate electricity rather than simply burning the material in the field.

Figure 1. WILDFIRE & BIOMASS POWERPLANT EMISSIONS

(Based On U.S. EPA AP-42 Emission Factors In The Southwest & A New 20MW Biomass Plant)



Comparison of Emissions Between Biomass Boilers and Open Field Burning

Pollutant	Field Burning (lb./Ton)	Biomass Boiler (lb./Ton)	Reduction (Percent)
Sulfur Oxides	1.7	0.04	97.6%
Nitrogen Oxides	4.6	0.70	84.8%
Carbon Monoxide	70.3	0.40	99.4%
Particulates	4.4	0.26	94.1%
Hydrocarbons	6.3	0.00	100.0%
Total	87.3	1.40	98.4%

April 1979. E.F. Darley. "Hydrocarbon Characterization of Agricultural Waste Burning". University of California, Riverside, CAL/ARB Project A7-068-30.

(2) – Use of long-lived solid wood product building material instead of an equivalent non-renewable steel, aluminum, concrete, vinyl, or plastic building material. We know from full life cycle analysis (www.corrim.org/factsheets) that using a non-renewable building material substantially more fossil fuel energy to create, use, and maintain than an equivalent solid wood product. Hence there is an enormous direct offset and benefit in using wood for a building material rather than a non-renewable.

Specific Types of Forestry Practices that should be available for offsets:

Type of Practice	Effectiveness at Sequestering carbon or reducing GHG emissions	Ability to verify carbon sequestration or GHG emissions reductions	Cost for agricultural producers and private forestland owners to implement	Capacity of agricultural producers and private forestland owners to implement immediately
Afforestation	Excellent	Excellent	High	High
Reforestation	Excellent	Excellent	High	High
Avoided Conversion	Excellent	Good	High	High
Forest Management	Excellent	Excellent	Low	High
Carbon Stored in Long-Lived Wood Products	Excellent	Excellent	Low	High
Carbon Stored in Landfills	Excellent	Good	Low	High
Use of Long-Lived Wood Product Building Materials as a Substitute for Non-Renewables (Steel, Concrete, . . .)	Excellent	Excellent	Low	High
Use of Wood Waste for Electric Power Generation	Excellent	Excellent	Medium	High

We have no comment on practices associated with livestock operations or crop production practices.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
CARGILL, INCORPORATED
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Mike Mullins

Organization(s) you represent

Cargill, Incorporated

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Cargill, Incorporated; Vice-President, Corporate Affairs

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
   Please respond in 600 words or less.

As Congress considers this question, it is important to understand 1) the impact of policy choices on food production for global consumers, 2) the impact on direct and indirect land use, 3) the ability to create offsets, 4) the impact of the policy choice on international trade, 5) the implications of the climate regime on the cost structure and competitiveness of job creating businesses, 6) the direct and indirect impact of energy cost, and 7) the impact upon energy infrastructure during the transition from current energy sources to new energy sources.

Congress could choose a more aggressive policy with limited flexibility that rapidly meets its climate change objectives with the unintended consequence that such a policy would likely be more disruptive to the American economy. Or, Congress could adopt a more flexible approach that takes into account the questions posed above. A cap and trade program, a carbon tax, or a hybrid of the two could range between these two extremes depending on the details.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
   Please respond in 300 words or less.

Much of the discussion about climate change in the US has been focused on an economy-wide program impacting entities that release 25,000 tons or more of CO2 equivalents per year. To exempt some parts of the economy and not others invites domestic competitive imbalances. Congress must consider any such impact as it works through the draft legislation. The agriculture and forestry sectors should be able to generate and sell offsets in the market to help firms and other sectors of the economy comply with their emission reduction requirement.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
   Please respond in 600 words or less.

Each approach comes with upsides and downsides. A 100% auction imposes an immediate cost upon emitting firms, which is likely to be built rather quickly into the prices that consumers pay. A no-cost allocation allows firms to bring emissions within the limits, and they could use some or all of their allocation, as needed. Any additional emissions would require the purchase of allowances on the market. The latter approach could prevent immediate cost escalation for consumers and could represent a smoother, phased-in implementation with less disruption.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

A federal cap and trade system should provide credit for earlier actions for those firms who are already participating in bona fide carbon emissions reduction programs. In the US, there is the Western Climate Initiative, the Regional Greenhouse Gas Initiative and the Chicago Climate Exchange. More could develop over time. Congress should consider, however, that regional programs could create a patchwork of different requirements state-by-state; thus, Congress should consider appropriate federal pre-emption. Congress should also consider how the US system might work in concert with other systems around the world to ensure that offset credits are fungible across international borders.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

There are 4 regulatory issues in question: 1) Regulation of the federal program that limits GHG emissions; 2) approval and verification of offsets; 3) regulation of the cash market for allowances and offsets; and 4) regulation of futures markets, options, derivatives and OTC instruments dealing with allowances and offsets.

The task of implementing a climate change program will be vast, the authority over all sectors of the economy will be broad, and the power held will be significant. Congress should consider which agencies within the federal government are best suited for each activity. Congress should also consider whether implementation, administration and management of the GHG reduction program will require the full time attention of a full time administrator and if so, whether to give this additional authority to an existing agency, to spread the authority over several agencies, or to create a new agency.

Offsets will be an important component of the GHG reduction program. Congress should ensure that an effective inter-agency process is established in statute to ensure that the agency responsible for approval of offsets is considering all the information available

when evaluating offset projects. The offset approval process should also be streamlined to ensure that offset projects can be evaluated and approved in a timely fashion.

The implementation of a GHG reduction program could change energy sources, which would impact the nation's energy infrastructure. Congress should consider this impact as it develops legislation to ensure that the appropriate agencies are involved in setting energy infrastructure policy. The Congress should carefully weigh whether environmental agencies are the best place to place authority for establishing policy for energy infrastructure.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

Yes. The CFTC is best suited to regulate futures, options, derivatives, and OTC markets that are likely to develop. The CFTC is a front line regulator in these types of markets every day. They understand the participants, fundamentals and technical aspects of the marketplace.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

Yes.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

Congress should carefully consider the degree to which the added cost of allowances and offsets throughout the economy impact the cost of production in the entire food

production, transportation and distribution system. In evaluating this, Congress should carefully study the effect that rising cost of production could have on food prices, food availability, rural income, food security in developing countries, and the pressure the policy could put on land use.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Public lands agencies should be able to market credits on the marketplace. The number of credits generated by public lands should be the same standard established for the creation of credits in other parts of the economy.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Market forces should determine the price. Ideally, there should be no limits on the upside or the downside. Ceilings or floors on pricing will only serve to interrupt and distort markets. Nonetheless, Congress may wish to consider if in the early years of the program, a "safety valve" of some type is appropriate with a specified phase out period. A safety valve could help to remove uncertainty on the part of emitters who need to purchase allowances and on the part of offset projects that need some certainty to develop the project. Future projections for most markets are difficult enough to make when there is a history of trading the commodity. In this case, there is very little trading history, so it may be appropriate to consider safety valves to remove some of that uncertainty.

Of course safety valves do come with their own, sometimes unintended, consequences. For example, if allowance prices are at the ceiling, sellers may choose not to sell their allowances if they expect the prices should go higher. Also, some offsets that may be

viable at higher carbon prices may not be viable if prices are capped at an artificially low level. Any safety value Congress considers should be flexible enough to deal with these eventualities.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Europe is working to reduce both GHG emissions and energy consumption through the EU ETS and related covenants. The connection between carbon and energy is important to understand in the design of a carbon reduction program. We can learn from the European experience, in particular what did not work. First, the initial allocation process, based on historic output and free allowances, resulted in windfall profits for some and no incentives for early action for others. Second, late communication from decision makers on the program details for both Phase I and II, along with a relatively short 5-year investment window, inhibited investments in long term clean technology solutions such as combined heat and power systems. Third, the EU ETS did not cover the entire economy, creating competitive balance issues in some segments. Finally, the verification process does increase the administrative burden on all participants. All of these are lessons to avoid in development of a US program.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

Congress could consider policy where (1) offsets are generated not by government, but by individuals and entities engaging in projects that sequester carbon, or otherwise reduce emissions in a transparent, verifiable, accretive manner; (2) the statute and regulations for offset creation are transparent, open and not arbitrary, so that entities engaging in offset

projects can rely on predictable, clear guidance; and (3) the approval for new projects is streamlined to allow such projects to be implemented without delay so that they can immediately begin offsetting carbon. Limitations on the number of offsets could result in unintended consequences by reducing the incentive to create them and discouraging the additional removal of carbon from the atmosphere.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Congress should establish the rules and standards for the offset market then let the market create and distribute them.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

There should be a science-based assessment for measuring and accounting for GHG reduction of the project that generates the offset.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Among other criteria, it is essential that any project meets additionality and permanency requirements for reducing GHG emissions.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Congress could consider a system that allows entities to design offset projects consistent with the transparent rules established by the regulatory agency. Under this approach, project designers would certify that projects are consistent with the rules and submit it to the agency for expedited approval. Upon approval and implementation the offset project would be subject to review by an approved 3rd party who verifies compliance with the regulations. The regulator would audit these 3rd party reviews and conduct appropriate oversight, inspections and audits to ensure the 3rd party entity appropriately reviewed the project. The regulating body would have appropriate enforcement authority to ensure both the 3rd party auditor and the offsetting entity is acting consistent with the regulations.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Congress should consider both, and in doing so increase the options to achieve carbon sequestration goals. There will likely be standard offset projects for which pre-calculated values are appropriate. Congress should not however, limit offset projects to this type. There will likely be much innovation in addressing climate change, and Congress should create a mechanism that encourages and does not proscribe innovation.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Offsets and allowances are two different instruments and the regulatory scheme should take these differences into account. These instruments differ in two areas: 1) How they are created, and 2) how they are initially made available for trade and eventually traded on the secondary market.

Creation

The regulator creates allowances and individuals in the market create offsets. The instruments are equivalent in that both represent one ton of CO2 equivalent emissions that can be emitted. A system is needed to regulate the creation, monitoring and verification of offsets, a process that is not needed for allowances.

Trading

If Congress chooses an auction approach, allowances would be offered for sale by the regulator. The regulator's auction would be the primary market for allowances. The entities that acquire allowances from the auction may choose to sell some portion of those allowances in a secondary market where buyers and sellers will establish the market price for carbon.

Approved offsets will trade between buyer and seller, perhaps through a mediator or the secondary market, and other than approval of the offset, the regulator would not have a role in the actual sale of offsets.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

The value of the offset should be based on the amount of GHG avoided, reduced or sequestered and the duration for which it avoids, reduces or sequesters GHG. This information should be determined based on sound science, not on preconceived general standards.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Credit should be given for participation in these and similar programs, as responsible, early actors have already taken significant steps to address avoidance, reduction or sequestration.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

This question is more appropriately answered by producers and landowners.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

This question is complicated. The offset program could be designed so that only offsets that are certified to have already sequestered carbon could be traded to offset emissions. This approach would prevent the problem posed by the question since an offset could not be traded unless and until it actually sequestered carbon in a verifiable way. A program that allowed current emissions to be offset by future offsets would create price risk and regulatory compliance risk for both the buyer and seller.

If, however, a firm were to invest in a project designed to sequester carbon in the future and another firm were to commit to buy those future offsets to cover future emissions, the question of liability would be governed under contract law, and their contract would govern the liability for non-performance in the future.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Congress should not defer difficult policy questions to agencies for the sake of expedience, or in the hope that the agency can solve a problem that Congress could not. The legislation should be as detailed as possible. Too much latitude left to the agencies could engender significant litigation and give rise to arguments within and between agencies, litigants and courts over the "intent of Congress".

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Congress should carefully consider the tax implications of a cap and trade system. FASB has attempted to address questions related to a carbon trading but has issued very little guidance. Congress should consider the following questions:

How would allowances and offsets be carried on company's books?

Would gains/losses on the purchase/sale of offsets and allowances be treated as ordinary or capital income?
Would offsets/allowances be treated as intangible or tangible assets?
Would allowances/offsets need to be capitalized, depreciated, or expensed?
Could offsets/allowances be transferred from one entity within a company structure to another and how should the company account for such a transaction?
How would international transactions in carbon credits/allowances/offsets be treated?

Congress should also consider amending the Clean Air Act by specifically stated that CO2 is not a pollutant under the Clean Air Act. Failing to do this could invite further, and conflicting, regulation of CO2 by the EPA even though CO2 would otherwise be covered by the carbon reduction program.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
CENTER FOR AMERICAN
PROGRESS ACTION FUND
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Jake Caldwell, Alexandra Kougentakis

Organization(s) you represent

Center for American Progress Action Fund

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Jake Caldwell, Program Director
Alexandra Kougentakis, Fellows Assistant on Climate Change Strategy

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes-fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

A cap-and-trade program would provide a greater guarantee of effectiveness in achieving concrete reductions of greenhouse gas emissions. Such a program works by setting a clear limit on major emitters for permissible levels of greenhouse gas emissions. This automatically guarantees that emissions will be reduced by a certain amount, which is not necessarily the case with a carbon tax.

Advocates of a carbon tax extol what they describe as its relative simplicity and directness compared to a cap-and-trade framework. However, effectiveness should be the foremost goal of any program to address climate change. To this end, employing a carbon tax is highly dubious. A trade-off between simplicity and effectiveness is not acceptable for any greenhouse gas pollution reduction scheme.

The determination of an effective taxation level is far from simple. If the tax level is too low, the process to make a necessary increase would also be arduous and complex. Large-scale emitters may find it preferable to pay a low-carbon tax without making any changes to reduce their emission levels, while passing on the costs to consumers. Were this to occur, the goal of reducing greenhouse gas pollution would remain elusive, and the opportunity to create clean energy jobs could be squandered.

A carbon tax has not been employed in the United States, while a cap–and-trade system has already proven to be a success. The Clean Air Act of 1990 employs a cap-and-trade program for power plants to reduce the pollutants responsible for acid rain. Industry opponents lobbied strenuously against the measure, warning that high electricity costs that would result from pollution reductions. A mere two years into the program, actual clean up costs were 275-3025 percent less than had been predicted prior to its launch. Further, not only did power plants participating in the program fully meet the pollution reduction requirements, they actually reduced emissions by 22 percent below mandated levels.

A cap-and-trade program also allows emission reductions to be more deliberately pursued by setting a clear schedule of emission reduction goals. The draft American Clean Energy and Security Act of 2009, or ACESA, released by the House Committee on Energy and Commerce reduces the number of available allowances for each year, making it possible to approximate estimated reductions on a set timescale, (See ACESA, Title VII, Sect. 721).

Today, coal and electric utility lobbyists proudly boast of acid rain pollution reductions from coal-fired electricity, which would not have come about without government action that they fiercely opposed. The cap-and-trade program's proven effectiveness, therefore, is a strong argument for its implementation in order to guarantee significant reductions in carbon dioxide emissions.

The various regional and local cap-and-trade programs that have been established within the United States can be valuable for the lessons that they provide on how to fashion an effective cap-and-trade program.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

In its initial phase, a national cap-and-trade framework for greenhouse gas emissions, or GHG, can be established without coverage of the agriculture and forestry sectors. ACESA adopts this approach in Title VII. At the same time, the bill spurs investments in renewable energy and efficiency, and thereby creates clean energy jobs, saves Americans money by cutting energy costs, reduces oil use, and lowers global warming pollution. Such a pollution reduction is essential to protect the agricultural economy from additional or more severe floods, droughts, and pests. These damages would cost farmers billions of dollars.

One of the cost containment provisions in ACESA allows covered entities to both bank an unlimited amount of allowances for use in the future and borrow allowances from one year ahead if allowance prices get too high, (See ACESA, Title III, Sec. 725). Farmers and the agricultural sector will benefit from these provisions because covered entities will utilize this additional flexibility to invest in renewable energy and greenhouse gas reductions in rural America in order to meet their clean energy and climate change goals.

As we confront global warming, investments in agriculture and forestry can help curb greenhouse gas emissions. We would encourage a steady progression of the carbon reduction program to include agriculture and forestry as we acquire valuable information regarding greenhouse gas emissions from these sectors during the program's initial implementation and operation. A carbon reduction program can provide significant incentives to lower costs, improve efficiency, and reduce GHG emissions from both the agriculture and forestry sectors.

In the United States, the Environmental Protection Agency's 2009 Draft Greenhouse Gas Inventory estimates that the agricultural sector produces 413 teragrams of carbon dioxide equivalent per year, while emitting two-thirds of all nitrous oxide emissions and significant methane emissions. Nitrous oxide and methane are both more potent greenhouse gases than carbon dioxide. Overall, the agricultural sector was responsible for six percent of total U.S. greenhouse gas emissions.

In the forestry sector, addressing emissions from deforestation is essential because the Intergovernmental Panel on Climate Change, or IPCC, estimates that deforestation contributes close to 20 percent of global greenhouse gas emissions. As such, reducing emissions from deforestation remains a major thrust of the international climate negotiations and of the United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (UN-REDD) Programme.

In the initial stages of a cap-and-trade program, the agriculture and forestry sectors are good candidates to provide offsets to reduce the GHG reduction costs for major emitters. Measurable, verifiable, permanent and additional offsets can encourage emissions reductions in sectors such as, agriculture and forestry, which may not be covered in the early stages of a cap-and-trade program (See detailed response to Question 14). In this regard, an offset program that effectively encourages emissions reductions from permanent avoided deforestation and agriculture carbon sequestration has the potential to make a significant contribution to fight global warming. A comprehensive offset program would provide more data and information about the nature and scope of unregulated emissions and set the stage for the potential official inclusion of the agriculture and forestry sectors in a cap-and-trade program at a future date.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

In order to maximize the effectiveness of a cap-and-trade program, emissions allowances should be distributed by the government via 100-percent auction. On March 12, 2009, the Congressional Budget Office testified before the House of Representatives Subcommittee on Income Security and Family Support that "giving away allowances would be significantly regressive," with households suffering from "a disproportionate burden from the price increases that would nonetheless occur." The government should set an economy-wide emissions limit on an annual basis, and covered polluting entities would need to purchase a permit for each ton of carbon dioxide released into the atmosphere.

Most economists agree that auctioning is the most efficient allocation mechanism. Auctioning prevents windfall profits, avoids rewarding polluters while penalizing early adopters of clean or efficient technologies, is transparent and immune to political lobbies, and creates a new source of government revenue that can be used to compensate consumers for higher energy costs and/or to invest in clean energy research and development. In its testimony before the House Subcommittee on Income Security and Family Support, the CBO asserted that selling allowances would allow the government to "reduce individual or corporate income tax rates…and would provide the largest benefits in terms of economic efficiency."

If a firm's emission levels exceed the allowance level appropriate to the number of permits it has purchased from the government, it would be able to purchase additional allowances from other companies that had acquired permits in excess of their pollution levels. The cost of permits would be determined by industry demand, both for the initial auction by the government as well as for the buying and selling credits between companies. The American Clean Energy and Security Act of 2009 allows a maximum purchase of 20 percent of the allowances offered for sale at any quarterly auction by the government.

ACESA additionally provides a means by which emitters are cushioned as they make changes to reduce their emissions. A "strategic reserve" of allowances would be created for when allowance prices rose to unexpectedly high levels, at which point a small number of allowances from the reserve would be added to the auction. The proceeds would be used to buy offsets to replenish the reserve (See Title VII, Sect. 726).

The argument for distributing allowances for free is based on the premise that it is necessary in order to avoid raising energy costs for consumers. In fact, there is no connection between charging utilities for allowances and the increase in home energy costs. In its testimony, the CBO noted, "Giving all or most of the allowances to energy producers…would also exacerbate the regressivity of the price increases. The reason is that the prices of those goods and services would go up, regardless of whether producers were required to purchase the allowances or received them for free (because the price increases stem from the restriction on emissions)." (emphasis added)

The experience of allowance distribution in the European Union emissions trading system confirms this point: utilities increased their rates to consumers even though they received allowances at no cost, resulting in windfall profits. To insulate ratepayers from increases in energy costs, ACESA proposes recompensing them through rebates.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

Enactment of a carbon reduction program has the potential to deliver net positive impacts for broad components of the U.S. agriculture community. In a carbon reduction program, such as ACESA, farmers can earn more income, increase on-farm efficiencies, and diversify their sources of revenue through the growth of renewable energy, GHG emission reductions on the farm, and carbon offsets. Secretary of Agriculture Tom Vilsack has called reductions of carbon dioxide a "new income source [that could] change the old ways of supporting farms."

In a carbon reduction program, farmers could be compensated for their longstanding carbon sequestration and land stewardship efforts. By increasing carbon sequestration and reducing GHG emissions such as methane and nitrous oxide on the farm, farmers can qualify for measurable, verifiable, and permanent offsets that would generate increased farm revenue. Today, even in the absence of a formal cap on emissions, the North Dakota Farmers Union estimates that 3,900 farmers are receiving $9 million in revenue from agricultural carbon offsets. The potential for additional offset income is significant. According to Ohio State University's Carbon Management and Sequestration Center, agricultural lands have the potential, under ideal circumstances, to capture one-third of the carbon emissions produced in the United States.

In addition, climate change legislation could provide direct and indirect incentives for farmers to earn income from a variety of farm-based renewable energy sources, including advanced biofuels, biomass, methane digesters, wind energy, and others. A U.S. cap-and-trade program would drive demand for

farm-produced renewable energy and increased efficiency on the farm. Farmers would become both the direct providers of renewable energy and the beneficiaries of our economy's low carbon transformation as an increasing number of wind, sustainable biomass, methane capture, and other energy facilities— and the jobs that accompany them— are sited in rural America. Targeted direct incentives can help ensure farmers receive payments for investments in renewable energy on the farm.

ACESA would also benefit farmers and rural dwellers by promoting renewable energy. The bill requires retail electricity suppliers to generate 25 percent of their electricity from renewable resources by 2025 (See Title I, Sect. 101). Many of these renewable resources, such as biomass, wind, solar, and geothermal, are located on farms and in rural America. The bill also ensures farmers are eligible for renewable energy credits from methane digesters and advanced crop biofuels (See Title I, Sect. 610). In order to improve on-farm and transportation efficiency, emissions standards for non-road heavy agricultural machinery, such as tractors and combines, are encouraged (See Title II, Sect. 821). These emissions standards will cut farmers energy input costs and save money in all farm operations. In its Clean Energy Transition and Green Jobs section, the bill highlights the importance of sustainable agriculture and farming to clean energy and curbing global warming, and encourages the establishment of training and education programs in these areas (See Title IV, Sect. 422).

At the same time, Congress should work with USDA and other agencies to ensure that several existing and planned programs maximize the potential benefits for rural communities. For example, USDA's new Office of Ecosystem Services and Markets is seeking to engage farmers, ranchers, and forest managers in efforts to ensure private agricultural lands are maximizing their carbon sequestration efforts. USDA's Conservation Reserve Program has the potential to sequester upwards of 50 million metric tons of carbon a year. Unfortunately, many farmers have recently removed lands from the program, and open enrollment for new farmers has been limited in recent years. The CRP represents a tremendous opportunity to further the nation's carbon sequestration initiatives, thus Congress should expand it.

In contrast, the costs of inaction to reduce global warming pollution are significant, and will negatively reverberate throughout the agricultural and the U.S. economy. These harms include more severe irrigation water shortages, more widespread drought, and lower crop yields. A recent study by the organization Environment America indicates that losses in corn production alone could slice $1.4 billion from the American economy. The aggregated losses to the agricultural community would be immeasurable. Secretary of Energy Steven Chu has also highlighted the risks to California's agricultural sector and its urban areas from an increase in drought conditions and a decline in snow pack throughout the West.

For example, a recent report representing the consolidation of dozens of recent scientific research papers concludes that, in California, "any delay in fighting global warming would be detrimental to our economic stability," costing billions of dollars. In contrast, immediate action on global warming will preserve the ecological structure of agriculture, and further allow farmers to reap new forms of income from several sources.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Some people are concerned that power companies and other polluting entities could pass the costs of the carbon allowances or reduction measures on to consumers. However, the revenue from the auction of emissions allowances can be employed in a number of ways that would avert this threat.

If the federal government auctions the emissions permits to the companies that must reduce their pollution, it would create a large and dependable revenue stream. There are a number of federal programs that invest in highly energy-efficient technologies, which would reduce energy consumption. A portion of the revenue from a cap-and-trade program should go toward helping to support such programs, including energy efficiency retrofits and upgrades of private and government buildings. These investments would actually *save* money while creating jobs. McKinsey and Company reported that "Almost 40 percent of [emissions] abatement could be achieved at 'negative marginal cost,' meaning that investing in these [efficiency] options would generate positive economic returns over their lifecycle."

Similarly, private sector companies in energy-intensive industries that increase their energy efficiency through technology upgrades to plants can receive tax credits to help finance such investments. These credits would also be drawn from the revenue pool generated by the auction of emissions allowances. ACESA requires that covered entities receive rebates that "shall be equal to the sum of the covered entity's direct compliance factor and the covered entity's indirect carbon factor," (Title IV, Sect. 403). Cost recovery to consumers is achieved through the distribution of rebates. Rebates to consumers are also provided for the purchase of energy efficient and Energy Star-certified products.

ACESA also expands the opportunities for use of revenue from a carbon reduction program. The requirement that 25 percent of electricity come from renewables by 2025 sets a clear goal that would encourage greater investment in these energy sources. Likewise, the bill includes provisions for advanced biofuels and for increased vehicle fuel efficiency. The former directly benefits the agricultural sector by increasing demand for agricultural output, while the latter reduces agriculture's dependence on fossil fuels and cuts energy costs. The Act also authorizes the Secretary of Education to competitively award grants for training for green jobs in renewable energy, energy efficiency, and climate change mitigation, (See Title IV, Sect. 421).

The White House FY 2010 budget proposal released last February would return the major portion of the revenue from emissions auctions to consumers in the form of a middle-class tax cut. The Center for American Progress supports such an approach, which would provide a middle-class tax cut and thus protect middle and low income families from higher energy prices.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

One of the main objectives of a cap-and-trade program is to serve as a driver to encourage businesses to make operational changes that reduce their emissions. This can consist of energy-and-cash saving measures via technology upgrades to be more efficient in their energy use, as well as switching to low-carbon electricity or fuels. The revenue stream from the auction of allowances could be deployed to incentivize companies to make such changes by helping to pay for them.

Such provisions would be of greatest importance for businesses directly affected by the cap on carbon levels, particularly electricity companies. Nevertheless, they are available to other businesses that would be affected by higher energy bills as well. The federal government can strengthen the current tax credit provisions for renewable energy and energy efficiency investments.

A global warming pollution reduction program would actually drive economic growth. It would increase demand for energy-efficient technology and renewable energy, and significantly expand markets for the manufacture, installation and maintenance of these off-the-shelf technologies. The savings on energy costs to consumers as well as businesses can then be directed to other investment and consumption activities, thus providing an economy-wide boost.

Any cap–and-trade program must ensure that any allowances provided to reduce the impact of potential price increases must benefit American households, and not increase profits for utilities or other emitters.

ACESA contains provisions that ensure U.S. manufacturers in energy intensive industries are not placed at a competitive disadvantage against foreign competitors who may be operating in countries without a carbon reduction program, (See Title IV, Sect. 401).

Green jobs, education, and training are promoted —particularly in the agricultural sector in such areas as sustainable agriculture, (See Title IV, Sect. 422). To ensure farmers and the agricultural sector can adapt and meet the challenges of global warming, the bill establishes an interagency National Climate Change Adaptation Council that will assess the impacts of climate change on agriculture and other sectors, (See Title IV, Sect. 462). A climate change adaptation fund is created to provide federal support for adaptation projects in the United States and an International Climate Change Adaptation Program is established to assist the most vulnerable developing countries— and often most heavily dependent on agriculture for economic development and poverty reduction— to prepare and adapt to climate change, (See Title IV, Sect. 491).

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

A limit on carbon prices, including a "safety valve," is inadvisable because it would reduce the effectiveness of the emission trading system. It essentially gives a non-market force the authority to

determine the maximum appropriate level of a carbon price. Such a measure threatens the integrity of the entire basis for cap-and-trade, and consequently, threatens the effectiveness of the program.

A safety valve sets a price limit on allowances, and if that price is reached, the cap, meaning the limit on emissions, becomes obsolete. The federal government is able to print new credits for sale at the safety valve price—potentially in an unlimited quantity. The resulting "inflation" of the carbon market has the effect of unrestricted emissions levels. The Environmental Defense Fund exemplifies the problems of a safety valve when it says "In reality, the mechanism does not limit the cost of actual climate pollution reductions, but it does unfortunately serve as a valve to let more greenhouse gases into the atmosphere," (emphasis in original).

The main purpose of a cap-and-trade system is to limit and ultimately reduce the greenhouse gas pollution that causes global warming. To this end, the market is the best determinant of the price on carbon, because in effect it determines how much businesses are willing to pay to pollute. As the overall cap on emissions declines, the supply of emissions allowances drops. This increases the price of emissions. Thus, companies have the option of paying ever higher prices to pollute, or they can achieve substantial long-term savings by making the necessary investments in efficiency, renewables, or other clean energy technologies. Companies that reduce emissions via efficiency would save money by purchasing fewer allowances.

The most effective ways to reduce impacts on consumers are through increased investments in energy-saving efficient technologies, as well as through the expansion of renewable energy sources. Traditional, finite fossil fuel sources will become more expensive as they become harder to extract and from limits on carbon pollution. The expansion of renewable power generation from the wind, sun and other sources could reduce the cost of these energy sources due to economies of scale. Offsets that are measurable, verifiable, additional and permanent would also help to reduce costs to consumers while still contributing to the reduction of net emissions. The American Clean Energy and Security Act of 2009 recognizes that expansion of low-carbon energy sources and more efficient energy use together with a strong regime for offsets dovetail with the goals of a carbon reduction scheme.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

The most important lesson that can be gleaned from the European Union's Emissions Trading System was the mistake of distributing free emissions allowances to electricity generators. Companies that received allowances still charged consumers for the cost of the allowances even though they were free, leading to windfall profits and unjustifiably higher energy bills. Further, the price volatility of emissions allowances was a major issue in the first phase of the EU-ETS, which had the effect of placing even more of a burden on energy consumers.

Another problem in the European experience was that the initial cap on carbon allowed too many emissions, with an over-allocation of emissions allowances to polluting entities. This was a consequence of inaccurate data reports prior to the start of the program. In the United States, the Energy Information Administration provides reliable estimates of greenhouse gases, which

should help avert a similar mistake here. The Environmental Protection Agency has recently proposed a rule for a greenhouse gas registry with mandatory reporting to further guarantee the strength of emissions data.

The excess emissions allowances also contributed to the EU-ETS price volatility; the market price of emission allowances plunged when it became apparent that the number of allowances had actually exceeded total emissions in 2006. Allowances exceeded emissions by around 80 million MTCO2e, or about 4 percent of a total market of 2 billion MTCO2e. The problem was further exacerbated by individual governments that tried to shield politically-connected polluters from changing their practices.

The major international carbon reduction programs for agriculture and forestry is the Clean Development Mechanism, or CDM, established by the Kyoto Protocol. Forests and agricultural lands have been recognized as having the potential to serve as carbon sinks. The purpose of CDM is to offset emissions in countries designated as Annex I by the Kyoto Protocol, meaning developed nations and nations with economies in transition. This can be accomplished by financing potential carbon sink projects—such as avoided deforestation—or clean technology investments in developing and emerging economies.

The principle of an emissions' offset program is one of carbon accounting that seeks to reduce net carbon emissions. If a polluting entity helps to finance a project elsewhere in the world that creates a carbon sink or prevents emissions that would have otherwise occurred, it is able to subtract the avoided emissions from its own actual emissions level. Utilities and heavy industry benefit under such a regime, both by increasing their market opportunities to the least developed countries as well as by conferring greater latitude on their obligation to reduce emissions. Both of these benefits lower emission reduction costs.

The actual effectiveness of the CDM program can be improved significantly. There is an inherent uncertainty in verifying the quantity of emissions avoided or negated by a CDM project. The consequences are borne out by a 2008 analysis by Stanford University researchers, who found that "'between a third and two thirds' of emission offsets under the Clean Development Mechanism…do not represent actual emission cuts." Participation in an offset program by the United States would require rigorous methods of monitoring and reporting to assure accountability and effectiveness. A faulty offset framework can undermine the effectiveness of an entire carbon reduction scheme.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

Carbon offsets must be measurable, additional, verifiable, and permanent if they are to be part of any rigorous emissions reduction program. In some cases, existing offsets have not met these criteria, so we must ensure that any offsets allowed under a U.S. cap-and-trade program truly reduce emissions. Efforts that fall short of full compliance threaten to undermine the integrity and achievement of pollution reductions.

In addition to providing flexible, inexpensive emissions reductions, a central advantage of carbon offsets is that they permit and encourage reductions to take place outside of the sources typically covered by a mandatory cap-and-trade program. A well-designed carbon offset program must ensure that entities selling offsets can meet rigorous, uniform standards and verify their emission reductions.

ACESA provides a valuable approach to ensuring measurable, verifiable, and permanent offsets for covered entities to achieve reductions at lower cost from other sources such as, the agricultural sector. Covered entities using offsets must submit five tons of offset credits for every four tons of emissions being offset and the total quantity of offsets cannot exceed 2 billion tons per year.

In "Getting Credit for Going Green", by David J. Hayes, the Center for American Progress discusses another approach to offsets with the creation of a two-tiered Climate Change Incentive Program to ensure real and verifiable emission reductions. The program proposes creating two tiers of incentives to reduce emissions. Tier 1 offsets—otherwise known as Compliance Credits —would be certified by the Environmental Protection Agency and would meet stringent measurement, verification, and permanence requirements via the application of rigorous EPA methodologies and protocols. These credits would count as reductions contributing to meeting the overall cap on U.S. emissions.

Tier 2 offsets would comprise the Targeted Carbon Reduction Program. This Tier 2 program would include program- or project-based activities that may not satisfy the stringent tests required to earn Tier 1 compliance credits, but still reduce emissions. These activities would earn other financial rewards, including tax credits, rebates, grants, or other financial incentives. Emission reductions resulting from the Tier 2 program would count as additional emission reductions beyond those required by the cap. Once Tier 2 programs develop a track record and more data has been collected on their resulting emission reductions, some of them may qualify to move up into Tier 1, where they can generate marketable compliance credits. In this way, Tier 2 may serve as an "incubator" of projects and programs that ultimately may qualify for compliance credit status under Tier 1.

Programs that encourage carbon-enhancing forestry or agriculture practices, for example, could be included in Tier 2, with some practices in those sectors also likely qualifying for compliance credits under Tier 1.

As noted earlier, one of the benefits of such an offset program is that it can encourage emissions reductions and information-gathering in sectors that are not currently covered under a cap-and-trade program, as we prepare for their eventual inclusion in a cap-and-trade program.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

The Center for American Progress has proposed a low-carbon fuel standard to reduce lifecycle emissions from transportation fuels by 10 percent by 2020, and an alternative fuel standard to require that low-carbon alternative fuels—including electricity—supply 25 percent of our transportation fuels by 2025.

ACESA works together with the current Renewable Fuel Standard to promote advanced biofuels grown and produced in rural America and establishes a low-carbon transportation fuel standard that would commence at the conclusion of the Renewable Fuel Standard in 2022, (See Title I, Sect. 121). The combination of the performance-based Renewable Fuel Standard and low carbon fuel standard will allow farmers and rural America to create more jobs, promote energy independence, and reduce global warming pollution.

The next generation of advanced biofuels has a role to play in diversifying our energy needs. These fuels will come from lower energy and GHG emission feedstocks such as agricultural waste, wood chips and native plants. We must move forward on biofuels in a more innovative and efficient manner. Preferred policy options must begin to reward performance characteristics of advanced biofuels, and not simply the sheer volume of production levels.

There is reliable, scientific data measuring the lifecycle greenhouse gas emissions for a range of fossil fuel sources. In the past few years, the body of scientific research and evidence measuring the lifecycle greenhouse gas emissions of a range of alternative biofuels has also grown.

In 2008, two studies published in *Science* criticized the use of biofuels, particularly corn-based ethanol, as causing more greenhouse gas emissions than conventional fuels. The studies also note that clearing natural habitats to grow crops for agriculture production generally leads to more carbon emissions, and that clearing large areas of land in general can lead to food and water shortages while reducing biodiversity. This type of scientific analysis of lifecycle greenhouse gas emissions can help us design the most effective standards to promote only those fuels with the lowest emissions and the greatest sustainability.

We must build on the goals and performance incentives of the current renewable fuel standard, or RFS, and strive to produce advanced biofuels that deliver measurable lifecycle greenhouse gas reductions, minimize the use of food-based feedstocks, and adhere to certifiable environmental and land use safeguards. Wherever possible, future feedstocks should be drawn from waste streams or produced on semi-arable land that does not compete with food or feed.

The current RFS establishes ambitious targets and makes an unprecedented contribution to incorporating the criteria noted above into the production of domestic or imported biofuels.

Lifecycle greenhouse gas reductions, emissions from land use changes, and land use safeguards are all key components of the current RFS. Its target of 21 billion gallons of advanced biofuels by 2022—and its emphasis on these and other performance-based criteria—provides appropriate flexibility to allow producers to meet the RFS mandate with significant contributions from third generation biofuels without dictating a specific type of biofuel product or technology.

An RFS based increasingly on least emissions rather than volume will contribute to a technologically-neutral standard. There is also a need for national and international certification standards for biofuels. Such standards must be part of effective policy for producing biofuels as a means to diversify our transportation fuels and ensure that these fuels generate fewer greenhouse gas emissions over their lifecycle of production to consumption and are sustainably produced.

Biofuels that are part of the solution include cellulosic ethanol—which is less energy-intensive and can be made from agricultural plant waste—or dedicated crops such as switchgrass, miscanthus, or algae. Another key source for biofuels with low lifecycle GHG emissions is municipal waste, which is largely untapped today.

Biocrude from algae and other advanced biofuels have shown recent promise in small-scale testing and production. Algae has tremendous potential due to its capacity to capture significant quantities of carbon, be grown on non-arable land using salt water rather than fresh water, deliver high bioenergy yields compared with other plants, and provide secondary products such as animal feed. However, numerous questions remain regarding algae's scalability, reproductive growth, and cost.

In order to accurately assess the true cost and viability of these advanced biofuels, we need to bring them to commercial scale as rapidly as possible. The current RFS calls for 100 million gallons of advanced biofuels in 2010, 1 billion gallons in 2013, and 21 billion gallons by 2022. These targets will simply not be met without redoubling efforts to coordinate the research, development, and deployment of sustainable advanced biofuels production among DOE, USDA, EPA, and CEQ, to name a few. Existing energy and farm legislation contains numerous programs that can further this effort, including the Biomass Crop Assistance Program and several existing grant programs. For example, the American Recovery and Reinvestment Act will provide $800 million to the DOE's biomass program to fund conversion of biomass to biofuels technologies, and $6 billion in loan guarantees for the development of renewable energy systems, including "leading edge biofuel projects" that reduce lifecycle greenhouse gas emissions and are commercially viable. The $6 billion in loan guarantees will leverage and support upwards of $60 billion in project loans from the private sector and other sources.

With appropriate and verifiable standards, advanced biofuels can play a direct role in diversifying our energy sources and contributing to economic growth and development, particularly in rural communities in the United States and the rest of the world.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
CENTER FOR FOOD SAFETY
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Meredith Niles

Organization(s) you represent

Center for Food Safety

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Cool Foods Campaign Coordinator, the Center for Food Safety's initiative on climate change and food and agriculture systems.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

The Center for Food Safety (CFS) supports a system that, regardless of its nature, recognizes the importance of reducing carbon and other greenhouse gas emissions within the atmosphere, and especially within our agricultural and food systems. In particular, CFS favors "cap and reduce" and carbon tax approaches over a cap and trade initiative. CFS believes that cap and trade programs should be considered only after other options have been found to be untenable, and CFS only supports cap and trade initiatives that function on a 100% auction only basis. Regardless of the nature of a carbon reduction program, CFS believes it is vital to recognize that industrial agriculture does make a notable contribution to global warming and greenhouse gas, up to 1/3 of all global emissions, by some accounts[1], especially in the form of nitrous oxide and methane emissions, to greenhouse gas emissions. As well, CFS believes it is also vital to recognize the demonstrated ability of organic agriculture and other types of organic practices to reduce greenhouse gas emissions and sequester carbon above and beyond conventional systems.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

To date, the agriculture sector has been largely overlooked as both a source of GHGs and a potential tool for mitigation. Within the United States, agriculture is the single largest source of nitrous oxide emissions, nearly 300 times as potent as CO2, accounting for 2/3 of all domestic nitrous oxide emissions. As well, agriculture accounts for about 1/3 of all methane emissions, about 23 times as potent as CO2, with the largest single source of methane emissions in the United States coming from enteric fermentation from animal digestive systems. Given the significant impact of agriculture on methane and nitrous oxide emissions, comprehensive climate change programs should not only recognize that industrial agriculture does contribute sources of greenhouse gas emissions, but also that certain types of agriculture and production methods, including organic production, have an ability to reduce greenhouse gas emissions. CFS believes that it is important to recognize the contribution of large-scale concentrated animal feeding operations (CAFOS, also known as factory farms) to climate change, in particular, because they do not offer a sequestration benefit that other agricultural systems may offer.

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[1] Bellarby J, Foereid B, Hastings A, Smith P (2008) *Cool Farming: Climate impacts of agriculture and mitigation potential*. Greenpeace International. Page 5.

Under comprehensive best management practices, agriculture has the potential to prevent increases in greenhouse gas emissions and sequester carbon. In particular, organic production systems have been shown to clearly not only reduce energy inputs and greenhouse gas emissions within agricultural systems, but also sequester more carbon and build soil health better than no-till and conventional agriculture.[2345] As a result, CFS believes that carbon reduction programs should recognize not only the emissions of agriculture, but also the opportunities for mitigation within the sector.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

CFS believes that if a cap and trade system is implemented that emissions allowances should be distributed on the basis of auction. An auction system of allowances not only creates a revenue stream that can be utilized for additional carbon reduction programs and global warming adaptation initiatives, but further does not give undue preference to certain industries. CFS believes that by giving away some allowances and allowing others to be purchased, a system is established that can be unfair and potentially benefit large-scale polluters to a greater degree.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

CFS supports the right of states or regions to enact stricter standards than a national program. For example, most recently, the state of California enacted a vehicle emissions standard that is stricter than the national standard. Several states have followed suit to enact a similar law. Regional and other carbon reduction programs that maintain standards stricter than the national legislation should be allowed to continue to exist. However, voluntary programs without adequate oversight and certification should be incorporated into a more broad and verifiable program.

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[2]Fliebach, Andreas; Mader, Paul. (1999). Microbial biomass and size-density fractions differ between soils or organic and conventional agricultural systems. *Soil Biology and Biochemistry*, 32:757-768.
[3] Marriott, Emily E.; Wander, Michelle M. (2006). Total labile soil organic matter in organic and conventional farming systems. *Soil Science Society of America Journal*, 70:950-959.
[4] Robertson, G.P.; Paul, E.A.; Harwood, R.R. (2000). Greenhouse gases in intensive agriculture: Contributions of individual gases to the radiative forcing of the atmosphere. *Science*, 289:1922-1925.
[5] Khan, S.A.; Mulvaney, R.L.; Ellsworth, T.R.; Boast, C.W. (2007). The myth of nitrogen fertilization for soil carbon sequestration. *Journal of Environmental Quality*, 36:1821-1832.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

Any carbon reduction program would require the participation of every existing government agency that has a stake in the program including EPA, Departments of Energy, Commerce, Agriculture, Transportation, and many others as well as the NGO community, academics and public participation. Regardless of the type of carbon reduction program, CFS advocates for establishing an advisory board for a climate change program made up of representatives from participating government agencies, NGOs, academia and the public that would be transparent and free from bias or conflicts of interest. CFS further believes that any greenhouse gas reduction program should have a Scientific Advisory Board to oversee and verify the reduction programs and management plans of programs, and should include scientists from universities and the National Academies of Sciences.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and- trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

CFS believes that any market that may develop as a result of carbon trading should be highly structured, regulated, and transparent.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

CFS believes that it is increasingly clear from scientific analysis that doing nothing in the face of climate change is a far greater threat than any potential up front costs that our society may incur to implement carbon reduction programs.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

As mentioned previously, ensuring food security in the face of climate change is one of the greatest issues our government faces. Organic agriculture and organic methods have in some studies been scientifically proven to reduce greenhouse gas emissions and provide the ability to withstand climate threats, like loss of biodiversity and increases in floods and droughts, at a superior level to conventional agriculture. CFS would thus support funding for climate change adaptation programs such as organic production and organic practices, certified sustainably harvested forestry, sustainably managed pasture and rangeland agricultural production, and food security programs (such as farm-to-school programs). In addition, CFS also believes that green jobs training is a crucial component of any adaptation and carbon reduction program. Funding should be provided to establish education programs to train our nation's scientists, mechanics, engineers, farmers, chefs, and other industries in the most sustainable and climate-friendly practices possible.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

CFS believes that any assistance provided by the American people should be highly regulated and based on performance. CFS supports assistance that would be subject to review and based on the demonstrated ability of businesses to be making marked strides in emissions reductions through apparent and meaningful transitions to more efficient systems and real and verifiable reductions in emissions.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

The American government and public lands should be a leader in demonstrating the ways that land can be managed to reduce greenhouse gas emissions and sequester carbon. Public lands can sequester and retain carbon in the soil and reduce and prevent deforestation. These public lands should be a standard in climate change mitigation practices and the federal government should establish a standard for all public lands based on best management practices that reduce emissions and increase sequestration. Furthermore,

public lands should be managed to reduce and reverse an increasing climate change threat- the loss of biodiversity.

To achieve such ends, CFS believes that public lands, including National Wildlife Refuges, should not be planted with genetically-modified (GMO) crops. GMO crops do not have any climate change benefit, particularly because they increase the use of pesticides, which not only requirés additional tractor fuel because of increased spraying, but further creates notable emissions as a result of pesticide production, application, and transportation. Furthermore, GMO crops have not been correlated to an increase in conservation tillage. and have no demonstrated ability to increase yield. In fact, the USDA has clearly noted that the increase in conservation tillage in the past two decades pre-dated the commercial plantings of GMO crops. As well, GMO crops are contributing to a loss of biodiversity both through increased pesticide use, and plantings based in monoculture, which scientifically have been proven to reduce biodiversity in and around farmland.

A recent legal victory, *Delaware Audubon Society v. Salazar,* a federal court determined that GMO crops could not be planted on National Wildlife Refuge land in Delaware, and CFS believes this should set a precedent for the ways in which all public lands are managed with respect to GMO crops. The documented impacts of GMOs on the environment combined with their clear inability to offer any climate change benefit, warrants the barring of GMO crops from public lands.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Free allowances in the EU ETS resulted in excessive profits for certain industrial sectors. To resolve this, the EU ETS is now operating on a system reliant on auctions as opposed to free allocation of allowances. Auctioning allowances results in a more equitable distribution and provides revenue to reinvest in those sectors and populations adversely affected by climate change and carbon reduction policy through transitional assistance and other social projects.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

Regardless of the type of program implemented, CFS supports a program that recognizes both the contribution of agriculture to greenhouse gas emissions and also its potential for certain types of practices to reduce and mitigate greenhouse gas emissions. Like many other industries, there are a few key players within the agricultural sector that generate a vast amount of the greenhouse gas emissions associated with agriculture. In particular, large scale industrial CAFOs are a source of emissions within this sector that further offer no sequestration benefit. As such, CFS believes that this type of agriculture should be responsible for the emissions they emit. At the same time, agriculture should be eligible for offsets, provided that such offsets are real, verifiable and offer a demonstrated reduction in greenhouse gas emissions or increased carbon sequestration. Certain types of agricultural systems including organic production and practices have the ability to reduce emissions and sequester increased amounts of emissions over conventional status quo agriculture. CFS supports programs that recognize organic animal and crop production practices for their demonstrated ability to reduce greenhouse gas emissions.

CFS also believes it is vital to independently evaluate the ability of genetically modified crops to purportedly reduce greenhouse gas emissions. Research utilizing USDA data has demonstrated that genetically modified crops increase pesticide use. As well, there is increasing evidence demonstrating that there is no correlation between GMO crops and conservation tillage. Regardless, additional scientifically published studies are further questioning the benefit of no-till and conservation till agriculture for climate change benefits. As such, genetically modified crop production offers no climate change benefits, especially in comparison to the ability of organic agriculture to reduce, mitigate and adapt to climate change.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

If a cap and trade system is implemented, CFS believes that there must be an overall reduction in greenhouse gas emissions, not merely an offsetting of emissions, to ensure the environmental integrity of the carbon reduction program. If offsets are unlimited, then it is possible that no real and meaningful reduction in GHG emissions would be made. The specifics of the number of offsets available should be determined in conjunction with the number of allowances given out under legislation. Offsets should be considerably less than allowances to allow for real and quantifiable reductions in emissions.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

There is considerable scientific evidence to demonstrate that certain types of agricultural production practices have a demonstrated ability to increase carbon sequestration and reduce emissions more than other practices. Recent research demonstrated that organic cropping systems had half the energy inputs of conventional agriculture and a global warming potential at about 3/4 that of conventional systems.[6] As such, while all types of agricultural crop production may sequester some carbon; such sequestration may be offset by other inputs within the system including synthetic fertilizers, pesticides, feed crops, and large-scale agricultural equipment. Offset programs and distribution of offsets should be based on a life-cycle analysis (LCAs) of current emissions from an entire production practice. LCAs are the most effective way to measure the entire greenhouse gas emissions potentials from various systems and do not look at certain production practices in isolation of larger emissions sources within a supply chain.

CFS further believes that offset programs should consider other environmental and social considerations in their approval process. If an offset program demonstrates ability to reduce greenhouse gas emissions, but does so at the expense of other environmental impacts, it should be reevaluated. For example, while some agricultural practices may show promise in carbon sequestration, they should not be distributed as offsets if they have other negative environmental impacts such as those caused by increased pesticide use. Furthermore, CFS believes that offset programs that may negatively impact upon communities socially or economically, particularly within an international setting, be re-evaluated despite any greenhouse gas reduction potentials.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

CFS supports a system where entities eligible for offset credits would be subject to scientific review and a life cycle analysis for verification, quantification, and monitoring.

18) What should be the criteria for assessing offset projects?

Please respond in 300 words or less.

Criteria for assessing offset projects should be based on a complete life-cycle analysis (LCA), which includes quantification of emissions from all inputs and processes to ensure that actual emissions reductions are real and accurate. Project assessments should be based

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[6] Pelletier, N., Arsenault, N., Tyedmers, P. (2008). Scenario Modeling Potential Eco-Efficiency Gains from a Transition to Organic Agriculture: Life Cycle Perspectives on Canadian Canola, Corn, Soy, and Wheat Production. *Environmental Management*. 42:989-1001.

on peer-reviewed science and overseen, reviewed, and approved by a Scientific Advisory Committee. In addition, offsets should be verifiable, real and additional.

Furthermore, as aforementioned, CFS believes that offset projects should also be considered within a broader framework that analyzes their entire environmental and social impacts. While reducing greenhouse gas emissions is desirable, it should not be done at the expense of other environmental issues or at the expense of community right to control their land. CFS strongly encourages that a system be created within an Advisory Committee to grade offset projects not only on their greenhouse gas reductions but also on their impact on other environmental issues including biodiversity, water pollution, pesticide use, wildlife impact, and habitat encroachment. CFS also supports developing a similar rubric for social impacts of offset programs, including the ability of offset programs to be controlled democratically within communities.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Congress should establish a Scientific Advisory Board to oversee the offset projects, to monitor and ensure real and verifiable offsets are being made. The board should be made up of all stakeholders including scientists from academic institutions, the National Academies of Science, and government agencies, NGOs, and community leaders. CFS believes it is crucial that any Advisory Board be devoid of advisors with vested interests within offset initiatives or industries, to ensure that the Board is free of bias. As well, all offset projects should be independently verified by third party certification.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Congress should establish standards for projects based on life-cycle analysis of all greenhouse gases involved in inputs and processes in a proposed project. However, projects should be monitored individually,by sector, especially in agriculture, because of the high number of variables involved.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

If a cap and trade system was implemented, CFS believes that a carbon reduction program that hopes to achieve real reductions in greenhouse gas emissions should not create a system where offsets can be purchased in excess. The number of offsets available within a cap and trade system should be balanced with allowances and should be based off of the number of allowances available each year.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Duration and permanence are very important issues when dealing with agriculture offsets due to the annual nature of crop systems. Participation in offset programs should be reevaluated when any changes in management techniques occurs whether the result of natural systems or man-made management decisions. Changes in system structures should require immediate reporting and subsequent contract reevaluation, to ensure that permanence continues to remain a priority with agricultural offsets.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Existing offset programs should be reviewed at the end of their current contract to be incorporated into a national program and be evaluated based on the same scientific LCA criteria and verifiable reductions as other offsets. If such existing offsets do not meet the same criteria as the national program, they should be incorporated into the national program and change its techniques to receive national offset credits.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

New government-assisted programs should be structured to incorporate a climate change component when determining grants and funding. CFS believes that programs under government funding should consider all environmental impacts, including the effect of climate change, on its program and programs that have an overall reduced environmental impact, including reduced emissions, should be given special consideration. It will be

important for future government programs and funding to be careful to prioritize reducing greenhouse gas emissions within its existing and future programs, but to do so in a way that is not detrimental to other environmental issues. CFS advocates for a robust evaluation program of existing and future funding programs that considers all environmental effects, not solely greenhouse gas emissions. Existing projects that do not include such criteria or provisions regarding climate change should be reevaluated when the funding ends and adjusted to include climate change components upon reimplementation.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

One of the future threats of climate change will be the increase in natural disasters, floods, droughts and other issues. As such, CFS believes that if a cap and trade program was implemented and farmers were eligible for offsets, they should consider natural disaster preparedness. Mitigation strategies for reducing certain disasters should be encouraged within offset plans.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

CFS supports including all interested parties within a climate reduction program, with considerable input from government agencies with stakes in the process. As there are several government agencies involved, CFS would support a governing board within any carbon reduction program that would include agencies such as Energy, Labor, Commerce, Transportation, Agriculture, EPA and other stakeholders.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Obstacles include cost, compliance and reporting burdens, access to newhigh- and low-impact technologies for older agricultural producers and landowners,and traditional knowledge, and education on best management practices.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress

consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

Current government assistance and conservation programs are not tied to greenhouse gas emission reductions. CFS supports the future implementation of a climate change component to be tied to certain types of environmental and other government funding programs. Climate change effects (i.e. drought, increased temperatures, floods) are cause for special consideration since they may cause crop failures and result in more farmers relying on crop insurance programs. CFS supports including a climate change mitigation component to crop insurance programs to ensure that such programs are operating effectively and efficiently in the future with increased natural disasters.

Furthermore, CFS encourages Congress to recognize existing research demonstrating the superior ability of organic agriculture to not only reduce greenhouse gas emissions, but further reduce energy use, increase biodiversity and be better suited to adapt to climate change impacts like floods and drought. CFS also supports programs for organic transition and other organic cropping techniques in existing funding mechanisms including programs implemented under the Farm Bill. CFS supports increasing funding for the organic transition funding, as well as research for organic production systems funding in the Farm Bill. Furthermore, CFS supports increasing the funding of EQIP, specifically to farmers utilizing organic production practices, and implementing conservation land programs. Revenue generated from carbon reduction programs could be used to ease the transition of farmers into organic agriculture and speed up adoption and implementation of climate change mitigation techniques.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

CFS believes that is vitally important to utilize the best internationally recognized science and reports available when making decisions about future carbon reduction programs. In particular, Last year the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD) - a committee commissioned by the World Bank and United Nations - issued a report declaring, "Modern agriculture will have to change radically if the world is to avoid social breakdown and environmental collapse".[7] The report further went on to declare that business as usual is not an option, and dismissed the widespread adoption of GMO crops as a solution to environmental problems including climate change.

[7] International Assessment of Agricultural Knowledge, Science and Technology for Development. Executive Summary of the Synthesis Report. Available at: www.agassessment.org

At the same time, the United Nations has continued to release reports, most recently in October of last year to advocate for organic agriculture as a means to address environmental issues. The FAO has also concluded that, "[w]ith lower energy inputs, organic systems contribute less to GHG emissions and have a greater potential to sequester carbon in biomass than conventional systems."[8] As such, CFS encourages the House agriculture committee and other government agencies to recognize that the international community continues to tout the benefit of organic agriculture and the need to advance our agricultural systems to incorporate organic practices. CFS encourages the House Agriculture Committee and other government agencies to to utilize the peer-reviewed science and international reports available thus far that demonstrates the ability of organic production and organic cropping practices to reduce energy, greenhouse gas emissions, and potentially be better adapted to climate change impacts like loss of biodiversity, increased droughts and floods.[9][10]

CFS also encourages the House Agriculture Committee to consider the best science available on the supposedpurported greenhouse gas reductions of biofuels, especially corn-based ethanol. An increasing body of scientific evidence is demonstrating that corn-based ethanol does not offer a climate change benefit,benefit[11][12], but also has played a role in increasing food insecurities and food prices in recent years. Life cycle analysis' are clearly showing that large-scale biofuel production results in an increased need of energy inputs compared to the energy output achieved[13] and may have other negative environmental benefits including increased water pollution.[14]

CFS hopes that the House Agriculture Committee will also consider research based off of USDA data that shows that genetically-modified crops result in an increase in pesticide use.[15][16] Furthermore, GMO crops have not increased yields. As well, GMO crops are being increasingly associated with conservation tillage, although this remains controversial. Regardless, however, CFS encourages the House Agriculture Committee to examine the latest research on tillage systems which demonstrates that there is no conclusive net sequestration benefit from such conservation systems. including no-till.[17][18][19][20][21][22][23][24]

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[8] Jodi Ziesemer, Food and Agriculture Organization of the United Nations. Energy Use in Organic Food Systems. 4(2007), *available at* http://www.fao.org/docs/eims/upload/233069/energy-use-oa.pdf.
[9] Bescansa P, Imaz MJ, Virto I, Enrique A, Hoogmoed W.B. (2006) Soil water retention as affected by tillage and residue management in semiarid Spain. *Soil & Tillage Research*. 87:19-27.
[10] Pimentel D, Hepperly P, Hanson J, Douds D, Seidel R, (2005) environmental, Energetic, and Economic Comparisons of Organic and Conventional Farming Systems. *Bioscience*. 55:573-582.
[11] Searchinger T, Heimlich R, Houghton R.A., Dong F, Elobeid A, Fabiosa J, Tokgoz S, Hayes D, Yu T.H. (2008). Use of U.S. Croplands for Biofuels Increases Greenhouse Gases Through Emissions from Land-Use Change. *Science*. 319: 1238-1240.
[12] Fargione J., Hill J., Tilman D., Polasky S., Hawthorne P., (2008) *Science*. Land Clearing and the Biofuel Carbon Debt. 319: 1235-1237.
[13] Crutzen PJ., Moiser AR., Smith KA., Winiwarter W. (2008) N2O release from agro-biofuel production negates global warming reduction by replacing fossil fuels. *Atmospheric Chemistry and Physics*. 8: 389-395.
[14] Donner SD and Kucharik CJ. (2008). Corn-based ethanol production compromises goal of reducing nitrogen export by the Mississippi River. *Proceedings of the National Academies of Science*. 105:4513-4518.
[15] Phipps R.H. and Park J.R. 2002. Environmental benefits of genetically modified crops: global and European perspectives on their ability to reduce pesticide use. *J Anim Feed Sci*. 11:1-18.
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[17] Angers, D.A., Bolinder, M.A., Carter, M.R., Gregorich, E.G., Drury, C.F., Liang, B.C., Voroney, R.P., Simard, R.R., Donald, R.G., Beryaert R.P., and Martel J. 1997. Impact of tillage practices on organic carbon and nitrogen storage in cool, humid soils of eastern Canada. *Soil Tillage Res*. 41: 191-201.

CFS believes it is further important to consider CAFOs within a climate change debate. CAFOs concentrate waste and animals into an area, which in many cases may exacerbate greenhouse gas emissions. As well, unlike other types of agricultural practices, CAFOs fail to offer a sequestration benefit. including organic and pasture raised animals, CAFOs fail to offer a sequestration benefit that grass and pasture-raised animal production does.[25] Mounting scientific research is demonstrating that organic and pasture raised animals have the ability to reduce greenhouse gas emissions and energy inputs.[26][27][28][29] As such, CFS encourages the House Agriculture Committee to consider the effect of CAFOs on climate change and greenhouse gas emissions, especially enteric fermentation and manure management, when it makes decisions about carbon reduction programs.

CFS appreciates the opportunity to contribute particular types of management to the forthcoming chart, but has decided at this time to not put forth specific types of management practices. CFS believes that is vitally important for any carbon reduction program that peer-reviewed science and a scientific advisory board be utilized to put forth recommendations on legitimate greenhouse gas reduction programs. CFS hopes that in doing so, scientists will pay particular attention to an increasing body of evidence that is demonstrating the ability of organic production systems and practices to reduce greenhouse gas emissions and sequester significant amounts of carbon, in comparison with other systems.

Lastly, CFS would like to thank the House Agriculture Committee for this unique and greatly appreciated opportunity to contribute its opinion and research to the committee. CFS is grateful for the opportunity and is very interested in remaining involved with the committee as it develops it research, opinions and legislation in the future and would be enthusiastic to contribute research and feedback on any future documents.

Respondent did not complete the chart at the end of the questionnaire.

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[26] Pimentel, D. 2004. Livestock production and energy use. In, *Encyclopedia of Energy*, Matsumura, R. (ed.), Elsevier, San Diego, CA. pages 671-676.
[27] *See* R.K. Heitschmidt et al., *Is Rangeland Agriculture Sustainable?*, 82 J. ANIMAL SCI. E138, E139 (2004), *available at* http://jas.fass.org/cgi/reprint/82/13_suppl/E138.pdf.
[28] George Boody et al., *Multifunctional Agriculture in the United States*, 55 BIOSCIENCE 27, 32 (2005), *available at* http://www.oardc.ohio-state.edu/amp/BOODY_GEORGEmultifunctionalAg.pdf.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
CENTER ON BUDGET AND POLICY PRIORITIES
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Robert Greenstein

Organization(s) you represent

Center on Budget and Policy Priorities

Address
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Executive Director of the Center on Budget and Policy Priorities

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

A carbon tax, a cap-and-trade-system and a hybrid approach (such as a cap-and-trade with banking and borrowing or floors and ceilings on the allowance price) are all cost-effective approaches to achieving the kinds of emissions reductions scientists say are necessary to address global climate change. They all put a price on carbon and use market forces to encourage those who can achieve the reductions at the lowest cost to do so.

There are differences, however. Cap-and-trade fixes the amount of emissions reduction that will be achieved each year but leaves uncertain the cost of meeting that target; a carbon tax fixes the cost of achieving each ton of emissions reduction but leaves uncertain how much reduction will take place. A hybrid approach can achieve a given target emissions level as long as costs remain within specified bounds, but it provides a "safety valve" against excessive volatility in costs. Economic analysis suggests that a carbon tax or hybrid is likely to achieve lower expected costs over the longer run but at the expense of some uncertainty about actual emissions reductions.

CBPP's area of expertise is not environmental policy, per se, and we have therefore not taken a strong stand one way or the other on the design of the system. For practical policy reasons, CBPP supports cap and trade because that is the approach the President and the Congress are now pursuing. We see the advantages of a carbon tax and would be comfortable if that approach were pursued instead.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

No comment on coverage of agriculture and forestry

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

If a cap-and-trade program is chosen, how should emissions allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so should there be a limit on the number of non-cost allowances?

CBPP believes that as large a percentage of the emissions allowances should be auctioned as is politically feasible. Conceptually, CBO will treat all allowances as though they were sold to generate revenue and will treat uses of the allowances as outlays. So giving away allowances for free would still be treated as revenue with a corresponding outlay. If policymakers believe that a certain percentage of the auction revenue should be used for a particular purpose, it may want to give them away for free rather than incur the transactions costs of first auctioning them off and then making the outlay. But the real question about free allowances is whether they serve a public purpose and whether that public purpose is best served by a free distribution of the allowances or by funding it through normal budget processes.

CBPP has no comment on free distribution of allowances for the agricultural and forestry sectors.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Ultimately a successful climate change policy will have to be national (indeed international) in scope. States and regions have been moving ahead with their own programs in the absence of federal action, but once there is a federal climate policy, it should supersede state or regional policies that are more limited in scope or less strict in their emissions reductions requirements. It may be appropriate to reward states or regions that have taken early action, or to allow states with stricter standards than the national standards to keep those standards.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

No comment on whether an existing or new agency should regulate cap-and-trade.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

No comment on CFTC role.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

No comment on derivatives markets

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

Enactment of a carbon reduction program will change the way the United States produces and consumes energy and energy-related products and services. It will also increase the prices of those products and services and generate substantial revenue if well-designed.

Economic analysis suggests that a carbon-reduction program will not significantly affect the aggregate level of economic activity over time (GDP and employment), although there will be transition costs for some sectors (such as coal mining). If nothing is done to address the impact of higher energy prices on consumer budgets, low- and moderate-income households (including populations served by USDA nutrition programs) will be particularly hard hit. Those populations spend a larger percentage of their budget on energy and energy-related products than higher income households do. That is why it is so important that an adequate percentage of the proceeds from emissions allowances or a carbon tax be devoted to an efficient, well-designed program to provide consumer relief.

Consumers living in regions heavily dependent on fossil-fuel power are likely to perceive that they will bear a higher burden under climate change legislation than consumers living in regions with hydroelectric or nuclear power. Similarly, rural consumers are likely to perceive that they will bear a higher burden because they drive more and use more gasoline. There is something to these perceptions, but a proper assessment of the importance of regional variation should look at the entire household budget, not just particular items. For example, regions with high gasoline consumption are not necessarily the same as those with high utility bills, and a substantial percentage of the impact is through indirect effects that are likely to be fairly similar across regions.

Assessing regional variation is bedeviled by data limitations and conceptual questions about how to measure and assess interregional equity. The evidence gleaned so far from consumer expenditure data is that 1) regional effects exist, but 2) the range of variation across regions is not large (as a percentage of the average household's income), and 3) the range and pattern of regional variation are sensitive to particular policy choices, such as whether to auction all of the emissions allowances, and, if not, to whom and for what purposes free allowances are allocated.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Some modest portion of the emissions allowance value could be set aside for those likely to experience transition costs substantially larger than might be expected in the normal workings of the U.S. economy.

Consumer impacts, especially those on low- and moderate-income households will persist. Those would be addressed best by using an appropriate amount of the emissions allowance value to fund a climate rebate that would be delivered through existing mechanisms: the EBT system already used to deliver food stamp and other benefits to low-income households that do not file income taxes; direct payments like those used in the Economic Recovery and Reinvestment Act for low-income seniors and veterans; and a refundable tax credit for tax filers. The size of the rebate would be calculated to offset the average hit to qualifying households of a given size and would be expected to increase over time as the emissions cap tightened and the costs of "dirty" energy increased.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

Some modest portion of the emissions allowance value could be set aside for those likely to experience transition costs substantially larger than might be expected in the normal workings of the U.S. economy. Most of the costs arising from a carbon reduction program will ultimately be paid by consumers, so the number of affected businesses is likely to be small and to be concentrated in a limited number of highly energy-intensive industries.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

No comment on role of public lands.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

As discussed under question 1, a cap-and-trade system with a floor and ceiling on the price can prevent undesirably large and potentially costly variability in allowance prices. However, like a carbon tax, a cap-and-trade system with a ceiling on the price does not guarantee that any particular emissions target would be met. Thus, if policymakers were to go this route they would have to make sure there was a way to adjust the ceiling if necessary to stay on track for meeting overall emissions targets.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Evaluations of the ETS suggest that it was a mistake to give away large numbers of allowances for free and that precautions should be taken to avoid excess volatility in allowance prices.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

No comments on offsets or other issues in this Part.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

No comments on offsets or other issues in this Part.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

No comments on offsets or other issues in this Part.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

No comments on offsets or other issues in this Part.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

No comments on offsets or other issues in this Part.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

No comments on offsets or other issues in this Part.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

No comments on offsets or other issues in this Part.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

No comments on offsets or other issues in this Part.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?

Please respond in 300 words or less.

No comments on offsets or other issues in this Part.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

No comments on offsets or other issues in this Part.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

No comments on offsets or other issues in this Part.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

No comments on offsets or other issues in this Part.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

No comments on offsets or other issues in this Part.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

No comments on offsets or other issues in this Part.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

No comments on offsets or other issues in this Part.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

No comments on offsets or other issues in this Part.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

No comments on offsets or other issues in this Part.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
YIHSU CHEN, PH.D.
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Yihsu Chen, Ph.D.

Organization(s) you represent

University of California, Merced

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Assistant Professor in Environmental Economics, jointed appointment in School of Engineering, School of Social Sciences, Humanities and Arts, and Sierra Nevada Research Institute, University of California, Merced.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

I would prefer using cap&trade (C&T) program for the following four reasons. First, quantity-based (e.g., C&T) is more relevant to the policy targets (e.g., trajectory of emissions.) Price-based approach has a less control of it. Second, C&T gives direct economic incentives for companies with low pollution abatement costs to over-control and sell permits into secondary markets. Third, if the permits are distributed by auctions, revenues can be recycled for specific usage. So, it shares the same function as a tax system to some extent. Forth, theoretically, C&T incentivetizes R&D (i.e., dynamic efficiency.)

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

I think so. If agriculture&forestry (A&F) represents the low-hanging fruits, we should take advantage of it. Yet, there are important issues related to the none-permanence of the carbon sequestration in the forestry sector that need careful examination. Otherwise, if A&F presents the cheapest way to offset the emissions, and might eventually crash the emissions markets. Finally, how to verify these A&F projects is another challenge, which to actual implementing it might incur substantial transaction costs, that could be more than cost-saving from the C&T programs.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Ideally would be fully by auctions but less efficient will be by a combination of both. Perhaps one of the main concerns of implementing a C&T is to ease the price spikes in the product markets (e.g., electricity sector). However, even grandfathering would lead to full pass-through of allowances costs to the market because the unused allowances could be sold elsewhere, which represents opportunity cost. Fraction of the permits that are by grandfathering could be a means by which government could use to achieve some compensation agenda for specific sectors. Finally, if A&F has emissions reduction obligation, they should be treated equally like other sectors.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

Yes, the efficiency gains/cost-savings from C&T are resided upon exploring the heterogeneity in abatement costs among the all facilities, across sectors, regions and companies. Thus, the more participants in the programs, the more costs theoretically it could save. However, the operations (e.g., program goals, verification process) of multiple programs need to be coordinated and planned well upfront. Otherwise, the consumers & companies in restrict programs will be indirect compensating facilities in other programs. Finally, the larger number of participants could prevent the occurrence of market power abuse.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Please respond in 300 words or less.

We can follow the experience in the successful implementation of SO2 acid trading program under Title IV of Clean Air Act or regional NOx trading program.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and

forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

The double-dividend principal indicates the revenues from auction in C&T programs should be recycled to reduce the possible impacts induced by the programs. Currently, RGGI is doing it for energy efficiency programs. Although I cannot recall any empirical studies examining this, theoretical and simulation studies do suggest the effectiveness of such approach.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

Under a fully operated economy, the costs will mostly be born by the consumers due to the increase of commodity prices. Thus, redistribution of revenues from programs to compensate consumers might be necessary. On the other hand, this compensation might have rebounding effect that might be against the policy goal

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

If public land is allowed to participate in the C&T or other revenue-generated climate programs, government agency could then use those revenues to invest in various manage practices to reduce wildfire risk or increase health of ecosystem.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

In the short-term, it might make sense to have partial control of permit prices by setting up a price cap. The main purpose is to ease the shock in the transition phase by preventing sudden price spikes. However, in the long-run, it should be exclusively driven by the underlying supply-demand relationship in the market to reflect the its scarcity.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Several lessons we can learn from EU ETS are summarized as follows. First, a well-defined policy goal or reduction path is needed to reduce policy uncertainty and stabilizes the market. In the initial stage of EU ETS, to some extent, permit price was determined by none-market fundamentals (e.g., announcement of allocation plans). Second, the amount of initial allocation needs to be carefully defined and quantified. The last year's crash of EU ETS partly is due to over-allocation of permits at the beginning of the programs (as well as downturn of economy). I'm not sure if there are emissions reduction programs current existed in the A&F sector, but Australia seems to have one.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

An incentive-based program might be attractive for private owners. However, as mentioned before, there is issue about none-permanence in carbon sequestration in the forestry needs carefully considered.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

I would suggest so to begin with some limitations. If there is something we can learn from the process, it will help us design a better policy in the near term.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

No, I think it should let market to determine which is more economically effective. However, there might be other agendas in the agencies that need to fulfill.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Some protocols were established under the CDM project to verify the proposed projects. Those procedures can provide some information.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

There could involve significant transactions costs in the A&F sector. One possibility is to have a pre-calculated values but subject to future auditing.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Some discount factor should be applied to offset project that are subject to some degree of uncertainty. Otherwise, the low cost offset project might flood and crash the allowance markets.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

I think this is the issue related to how to design a contract between landowners and entities that purchase/contracts for the purpose of offset their emissions such that the possible risk of carbon leakage could be internalized. If the risk is internalized and resided on the landowners, then landowners would have incentives to undertake various land management practices to ensure no leakage (e.g., wildfire) could occur.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Perhaps some kind of phase-in provision that needs to be considered on the case-by-case basis. There are some criteria need to be established in the offset markets. Those voluntary offset projects therefore need to meet these standards prescribed in the provisions in order to be counted against emissions.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

For the first question, I think convincing evidences need to be provided to show that in the absence of the offset markets, these projects cannot generate positive profits (i.e., additionality). If these landowners can show this, and their practices are compatible with the criteria defined by the authority, these projects could be awarded offset allowances retrospectively in rewarding them taking initiatives on this. For the second question, I think they should not allow credit them for other environmental markets. For instance, in the electricity sector where there are voluntary green pricing program and RPS standards. The sales to the green pricing programs, which suppliers already earn a "green premium", cannot claim the sales toward their RPS obligation; otherwise, it becomes double counting.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Those projects should be treated separately from offset projects, since they were designed with other objective or agendas in mind.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Yes, this is related to the contract design I previously mentioned. Only if such risk can be internalized and becomes a binding legal liability, there will be no incentives for the producers to execute the projects. If everything works out, there should financial hedge derivatives – insurance companies – in which landowners can purchase insurance & pay premium. In the event of natural disaster, insurance should be able to cover the costs, etc.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

INCENTIVES, whether there is a market out there such that it could become another source of revenues.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
CHICAGO CLIMATE EXCHANGE

Michael J. Walsh
Executive Vice President
Chicago Climate Exchange

[Redacted]

Answers to Questions on U.S. Carbon Policy and the Role of Agriculture, As Solicited by the U.S. House of Representatives, Committee on Agriculture

Background on Chicago Climate Exchange

Chicago Climate Exchange (CCX) applauds the efforts of the U.S. House Committee on Agriculture to gather input on the important role of U.S. agriculture in solving global warming, and the significant economic opportunity that can arise from on-farm provision of environmental services. CCX stands ready to provide additional information to the Committee.

Launched in 2003, CCX is North America's only cap and trade system for all six greenhouse gases, with global affiliates and projects worldwide, including in China. CCX is a financial institution whose objectives are to apply financial innovation and incentives to advance social, environmental and economic goals through voluntary but legally binding, and mandatory rules-based compliance systems and organized market platforms. To our knowledge CCX is the only rules-based greenhouse gas reduction and trading system in the world that has fully incorporated farms and forest carbon activities, on an international basis, having pioneered the development of these revenue-generating activities for these sectors.

CCX currently has over four hundred members, including more than 100 leading industrial corporations, cities, states, universities, offset providers, offset aggregators and financial entities, including many agricultural sector entities. CCX members have facilities of various types across all 50 states. The quantity of emissions under the CCX legally-binding emission reduction commitment (cap), 600 million metric tons CO_2, means the United States has more emission under an industrial emissions cap than any country in the world. (See attached Appendix and other materials on the CCX rules and reduction structure.) The absolute emission cuts required under CCX rules, 4% below year 2000 levels by 2006, 6% below year 2000 levels by 2010, make CCX the most demanding emission reduction program proposed or implemented in the western hemisphere, and possibly the world, thus far. Annual independent verification of emissions by the Financial Industry Regulatory Authority (FINRA) confirms member compliance with reduction goals and CCX rules.

Operation of the CCX market has provided a consistent public price for carbon since launch in 2003. Governance of the market takes place through committees comprised of members and interested experts, such as professionals who work in the US Forest Service, USDA and other

agencies, non-profits and research institutes. Topical committees and subcommittees have held over two hundred and seventy program design and implementation meetings since 2003.

Since 2003, farmer participation in Chicago Climate Exchange has proven that sound rules can be paired with standards-based rules, a scalable aggregation system and strong partners such as the Iowa Farm Bureau and National Farmers Union, to provide new income opportunities to farmer, foresters and ranchers who undertake best management practice that mitigate greenhouse gases. Through these win-win activities, thousands of U.S. farmers are already benefiting through participation in CCX's organized carbon market.

Detailed information on CCX's standardized rules for issuing project-based offsets credits can be found at the links listed below for the following types of projects:

- Agricultural methane (http://www.chicagoclimateexchange.com/content.jsf?id=103)
- Coal mine methane (http://www.chicagoclimateexchange.com/content.jsf?id=1021)
- Landfill methane (http://www.chicagoclimateexchange.com/content.jsf?id=222)
- Agricultural soil carbon (http://www.chicagoclimateexchange.com/content.jsf?id=781)
- Rangeland soil carbon (http://www.chicagoclimateexchange.com/content.jsf?id=1101)
- Forestry (http://www.chicagoclimateexchange.com/content.jsf?id=242)
- Renewable energy (http://www.chicagoclimateexchange.com/content.jsf?id=244)
- Ozone depleting substance destruction (http://www.chicagoclimateexchange.com/content.jsf?id=1361)

The entire CCX rulebook section on Offset Projects can be found at:

http://www.chicagoclimateexchange.com/docs/offsets/CCX_Rulebook_Chapter09_OffsetsAndEarlyActionCredits.pdf

Frequently asked questions are addressed for each project type on the webpage. A general offsets FAQ list can be found at:

http://www.chicagoclimateexchange.com/docs/offsets/General_Offsets_faq.pdf

Questions

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?

Please respond in 600 words or less.

The U.S. pioneered the development of the cap-and-trade mechanism, and the US SO2 cap-and-trade program, discussed later in this questionnaire, confirms that cap-and-trade can be a least cost flexible tool for achieving environmental benefits and mitigating environmental damage. Should Congress determine that the U.S. will pursue a systematic approach to reducing greenhouse gas emissions, America's history with cap-and-trade systems for

environmental problems would support the case that a well-designed cap-and-trade system should be a central element of a portfolio of policy responses to climate change.

A sound cap-and-trade system using pre-specified emission budgets, flexibility in how, where and when emission cuts are made, and transferable emission permits, will foster from the needed capital flows and deliver least-cost greenhouse gas mitigation over the long run.

The U.S. greenhouse gas cap-and-trade system should be fully open to participation the scientifically sound mitigation practices that can be undertaken by U.S. farmers, foresters and ranchers.

Management practices that allow soils to move carbon dioxide from the atmosphere (where it causes harm) to agricultural soils (where carbon improves soil health) are explicitly cited as an important GHG mitigation option in the United Nations Framework Convention on Climate Change (UNFCCC), the Kyoto Protocol to the UNFCCC, and the most recent report of the Intergovernmental Panel on Climate Change (IPCC). Soils management to capture carbon is also one of the "Stabilization Wedges" articulated by Pacala and Socolow.[1]

U.S. agriculture faces front-line exposure to impacts of global climate change such as drought extremes and pest migration. U.S. agriculture also faces significant direct exposure to economic impacts on input costs, such as fuel and fertilizer prices, that is likely to arise from a federally mandated U.S. greenhouse gas cap-and-trade system.

Fully opening participation to U.S. agriculture to help solve global warming would not only constitute an important contribution to the solutions, but the practices that provide emissions mitigation are also, in many cases, climate adaptation actions as well. For example, lands managed through continuous conservation tillage are known to be far better able to withstand drought than fields plowed using conventional tillage practices.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

Please respond in 300 words or less.

Yes. Sound system design would support the argument that significant and monitorable emission sources in all industries should be included in a multi-sector program. For example, boilers and other large combustion devices that emit in excess of 25,000 metric tons CO_2 per year used in food processing and forest products industries would be appropriate for inclusion.

To engage all viable climate solutions, particularly those with multiple ecological benefits, it would be appropriate to allow the option for farmers, foresters and grazing land managers to

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[1] Pacala, S. and Socolow, R., "Stabilization Wedges: Solving the Climate Problem for the next 50 Years with Current Technologies" Science, August 13, 2004 http://www.princeton.edu/~cmi/resources/stabwedge.htm

enroll, under contract, verified mitigation projects that reduce and sequester greenhouse gas emissions, and be issued tradable credits in amounts reflecting the greenhouse gas benefits these projects generate.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?

Please respond in 600 words or less.

Distribution of allowances should strive to avoid economic disruption and allow achievement of emission reduction targets at least cost to consumers. Only the emission limits set by the national cap, and not the method used to distribute allowances, determines the environmental success of the cap-and-trade program.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

The U.S. mandatory cap-and-trade program should be linked to all rules-based existing and planned greenhouse gas emissions cap-and-trade programs, whether state, regional, or private, including Chicago Climate Exchange and Regional Greenhouse Gas Initiative (RGGI) where entity wide verified emissions reductions are required. Such linkages, including recognition for verified early reduction activities, including early industrial emissions reductions and early verified qualifying offset projects will smooth implementation of the federal legislation, assure smooth transition and avoid introducing perverse incentives that will interrupt strategic and operational progress many economic entities have made that has and will enable them to face the increasing demands of tightening emission caps as projected in most legislative drafts and as required by the scientific consensus on atmospheric ghg concentrations. Also, a U.S. mandatory program registry should likewise take into account all independently verified emission and registered greenhouse gas emission reductions and projects that are documented in registries operated by the afore-mentioned existing programs. Failure to link in this manner conveys no additional environmental benefit but does impose additional costs. Various options exist for linkage to be accomplished smoothly, including a phased-in process. We would be pleased to provide specifics.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Please respond in 300 words or less.

Yes. The U.S. Environmental Protection Agency has proven fully competent in administering the cap-and-trade programs established under the 1990 Clean Air Act Amendments and would be the natural agency to provide lead management of the greenhouse gas cap-and-trade program. Given the diversity and technical nature of greenhouse gas emission sources and solutions, it would be appropriate for a multitude of agencies to provide ongoing direction and support for the U.S. program, including USDA, USDOE, USDOT, USDOD, and the Departments of State, Commerce and Treasury.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

Chicago Climate Exchange and its subsidiary, Chicago Climate Futures Exchange ("CCFE"), obviously have a specific interest in this question as CCFE is an operator of a federally regulated futures and options markets (A "Designated Contract Market") for instruments traded in the USEPA SO_2 and NO_X programs, the Regional Greenhouse Gas Initiative, CCX, California Climate Action Registry Climate Reserve Program, as well as a contract for federally mandated carbon allowances (starting in 2013, with fallback provision should a federal system not emerge).

We very much welcome a sound regulatory system for the U.S. carbon markets. Regulated exchange-based markets foster confidence, price transparency and other basic elements central to fair, sound and effective markets. The markets feature extensive real-time reporting and oversight, as well as a central clearinghouse and electronic trading platform that have performed without interruption or non-performance through some extremely stressful market periods.

The existing federal regulatory setting for CCFE products includes a full suite of structures, including mandatory trade tracking, position limits, public reporting, market monitoring, anti-fraud and manipulation rules, and large trader reporting to the U.S. government. See http://www.ccfe.com/membership_ccfe/rulebook.html.

Our regulated futures and options contracts are already being used by many segments of U.S. industry as they prepare for and hedge future price exposure to U.S. greenhouse gas emissions reduction mandates.

We believe the existing structure is both proven, supported by capable professional staff of the U.S. government, and will function as desired. However, should the Congress deem it appropriate to establish new or additional regulatory structures, CCX and CCFE will be committed to total cooperation to assure their success.

It would be imperative, however, that any transition should explicitly avoid interruption of current lawful, prudent and regulated carbon market hedging and trading activities. Any new regulatory body will require time to establish and to process new regulations. We are

concerned that during this transition period, if our exchanges are not recognized as approved exchange mechanisms, then legislative provisions might cause active, prudent carbon hedging strategies to be subject to prohibition and disruption. Full recognition of CCFE during this transition would avoid market disruption and other negative economic consequences, without harming legislative goals, if Congress deems it appropriate to institute changes in the existing regulatory structure for carbon markets. Without a careful transition, new regulations could have the unintended effect of driving trades off-exchange into the unmonitored and price-opaque markets.

We further believe that there may be benefits from expanding the ability for a federal regulator to be able to monitor the full range of carbon allowance and offset trade activity that may occur outside exchanges, if it is determined that such activity influences the broader market conditions as reported publicly by regulated exchanges. We would advise that any such information efforts be developed with input of all interested parties in order to assure fair and reasonable methods are adopted.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

   Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

Chicago Climate Exchange and its subsidiary, Chicago Climate Futures Exchange ("CCFE"), obviously have a specific interest in this question as CCFE is an operator of a federally regulated futures and options markets (A "Designated Contract Market") for instruments traded in the USEPA SO_2 and NO_X programs, the Regional Greenhouse Gas Initiative, CCX, California Climate Action Registry Climate Reserve Program, as well as a contract for federally mandated carbon allowances (starting in 2013, with fallback provision should a federal system not emerge).

We believe that the broader environmental and economic success of a U.S. mandatory carbon cap-and-trade system would benefit from emergence of a diverse range of hedging, trading and investment tools that can be developed to meet the specific needs of the diverse range of participants such a market will include. To the extent that use of such tools influences the broader overall carbon market conditions, then it may be appropriate to establish monitoring and oversight functions for the off-exchange segment of the market.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include:

residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

The complete answer to this question depends on the design of the program and the response it will induce. Agriculture is not only at the front–edge of exposure to the negative effects of global climate change, it would be at the front edge of exposure to economic implications of the cost and income effects that would be shaped by policy design. Farm input costs appear likely to rise, so a question that is central to the ultimate economic impact is the range and scale of economic opportunity introduced by the legislation and the responses it induces.

The general shape of leading carbon program proposals suggests there will be a material impact on prices of inputs used in farm, ranching and forest industries. Depending on the methods used to allocate allowances, electricity, fuel and fertilizer price increases in the range of 10% to 50% within a decade appear to be very possible. Near-term mid-range scenarios suggest these impacts might materially raise total production costs to farmers.

However, if a full range of scientifically supported and verifiable farm and forest practices that reduce, avoid or sequester greenhouse gas emissions are included in the U.S. climate program, there is potential to realize a significant overall increase in net farm income, provided those opportunities are not unnecessarily impeded by participation barriers and other transaction costs. These important economic upside opportunities are discussed further below.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Congress will have a full range of discretion as to how it uses revenues realized through a cap-and-trade program, and we defer to its wisdom in this regard. We would observe that the procedures used by the federal government to collect and disburse revenues can be expected to itself constitute a cost, particularly as more levels of government are involved in these processes. We would encourage Congress to exercise caution as it considers major new revenue collection and disbursement actions as the mere act of implementing such programs imposes pure cost and expansion of government programs that do not necessarily contribute to the environmental objectives that are supposed to be the central goals of a federal emissions cap.

Significant revenues can be earned by farmers and foresters if we allow them to earn income through provision of greenhouse gas mitigation services to the U.S. and global carbon markets. These opportunities are maximized if the U.S. program allows full participation of all scientifically supported and verifiable farm and forest practices that reduce, avoid or sequester greenhouse gas emissions, and the law recognizes and credit the ongoing verified activities that occur prior to implementation of the U.S. mandate.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

Please see the answer provided to question #9.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

There are various important options for using federal land carbon absorption services in a U.S. carbon market. While we do not make recommendations on this complex question, it is important for the U.S. to fully quantify and monitor all carbon associated with federal land and policies.

Federal forests and grazing land are estimated to absorb 235 million metric tons CO_2 per year. Carbon stored in standing forests on federal land is estimated at 96 billion metric tons CO_2

The U.S. federal land carbon account could serve as a contribution towards national mitigation goals, but could conceivably also be used as part of an insurance mechanism to backstop credited private carbon sequestration actions that can be reversed due, for example, natural disasters. Similarly, the federal land carbon account could be used as reserve pool for buy/sell activity for US carbon market price safety valve.

At a minimum, it would be prudent to intensively quantify and monitor all carbon associated with federal land and policies.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Experience gained from the successful design and implementation of long running U.S. emissions cap-and-trade programs, such as those for sulfur dioxide (SO_2) and nitrogen oxide (NOx), suggests that these programs function most efficiently when clearing prices are discovered through market rather than regulatory mechanisms. Recent SO_2 auction prices were at an all-time low while health benefits of reduced SO_2 are at their highest point since the implementation of the program. This is a result of innovations in sulfur reduction technology that was sparked by market mechanisms that were unencumbered by price ceilings or floors.

Allowing prices to find their natural level provided strong incentives to create and implement innovations that in later years helped keep down compliance costs borne by consumers.

The successes of the SO_2 and NOx programs can be replicated through carefully designed GHG cap-and-trade program. Artificial price controls will only serve to create inefficiencies in the marketplace and stifle innovation. Price caps will decrease incentives for offset providers in agriculture, forestry and other sectors to seek out and provide solutions to climate change and may ultimately result in a higher cost to consumers as next-generation carbon reduction technologies and research is discouraged.

Should market control mechanisms be required, we recommend that they allow the market sufficient flexibility to self-correct, drive and incent innovation, and respond to overall market conditions.

U.S. businesses in all sectors have helped make America home to the world's most vibrant, flexible and wealth-generating economy. They have done this by proving fully capable at managing through the natural ebbs and flows of prices for their inputs and outputs, including food prices, interest rates and exchange rates. There is no reason to expect they would be unable to manage through the natural fluctuations that may accompany a carbon market, some of which would constitute a desirable automatic response to broader economic conditions.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry? *Please respond in 600 words or less.*

Of the many lessons to be learned from the EU ETS, we highlight below those we view as being of critical importance:

1. Allowances and offsets must be bankable. The dominant cause of the oft-cited collapse in the price of Phase I EU ETS allowances is the fact that Phase I allowances could not be banked into Phase II of the EU ETS. Had the allowances been fully bankable, as is the design in the U.S. SO_2 and NOx programs as well as the Chicago Climate Exchange (CCX) voluntary cap-and-trade program, the Phase I price collapse would have been averted.

   This reality is strong evidence that failure to properly integrate existing state, regional and private carbon markets into the federal system would severely disrupt these programs. Those programs have constituted the only serious action to rationally address greenhouse gas emissions in the U.S. The last thing a federal program should do is to unnecessarily damage the socially valuable programs that have emerged in the absence of federal leadership. Those programs should be encouraged to continue until the federal program begins, and they should be folded into the federal system once it starts.

2. If there is a limit placed on the use of offsets, then offsets will trade at a discount to allowances, even if that limit is not likely to be a binding one.

3. The question of EU ETS "windfall profits" from free allocation of allowances is often inappropriately translated to the U.S. context. The existing U.S. system of regulatory oversight of electric power sector compliance strategies and carbon pricing – be they state-level regulatory systems, or oversight of cost recovery in the context of municipal, rural and co-operative electricity generators - can play an important role in providing an appropriate system for cost recovery without undue financial gain.

4. Program time horizons must be sufficiently long term. Short time horizons such as those found in the EU ETS create investment uncertainty and require unnecessary efforts when attempting to extend the program.

5. Offsets programs should provide predictable rules for participation based on a standardized rules framework with clear methods of impartial evaluation for determining adherence to the relevant project protocols and provides efficient methods of recourse if a project needs corrective action to achieve compliance. Case-by-case project review processes such as those found in the UN Clean Development Mechanism have proven to be unnecessarily cumbersome in their implementation. There is no reason to believe that such costly and unpredictable procedures results in a "better" screening of projects than would be the case under a totally transparent and prescriptive system for defining project eligibility and crediting.

Regarding international carbon reduction programs for agriculture and forestry, CCX is currently the only cap-and-trade system operating that incorporates a full array of offset projects from agriculture and forestry at meaningful scale. While important demonstration projects have been executed, it is critical that these proven agriculture and forestry offset opportunities be allowed to fully participate in any U.S. cap-and-trade program. In our opinion, the CCX experience demonstrates the ability of agriculture and forestry-based biological systems to successfully integrate offsets from large numbers of small to medium sized land owners into an offsets system at low transaction costs through the use of third-party aggregators and statistically appropriate sampling methodologies for verification.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

Agriculture and foresee should be full partner in the U.S. program that deploys a market mechanism to reduce greenhouse gas emissions. Farmers, foresters and ranchers should have the option to enroll lands to earn fully transferable credits that should be treated as "par" to allowances, by entering into multi-year contracts to provide GHG mitigation services.

The crediting system should use standard approaches wherever possible in order to provide clarity, verifiability, simplicity, and to maximize participation. Emission offsets should be issued on the basis of their quantified and verified mitigation effectiveness. If certain types

of projects or activities are deemed to offer extraordinary benefits, policy mechanisms other than the crediting system should be used to stimulate them.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

In 2007 the Intergovernmental Panel on Climate Change ("IPCC") identified approximately three dozen currently viable GHG mitigation actions. A majority of these actions are appropriately implemented via a project-based Offsets approach. Given the potentially catastrophic nature of the risks of global climate change, there does not seem to be any particular reason to refuse to include mitigation of greenhouse gases from every possible source of solutions.

Further, given the nature of the U.S. emission reduction goals being discussed in Congress, it appears obvious that a healthy supply of offsets will be needed to achieve the annual goals, particularly in the early years when the existing stock of emitting assets will have changed only minimally relative to current circumstances.

A clear lesson from the world's largest carbon market is that limits placed on the use of offsets will mean that offsets will trade at a discount to allowances, even if that limit is not likely to be a binding one. This calls into question the logic of establishing a limit, particularly if there is ample reason to believe that supply of offsets will be slow to materialize.

We believe the truly sustainable long-term U.S. and global policy response will depend critically on broad-based public support via participation as solution providers. Placing arbitrary limits on the ability of the public to fully participate in the response to global warming would run directly counter to this objective.

There is strong reason to believe that the supply of offsets into the U.S. market will take many years to come anywhere near achieving its full potential. Beyond pure physical limitations, the time it will take to build sufficient understanding among relevant sectors, to gear-up the aggregation, verification and processing systems, and congestion and costliness of these elements will naturally slow the emergence of the offsets supply.

The flow of offsets into the U.S. system should be monitored closely. If concerns arise, one option would be to not slow down the rate of enrollment, but to stretch out over time the allowed usage of offsets for compliance.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

Given that there is no obvious reason to impose limits on availability of offsets, the system should be fully open and accept valid project proposals on a first-come, first-served basis. It is critical that the agency or agencies responsible for administering the offsets registration and issuance system be adequately staffed to assure rapid turnaround and/or instructions to correct insufficient project proposals.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

Methods for quantifying emission reduction projects should reflect the proven and scalable programs already in use. All projects should be subject to an independent verification process, with such verification procedures and frequency calibrated to achieve an efficient balance that assures both high levels of reliability and cost-effectiveness.

As discussed below, the optimal system should employ standardized eligibility rules, procedures and crediting rates, in order to allow for all climate solutions to be scaled-up to meet the nature of the greenhouse gas risk management challenge.

The methods should be:

- appropriate to the specific form of mitigation project undertaken
- clearly articulated
- as prescriptive as possible so as to avoid dispute
- readily understandable by verifiers, and
- Subject to regular updating and improvement as experience and technologies (e.g. remote sensing) evolve.

These are discussed further under question 20 below.

Methods to "account for the legitimacy" seems to reference the question of what is a "legitimate" project. The first and most important consideration is whether the practice is known to measurably mitigate greenhouse gases. Other key considerations: the ability to address any risks that may accompany specific projects; scalability of specific climate solutions; avoiding perverse incentives and negative environmental side impacts.

The following principles are used to define eligible projects and determine the quantity of tradable offsets issued under rules of the Chicago Climate Exchange:

- to qualify, a project must be beyond regulation, recently implemented, or as applicable, best-in-class
- conservative crediting
- independent verification by expert entities
- reserve pools for sequestration performance assurance
- Full fungibility: all offsets are equivalent to allowances when used for compliance

The rules that govern these programs are found at:

http://www.chicagoclimateexchange.com/docs/offsets/CCX_Rulebook_Chapter09_OffsetsAndEarlyActionCredits.pdf

A key question is whether to discriminate against farmers and ranchers who may have been doing a best management practice, prior to enactment of the rules, by refusing to allow them to earn offsets. In reality, the amount of farm, ranch and forestland that is *both* managed in ways that absorb carbon from the air *and* is registered and verified in a rules-based system is rather modest. If a U.S. carbon program rule system is intended to avoid major market impact or windfall by excluding these solution providers, then such a rule would be a failure as the quantitative impact from excluding ongoing solution providers is trivial, but the negative consequences could be significant.

There is scientific consensus that U.S. farmland can continue to remove carbon from atmosphere for more than thirty years after continuous conservation tillage and grazing land best management practices are adopted. The question of whether farmers would have otherwise done conservation tillage even without credit is more complex than some make it out to be. First, it is impossible to prove when these practices were started. Second, each year brings a new opportunity to *not* do such practices: only by getting farmers under contract and verifying the practice can we be sure it is done going forward.

A rule that allows offsets *only* for those who "convert" from a non-carbon absorbing practice to one that does absorb carbon would encourage gaming and use of high-disturbance plowing of fields that had been in conservation tillage in order to make them qualify for offsets from a conversion. This policy of "plow now or lose you chance for offsets" would result in a significant release of stored carbon. Further, there would be very negative equity, precedent and policy signaling effects from a rule that precludes early actors from realizing credit for their provision of mitigation services. Taking an earned environmental service credit from farmers would amount to nationalizing their asset. Those who advocate such an approach should be required to specifically identify, by name, the farmers and farm organizations that they wish to exclude from early action credit and future participation in a federal carbon market.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

The first and most important consideration is whether the practice is known to measurably mitigate greenhouse gases. Other key considerations: verifiability; the ability to address any risks that may accompany specific projects; scalability of specific climate solutions. It is critically important that any eligibility provisions used to define which projects earn offsets are carefully designed to avoid the environmentally damaging perverse incentives described in the answer to Question 18. Finally, early independently verified projects that have been registered in rules-based systems should be fully recognized and credited.

19) How should Congress design a system for verifying offset projects?

Please respond in 300 words or less.

Congress may find it useful to draw upon the lessons of existing offset verification and monitoring structures used by the Chicago Climate Exchange (CCX). CCX and other existing rules-based programs incorporate the following critical design elements in their verification programs:

1. Verification is based on a standardized rules framework with clear methods of impartial evaluation for determining adherence to the relevant project protocols and provides efficient methods of recourse if a project needs corrective action to achieve compliance.

2. Verifiers must be independent third-party entities that meet professional standards as established by the requirements outlined in ISO 14065:2007, *Greenhouse Gases – Requirements for Greenhouse Gas Validation and Verification Bodies for Use in Accreditation or Other Forms of Recognition*, or other equivalent standards. CCX has pledged to cooperate with the American National Standards Institute (ANSI) to create an accreditation program for third-party verification bodies to evaluate their competency against ISO 14065:2007.

3. All offset projects should undergo initial and annual verification by approved independent verification entities for the duration of the crediting period.

4. Verifiers must evaluate the GHG assertions provided by the project proponent against the following two principles:
   a. no errors, omissions or misrepresentations (i.e., no material discrepancy) exists in the GHG assertion provided by the project proponent that would affect the project's eligibility in the program, and
   b. that the verification activities provide a reasonable level of assurance that the project proponent's GHG assertion is materially correct as specified in the program rules that determine the depth of detail the verifier must design into their verification plan.

5. Verification must be conducted and reported in accordance with the principles and requirements outlined in ISO 14064-3: 2006, *Specification with Guidance or the Validation and Verification of Greenhouse Gas Assertions*, or equivalent standard

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?

Please respond in 600 words or less.

Yes, for as many activities as possible, standards-based approaches should be adopted. A standardized and predictable system of crediting factors and verification procedures is essential to maximize participation and achieving the scale of solutions that are possible from agricultural and forestry best management practices.

In addition, Congress should establish a pathway that welcomes new effective climate solutions to qualify to earn offsets, even if the practices are not initially well-suited to standardization.

Under rules of Chicago Climate Exchange, offset projects for agricultural methane are issued at a rate equal to the lesser of the metered amount of destroyed methane and a per animal default methane emissions rate. For forest carbon projects, net project-wide increases in carbon stored on project lands is quantified using direct measurement, expert-reviewed growth models, and standardized "look-up" tables, as appropriate to the scale and nature of the forest project.

Use of standardized crediting rates based on the average carbon accumulation rates expected for large pools of farmland over multiple years, and based on the best available scientific information, provides the following important benefits:

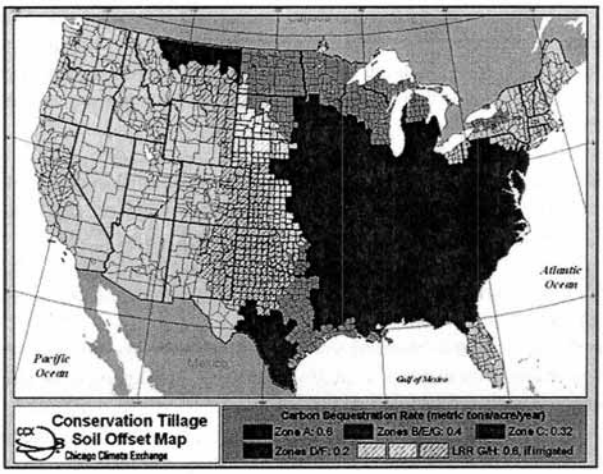
- it provides a clearly understandable and stable credit issuance rate that farmers can understand and plan around
- it avoids the very high costs (and low reliability in the short term) of ascertaining annual changes in soil carbon content in fields where best management practices are conducted
- by treating agricultural soils credits as part of a broad averaged pool, it allows farmers to realize a conservative amount of credits for every year they undertake the qualifying practice. Use of conservative but stable crediting rates means each farmer – and each pool of farmers – smoothes the credit issuance rate to reflect long-term pool-wide soil carbon increases.

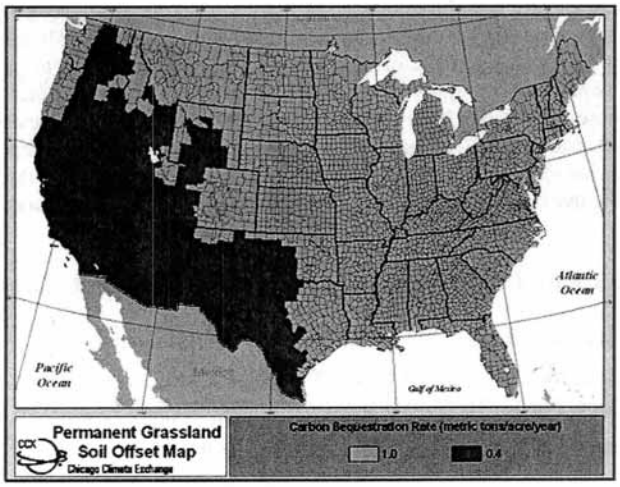
Soil science studies should continue to inform the standardized crediting rates. U.S. universities, particularly those involved in the Consortium for Agricultural Soil Mitigation of Greenhouse Gases (CASMGS), offer superb expertise and capacity to provide the research needed to continuously improve the standard factors used in the offsets crediting system. Many of those universities have contributed to the intensive effort to establish conservative standardized crediting factors used for various mitigation practices accepted in the Chicago Climate Exchange (see below). Those standard factors are shown in the figures below for continuous conservation tillage, new grass plantings, and grazing land best management practices.

Members of the CCX Agricultural Soil Science Technical Advisory Committee

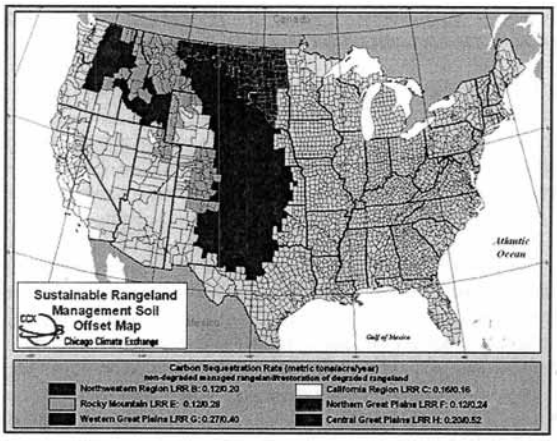
Dr. Alan Franzluebber	USDA
Dr. Charles Rice	Kansas State University
Dr. Keith Paustian	Colorado State University
Dr. Rattan Lal	Ohio State University
Dr. Mark Liebig	Agricultural Research Service, USDA
Dr. Lee Burras	Iowa State University
Dr. Sjoerd Willem Duiker	Pennsylvania State University

Dr. Mark Alley	Virginia Polytechnic Institute and State University
Dr. John Grove	University of Kentucky





Source: Chicago Climate Exchange (http://www.chicagoclimateexchange.com/content.jsf?id=781)



Source: Chicago Climate Exchange (http://www.chicagoclimateexchange.com/content.jsf?id=1101)

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Offset rules should be established so that offsets and allowances are totally fungible and each should be fully usable, at equal value, for compliance by regulated emitters.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Specified enrollment contract periods, set-asides, pooling and other insurance-like mechanisms can be used to establish the right balance between maximizing farm and forest participation and assuring long-term effectiveness of activities that result in removal and sequestration of carbon dioxide from the atmosphere.

Under rules of Chicago Climate Exchange, reversals on previously credited offset project sites are addressed through a 100% payback mechanism. CCX rules require farmers to sign contracts calling for five years of continuous conservation tillage on the enrolled plots. CCX requires 20% of all earned Offsets to be placed into an insurance-like reserve pool. In the case of farmer non-performance, the quantity of all historic offsets issued to the non-performing land will be cancelled in the reserve account, leaving a smaller quantity to be returned to the members of the aggregated pool once the contract period is completed.

This mechanism properly removes the focus from the performance of individual land parcels to performance of the aggregate pool of carbon mitigation.

To date the CCX structure has proven to be "over collateralized" in that reversals have been very close to zero. This evidence strongly suggests that a set-aside pool sufficient to cover cases of reversed sequestration could be "funded" with a set-aside pool considerably smaller than 20% of earned offsets. Obviously the final resolution of this issue will depend on the final system of included activities, contract duration and complimentary assurance provisions, such as the federal lands carbon accumulation pool.

We would also strongly encourage consideration of a federal-lands carbon backstop as a potential supplementary tool to make sure all issued and sold carbon offsets in fact are based on a specified quantity of carbon removal. As discussed in the answer to question 11 above, our initial estimates suggest that federal forests and grazing land are currently removing 235 million metric tons of CO_2 per year. This pool of carbon removal may offer a source of mitigation that can, with repayment provisions, be used to preserve the validity of carbon offsets when carbon emissions are released in cases of project reversals on sites that had earned now-circulating offsets.

We believe that gaining experience through these simple mechanisms over an initial ten to fifteen year period will prove that onerous requirements such as legal conservation easements (which are not relevant for important segments of American rural lands), liens etc. are not necessary.

Finally, we believe that there is a strong need for better research information on the true extent of carbon release when required management practices are suspended. For example, there is increasing evidence that an occasional tillage event that causes moderate disturbance to the soil surface releases a relatively small quantity of previously captured carbon. To the extent that such actions are desirable to the producer, the rules should allow for a proper – but not improperly punitive – adjustment to the crediting amount or reserve pool.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Going back as far as the pioneering McCain-Lieberman bill (2003), thirty nine senators from all parties – including the current President, Vice President, and the Chairs of the Senate Environment and Public Works and Energy and Natural Resources Committees and the House Energy and Commerce Committee, and over two hundred House members - have sponsored or co-sponsored carbon cap-and-trade legislation that explicitly provides for crediting early emission reductions and projects. This litany of legislative efforts has guided the early action planning and implementation of many entities.

In light of these signals, many agricultural and forest entities have taken action and organized themselves to establish rules, and bear the costs of verification and registration, in order to establish a strong carbon market structure despite lack of clear guidance from policymakers.

For example, the Iowa Farm Bureau, the National Farmers Union, Kentucky Corn Growers, the National Carbon Offset Coalition and others have enrolled thousands of farmers, foresters and ranchers in the rules-based system hosted by the Chicago Climate Exchange. These entities have done exactly what many in Congress have encouraged over the past decade, and continuation of their leadership, intensive effort and value generation for U.S. agriculture should be encouraged.

To avoid disruption of existing markets that serve U.S. agriculture, and to encourage further action, verified greenhouse gas mitigation offsets earned by farmers enrolled in existing rules-based programs should be fully integrated and recognized in a U.S. mandatory program. This should be done through issuance of federal offsets to legal owners of reductions from all registered and verified projects for the carbon mitigation realized during calendar year 2003 and later. All mitigation registered in The Climate Registry, the Regional Greenhouse Gas Initiative, the Chicago Climate Exchange, the California Climate Action Registry, the USEPA Climate Leaders program, the Voluntary Carbon Standard, and the American Carbon Registry should qualify under this provision.

This approach would constitute sound policy design, would signal that leadership through actions taken prior to government mandate is to be encouraged and recognized – not penalized - and would help avoid policy-driven release of stored carbon that is removed from the air by farmers who verifiably do best management practices.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Early actors should be embraced, encouraged to continue, and fully credited for their historic and ongoing greenhouse gas mitigation. Verified greenhouse gas mitigation offsets earned by farmers, ranchers and foresters enrolled in existing rules-based programs should be fully credited for historic mitigation, and should be encouraged to continue by allowing full participation going forward.

"Stacking" should absolutely be allowed. To not allow a farmer to realize the value of all dimensions of environmental services he or she generates would be akin to telling farmers they have no right to use crop residue leftover after grain harvest.

All environmental service rights earned through best management practices in the farm, forest and ranching sectors should be fully available to land managers and owners, provided there is not double counting or other misrepresentation. This approach will help assure U.S. agriculture can realize economic opportunity by helping solve environmental and natural resource problems.

Further, undertaking management practices for the purpose of realizing carbon mitigation value should in no way prevent future recognition and crediting of non-climate co-benefits that such practices may yield.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Projects that are: (i) voluntarily undertaken, and (ii) meet the performance standards established under law, should be allowed to qualify as offset projects, regardless of any historic or ongoing involvement with federal programs. This is fully consistent with the USDA actions in 2002, whereby the Farm Service Agency explicitly:

> "Codified that contract holders may sell carbon sequestration or other environmental credits associated with land enrolled in CRP." 2

To disqualify otherwise qualified projects on the basis of having received public funding could potentially preclude participation by a very large number of farmers. Those programs were NOT established for carbon purposes, and restricting participation would unnecessarily limit the number of farmers, ranchers and forest owners that can help solve global warming and realize economic opportunity by supplying a service that is valued by society.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

A significant portion of the risk anticipated by this question can be abated by requiring, as we do at CCX, that offset credits be awarded to projects only after they have been verified as achieving their carbon mitigating purpose. Under CCX rules, offset credits are awarded under legally binding agreements. Project owners who reverse the offset practice during the term of their CCX agreement are subject to sanctions including, but not limited to, repayment of all offset credits issued up through the date of the violation. Similar provisions should be taken under a federal program.

Protection against losses due to natural disaster or events outside of the control of the project owner can be accomplished through the creation of an insurance pool of credits. Under CCX rules such a pool is populated by setting aside a portion of the credits awarded to a project provider. Alternatively, a federal reserve pool could be constituted form offset projects undertaken on federal lands.

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2 "Farm Service Agency and Climate Change", U.S. Department of Agriculture, http://www.usda.gov/oce/global_change/files/SAP4_3/FSA_FactSheet_1.pdf

As a general matter, intentional reversals of carbon sequestration that was previously credited should be addressed through a penalty system, while unintentional reversals (e.g. due to natural disaster) should be addressed through a facilitative response that fosters the possibility for re-enrollment of the landowner.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

Offsets will play a critical role in the early years of the carbon regulation as a large portion of the immediately viable mitigation options are found in the economic segments that are not naturally regulated under a cap. To assure the full range of climate solutions available through project-based actions is activated promptly, legislation should provide as much detail as possible regarding the types of eligible projects as well as the criteria for determining eligibility, crediting rates and other considerations such as provisions to address durability of sequestration projects. Legislation should foster the early supply of offsets for both historic periods and for the time period subsequent to adoption of legislation and completion of federal protocols. This can be achieved by specifying that existing projects established under rules-based programs with published rules and are independently verified and enrolled in existing registries are to be credited for both historic and ongoing verified mitigation.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

Farmer/landowner awareness of the availability of carbon offset credits for qualifying practices and associated eligibility requirements is a significant, initial barrier that will need to be overcome in order to achieve high levels of participation from the farm and forest community. To address this barrier, there is an opportunity for organizations like the NRCS, cooperative extension, universities and producer groups to provide new educational programs and well as services to help farmers and landowners access the offset market.

Uncertainty regarding the risks and costs associated with undertaking new practices are additional barriers to entry. Building confidence in the offset market will be an ongoing educational requirement. Ongoing federal support for the advancement of abatement technologies and verification systems (including remote sensing) will help lower the short and long term economic barriers to participation in the market.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

Generally speaking, existing conservation and forestry programs were not designed to promote carbon mitigating practices. A market-based cap and trade system will be an important driver in eliciting action in the U.S. farm and forest communities. While cap and trade legislation can be an important stimulus, this system will need a host of supportive investments and skills development activities domestically and globally. Ongoing federal support, as described in our response to the previous question, will be needed to fully realize the multiple ecological and economic benefits that are generated by carbon mitigation projects in the farm, forest and ranching sectors.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Appendix

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Afforestation	Excellent	Excellent	Medium	High
Reforestation	Excellent	Excellent	Medium	High
Avoided Deforestation	Good	Good	Medium	High
Managed Forestry	Good	Good	Medium	High

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Methane Capture from Livestock Operations	Excellent	Excellent	Medium	Medium
Sustainable Rangeland Management	Good	Good	Medium	High

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Conservation Tillage	Good	Good	Medium	High
Conversion of cropland to grassland	Good	Good	Medium	High
Reduced nitrogen fertilizer application	Good	Moderate	Medium to High	High
Reduction in fuel usage from historical levels	Good	Good	Medium	High

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
CHRISTENSEN FARMS
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Brian M. Foster

Organization(s) you represent

Christensen Farms
Sleepy Eye, Minnesota

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

business & strategy consultant

House Agriculture Committee - GHG survey (April 2009)				
Practice	**Effectiveness**	**Ability**	**Cost**	**Capacity**
Use of manure instead of commercial fertilizer to supply crop nutrients	Excellent	Excellent	Low	High
Increase soil organic matter/carbon content through long-term manure application	Excellent	Moderate	Low	High
Conservation practices associated with manure application (injection, no-till, strip-till, etc.)	Excellent	Good	Medium	High
Reduce manure volume & nutrient density, reduce air emissions through animal diet manipulation	Excellent	Good	Medium	Medium
Use of biofilters on fan exhausts to reduce air emissions	Good	Moderate	High	Medium
Livestock production site landscaping (trees, shrubs, grass)	Good	Moderate	Medium	High
Methane collection/destruction system installed on manure lagoons	Excellent	Excellent	High	Medium
Manure digestor operated in conjunction with generator	Excellent	Excelent	High	Low

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
CHS INC.
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Robert J Looney

Organization(s) you represent

CHS Inc—an ag cooperative commenting as a small petroleum refiner co-op, oilseed processor and carbon credit trader

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Vice President, Government Affairs, CHS Inc.,
[Redacted]

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
   Please respond in 600 words or less.

GENERAL: CHS is opposed to increased taxation and increased government intervention. However, for the purpose of commenting on your specific questions we will address taxes.

CHS will address the questions from the perspectives of three of its business units--as a farmer owned, small petroleum refiner, oilseed processor and carbon credit trader.

CHS is for the promotion of voluntary programs, new technologies and multifaceted flexible programs that address the most onerous elements of global warming and international fairness. However, should legislation pass that would address global warming through mandatory reductions of greenhouse gases (GHG) then as much flexibility as possible must be put in place to insure no harm is done to the United States economy, especially agriculture.

In practical terms, climate change legislation should contain a greenhouse gas (GHG) capture program that recognizes (1) the differences between industrial sectors and among those in each industry, (2) regional impacts, (3) influence of world economic competition, (4) the burden on ag and (5) that not every industry must meet the same requirements.

It seems too inflexible and unfair to have a system based on one templated system that treats all within and across industries as one type entity. Safeguards and flexibilities are warranted that addresses the basic differences among participants, domestic and international.

SPECIFICS: Given the question asked above, a cap and trade program seems more favorable to the United States economy compared to excessive taxation. But the impacts of a cap and trade program on petroleum fuels, their refiners, and to ag and rural communities are very unclear. Petroleum fuels and the subsection of refiners that make them, small business refiners, should be addressed outside a mandatory requirement to comply with cap and trade.

GHG legislation is being proposed that would address not just smokestack emissions but the GHG in fuel. It is much more the cost of controlling GHG in fuels than from smokestack emissions that brings the greatest risk to ag and rural America. Since the risks are unsure, some form of **hybrid system should be considered.** For example, here are three. Although all three could include emissions under cap and trade, they would

treat fuel differently, where (1) fuel could be totally exempt (2) fuel could be temporarily exempt and (3) fuel could be taxed, temporarily or permanently.

Fuel should be treated differently for many reasons. One reason stands out for this question –the risks to ag and rural communities could be high. The petroleum needs of agriculture and rural America are primarily served by small business refiners. Their locations are predominantly in the plains and Midwest and Rocky Mountain states. Under an inflexible, heavy handed cap and trade program their conditions would be more 'fragile' and fuel disruptions lasting. Any adverse affects from such a program could easily and quickly translate into supply problems for ag and rural communities.

The purpose of the exemption is to allow time to sort out the impacts of a cap and trade program on fuel.

As for taxation, it too might provide the time necessary to sort out the impacts on fuel. Although we prefer an exemption there are reasons offered by some why taxes may do the same thing. [Given space restrictions these comments are on the last page.]

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
   Please respond in 300 words or less.

No. With all the risks that production agriculture has to deal with on a regular basis, adding the uncertainty of carbon credit values would place additional burden on an industry that has traditionally operated on thin margins and is responsible for feeding the world. It is estimated that agriculture is responsible for only 7 % of the green house gases in the U.S. Agriculture, particularly forestry, has the potential to provide offsets that would reduce the cost of carbon credits for other industries.

Farms should not be directly covered. Given the small scale and diffuse nature of these emissions and the limited accuracy of current science in estimating actual emissions on the individual farm operations, it is not practical to pursue the reduction of GHG emissions.

In addition to farms, there are other entities in ag that if not exempted fully should be given significant and full authority to use any and all flexibility mechanisms provided in any legislation particularly in any climate change bills. Those ag entities that should be exempted include the agribusinesses that provide the energy intensive inputs to ag from electricity, fertilizers and petroleum and those agribusinesses that are most threatened by leakage such as oilseed processing.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the

distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Assuming a cap-and-trade system is adopted, a combination of no-cost and auctioned emission allowances should be adopted. Allocation should be based on the economic impact to a particular industry and geographic location. If the program is going to be successful in reducing green house gas emissions the no-cost allowances should be reduced over time.

In the context of discussing allowances, any reference to ag must include not only farms but also cooperatives and their agribusinesses, for all three are intertwined. An allowance program for ag that includes advanced borrowing of allowances, more free allowances, and a reserve of low cost (fed fixed rate types) allowances, could be instituted in a manner to complement other flexibility mechanisms such as financial incentives, a phase-in, delays, fuel exemptions, tax rebates, hardship petitions, etc.

The distribution system of allowances, specifically their allocation among entities, should treat agriculture uniquely and in the broader context of other legislative language that insures ag does not suffer.

In the broadest industrial proposal -- between industries (as opposed to within industries) -- the allowance allocation across the three industries of electricity generation, manufacturing, and transportation (which includes petroleum refining) under the Lieberman-Warner bill are not even closely balanced and need to be. They should be rebalanced.

For example, the electric power generation system which emits about 32% of all the GHG in the United States gets 29% of the allowances. That ratio 29/32 means generation sector gets 85% of its needs; manufacturing that emits 19% of all the GHG gets 10% of the allowances means the industrial sector gets 52% (10/19) of its needs; while transportation which includes fuel made by petroleum refiners such as farmer owned refiner co-ops emits 28% of all GHG gets only 2% of all allowances or 7% (2/28) of its needs. More allowances to refining would help, especially to the most vulnerable small business refiners.

If any allocation like this unbalanced 85%-52%-7% allowance breakdown is adopted then other flexibility mechanisms are needed to prevent significant problems to the rural based small business refiners fueling rural communities and ag.

Some other flexibility mechanisms must be put in place. Perhaps a reserve allocation could be established to assist these small entities. [In the case of small refiners, there are four definitions —the definition established in the 2004 American Jobs Creation Act that small business refiners are refineries less than 205,000 barrels per day capacity should be used to establish an assistance threshold.] Maybe they should get more allowances. Or they could borrow in advance which might help them with finance issues before an auction. Perhaps there is a petition process available to give affected agribusinesses such

as small refiners and oilseed processors free allowances. Maybe small entities and agribusinesses would not be capped in the number of carbon sequestration credits they could use—thus allowing them purchasing options at the lower prices.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

The success of the other programs may provide a blue print of how a national program should be structured. The system will be complicated enough without different regions having different rules.

This program should be a federally based program to eliminate any state bias. CO2 is supposed to be a global issue, so state lines and regional boundaries should be irrelevant.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

There are existing agencies that would be qualified to administer the program. Since the majority of the emissions are a direct result of energy production and consumption the DOE and maybe the FERC should be involved. Carbon sequestration should be addressed by USDA.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

The CFTC should be the regulatory agency. Their experience in dealing with price discovery, transparency and convergence would be critical to the market. Since there are already futures and options trading on carbon credits they are currently involved.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

They are already there and should be encouraged in a regulated environment. If the market is going to operate efficiently these markets need to exist.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

All levels of agriculture will be affected. From the producer that has to utilize energy for home heating, planting, harvesting and handling their output to the processor that transforms the raw commodities to consumer products. Rural communities, which have been in decline for years, will continue to decline if the increased cost to agriculture reduces demand for U.S. commodities. With the globalization of agriculture the U.S. producer's comparative advantage could be compromised.

Agriculture production entails energy intensive components from entities that would be at much greater disadvantages than others in currently proposed legislation. Those entities are coal-based electricity, fertilizer, and rural based farmer owned/small petroleum refiners. Ag production and rural communities are dependent on the most vulnerable entities that GHG would regulate. The GHG costs on those production facilities from both cap and trade, or taxes and perhaps any hybrid **would significantly raise the input costs to farmers and raise food prices**—certainly not something intended.

Ag production and rural communities run substantially higher risks under cap and trade or a tax system especially if they are given no consideration or assistance.

Few bills have been analyzed as much as the Lieberman-Warner GHG legislation whose core elements make up all GHG legislation including the recently released proposal from the House Energy Committee.

EPA analyzed regional differences and found the Plains states and Rocky Mountain States to be much more negatively impacted than other regions. Their analysis of the impact of cap and trade on GDP showed twice the decline in GDP of the Plains vs. the Northeast for example (-3.8% vs. –1.9%). In that GDP decline ag and rural communities are hurt.

The Western Climate Initiative (WCI) showed "None of the seven WCI states would escape economic harm should cap-and-trade be imposed, the study found. Those states include California, Arizona, New Mexico, Oregon, Washington, Utah and Montana."

A review of any map of the location of small and large petroleum refiners shows that almost all the states from Appalachia through the Rockies –the heartland of American agriculture—to include the Midwest and Plains states (with the exemption of the Chicago area) are served almost exclusively by small and farmer owned, rural-focused petroleum

refiners—the ones at greatest risk to any cap and trade or tax program. [Map available upon request.]

Small business refiners service almost 100% of the rural communities and farmer owned refiners service about 60% of all farms. Any GHG program that puts them at any disadvantage causes significant cost and fuel supply problems for consumers in farming and rural communities.

The proposed cap and trade system is blatantly unfair to the petroleum industry—an industry vital to agriculture. Besides inequities in how allowances would be allocated across the three major industrial sectors with transportation and its refining element getting the least amount of allowances, petroleum is being given an extra burden. All sectors would have to reduce smokestack emissions. However, because special attention is being given not to require the transportation sector to reduce tailpipe GHG emissions from combusting fuel, the refining industry has been singled out to have to bear the burden of GHG in its product—the GHG in every gallon of fuel will be counted against refiners.

That means that although refiners may eventually be able to reduce their smokestack emissions they will never be considered in full compliance until they stop making fuel. That choice will force severe reductions in fuel production which has shown to repeatedly these recent years in the upper plains and Midwest to send fuel prices soaring especially during planting or harvest time. It could even force the closure of the small business refiners which would cause a severe ripple effect on fuel supply and fuel costs across the rural areas.

Another impacted sector is ag processing. In our case, CHS will be impacted in its Oilseed Processing (OSP) mostly due to leakage issues as discussed below in the last section, Part III...

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Although some of the revenue should be put toward developing new technologies to mitigate the effects green house gases have on climate change, some revenue generated by any GHG program should be 'returned' to those industries that service agriculture and rural America. Several industries that would impact ag the most probably are electricity, fertilizers, and petroleum; a return of revenue would soften the costs on foods. Although we assume electricity groups (like NRECA) and fertilizer groups (TFI) will respond to this question, we are unsure whether this questionnaire went to the petroleum associations like API, NPRA, PMAA, SIGMA, and NPGA—all of which represent energy products essential to ag and rural America.

CHS which is one of only four farmer owned petroleum refiners (which service 60% of the producers in the United States with petroleum products) left in the United States, sees a need to help at least the small refiners within the petroleum industry.

CHS has become a member of the Small Business Refiners (SBR) group that represents 35 small refiners that are almost exclusively the fuel providers in the Midwest, Rockies and Plains states. We used EPA data from its March 14, 2008 analysis of the Lieberman-Warner bill (S.2191) to estimate the cost of a cap and trade program on two of the three farmer owned refineries.

In July when we did our calculations of the cost for carbon credits; we selected EPA's midpoint cost per ton of GHG emissions of $40/metric ton which was exactly the cost on that day on the European Union carbon exchange. That cost to us was $683 million just for our fuel in the first year! It did not include any smokestack costs. That amount exceeds the total of all our profits from 1999-2003 combined.

Unless an exemption from cap and trade is given to fuel (as explained in answer #1) some type of revenue mitigation is needed for the SBRs. Since GHG costs will never end for refiners, because their fuel will be 'taxed', a better fix than just helping with the costs for smokestack technologies must include revenue help for the fuel.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

Yes. There may be some instances where this would have to be considered if a business would no longer be competitive. In the long run, however, the low cost producer will survive and grow. An emission reduction system is intended to give emitters incentive to change.

Transitional assistance is a needed flexibility mechanism and one of those incentives.

One of the biggest fears for SBR to include refiner co-ops is financing. Remember, to be allowed to make fuel we must show we have enough allowances/credits (unless we are given a delay). That requires us to have enough cash to participate in the auctions and on the secondary market. That may require us to borrow significant amounts of money. In July we calculated that at EPA's midrange allowance cost of $40/ton it would cost CHS $683 million in the first year just for allowances for fuel.

If we were required to purchase $683 million of allowances all at one time (in January), this would have a tremendously negative affect on CHS, as this would use much of our credit line in exactly the same period when we are paying the grain deferred payment contracts and our patronage refunds, and we would only recover (hopefully) the cost as we pass it through to customers over the course of the year as part of the cost of gasoline and diesel fuel. This assumes that it could be passed through to customers. In other words, we'd have a negative outflow of cash of $683 million upfront and we would recover about $55 million ($683 million / 12 months) a month throughout the year.

If we purchased these in a more orderly fashion by buying at the beginning of each month[1] just the amount of allowances that we think we need for that month, the impact to our cash flow would seem to be a negative $55 million, as we would always have one month of allowances tied up at the beginning of the month, gradually reducing throughout the month as we sell product, and then going back to a negative $55 million as we purchase new allowances for the next month.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Given the storage potential of grasslands and forests, using public lands to sequester carbon could generate offsets and income. Adding new supplies of offsets to the market would keep the cost down to all participants.

But there is another side to this. Unless there is a cap on the number of sequestration credits allowed from public lands then public land credits would reduce the potential of ag sequestration credits. So some analysis of the impact of credits from public lands is needed.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

If the system is going to work efficiently placing arbitrary limits could be counter productive. Having flexibility to control the level of allocations and offsets available to the market would be useful in addressing unforeseen market disruptions. Banking and borrowing of credits could also help alleviate market volatility.

There may be a need to initially establish a reserve of allowances which can be set at lower prices as a tool of the government to help some distressed industry members. However, this might have a somewhat distorting affect and should be used sparingly but it is a needed flexibility mechanism.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

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[1] The price for an allowance likely would be lowest at the beginning of the year when the allowances are more plentiful. If a company decided to purchase monthly or as needed to conserve cash rather than to purchase when the allowances are likely the least expensive, it would seem that the real cost would be greater which might make it more difficult to pass the cost through as part of the product, which in turn would have the affect of making our product either less price competitive, or force us into a position where we can't pass the cost through and we incur the cost as reduced margin.

Oversupply of initial allocations was a problem that should not happen if carbon footprints are accurately measured. This led to considerable volatility in carbon prices. RGGI has not been around long enough to draw conclusions but should be closely monitored to see if their system is effective in reducing green house gases. Although Australia has not yet implemented their system it appears forestry offsets may be a part of the scheme.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

A voluntary program that lets operators earn credits for reducing green house gases while at the same time allowing them to earn credits for sequestration.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

No, they should not be limited. If carbon prices are trading at a level that makes an offset project feasible they should not be limited. The goal should be to reduce green house gases at the least cost possible.

Limiting the overall amount of total carbon sequestration credits/offsets may be less important than any proposed limits on the amount of offsets allowed to each sector. Those energy intensive entities (petroleum, electricity, and fertilizers) that supply ag and rural communities warrant the option of using a greater percentage of offsets than others, if offsets are limited by government.

Under previously proposed GHG legislation a fixed percentage (such as 15%) limit on the number of carbon credits allowable to offset emissions was placed on all entities. Another version would have allowed a maximum fixed number of carbon credits on all entities. Some sectors should be allowed significantly more—at least 50%. This allows them to shop for the cheapest cost credits. Although one might assume that over time the costs of all credits and allowances may gravitate to a relatively narrow norm amongst themselves on any given day, they often have wide swings.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

Offsets should be a tradable commodity that flow to the highest bidder.

Critically-deemed entities and small entities should be allowed to 'purchase' more of any cheaper credit/allowances than large entities. In the case of Small Business Refiners a minimum of 50% of their needs should be permissible.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Offset projects should be quantifiable, additional and permanent with third party verification.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

The best methodologies of measuring CO2 mitigation should be adopted. They should be consistent and allow offset projects to be accepted by any protocol.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

There are an increasing number of companies that are in the business to verify projects. Private industry should be allowed to train and license verifiers.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

A standards-based approach would be the most efficient method, assuming it is accurate.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

They should be fungible for the market to work efficiently. If there are futures and derivatives it is important that the underlying commodities are fungible for price discovery and market convergence.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?

Please respond in 300 words or less.

Forestry and soil storage carbon offsets should be flexible to allow for natural phenomena like floods and fires that would release the carbon back into the atmosphere. The offset provider should have the opportunity to buy back the offsets if it becomes economically feasible.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

If the offsets are reducing CO2 concentrations in the atmosphere they should be recognized and priced accordingly.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Several years ago CHS converted its Oilseed Processing (OSP) facilities to Natural Gas. As an early actor/proactive environmentalist such a move warrants full consideration of its costs for making this environmentally driven decision. CHS OSP primarily uses Natural Gas for energy. However, many of our US competitors use a combination of coal and natural gas. They could just stop using coal and go to Natural Gas to reduce their GHG production by a significant amount. CHS does not have that opportunity as we are already on Natural Gas.

CHS has been very proactive in making our facility very energy efficient. So by being energy/cost conscious in the past, we are now limited in the projects we can do in the future. Most of those energy efficiency projects were in Mankato. Fairmont is only 5 years old and already has all of the best available technology being utilized. So we are very limited in what we can do there.

As long as the carbon credits are not being counted twice stacking should be allowed.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Programs that were designed for purposes not related to GHG emissions or carbon sequestration should be eligible to earn offset credits. New programs may have to take carbon credit values into account

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?

Please respond in 300 words or less.

See 22.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

It should be detailed in the legislation. However, when dealing with the offset potential that is inherent in agriculture the USDA needs to be involved.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

They need to know the protocol. Under the present voluntary system the cost of verification is a limiting factor given the wide geographical nature of agriculture.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

Anything that can be done to identify opportunities to agriculture should be introduced. The Ag industry is usually quick to take advantage of opportunities. Monetizing carbon credits will be a natural fit for agriculture.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

1. Leakage. Leakage is a real threat to small petroleum refiners and oilseed processors.

Unlike United States electricity, Small Business Refiners and farmer owned co-op petroleum refiners face the real problem of leakage. Although European countries already ship significant gasoline to the United States it appears that as developed

countries they would have to comply with GHG programs similar to what the Congress is now proposing. That would appear to reduce the threat of unfair competition. However, developing countries (and undeveloped countries) would not incur the costs of a GHG program and could flood the United States market. Today underdeveloped countries are growing as a threat to the United States refining industry--major large refineries are coming online (i.e. India) and major oil reserves have been found (off Brazil). The fact they would not incur the GHG costs in each gallon of fuel places a major unfair advantage and no reduction in GHG.

Similarly for the oilseed processing (OSP) agribusinesses, leakage is a real threat which could drive domestic processing offshore. China, India and South America account for 58% of world crush – none of those countries have GHG limits/tax. Even Canadian canola production could be given significant advantage over United States canola production. – The US is the number one export destination for Canada's canola oil and meal; they have no GHG limits/tax. If the list above and other countries do not have GHG limits, what is the economic effect on US businesses if we're trying to compete? Industry will move to countries without carbon limits/taxes if those costs prove to make doing business uneconomical.

The US produces about 28 billion lbs of vegetable oil (includes 8 vegetable oils of which SB oil is 55-60%). US already imports about 7 billion lbs of vegetable oil (1) canola, 2) palm, 3) PK and 4) coconut). Will more imports move jobs across the border to Canada/Mexico or off shore?

2. **Use of renewables as energy feedstock**. Since it is the goal of the Congress to increase the amount of renewable fuels and displace the amount of greenhouse gases and petroleum products, renewables should not counted in smokestack emissions. To measure smokestack emissions and include any GHG such as that from biodiesel for example would work counterintuitive to this goal. Some valid reliable fraud proof process to account for the amount of GHG emitted must be based on some other system such as fuel usage.

3. **Responsibility for complying with GHG legislation**. Some discussion has been ongoing about fixing the responsibility for compliance. Given a choice between fixing the responsibility for cuts on a facility or owner, we prefer the owner. Placing the responsibility on the owner allows him to meet any emissions cuts in a cost efficient manner. For example an owner of several facilities that gets the requirement to cut a certain percentage for example 10% by 2015 at each facility could chose to cut the required number of emissions across by cutting most emissions at one facility. Allowing him to select which facilities within the context of meeting an overall amount allows him to aggregate the numbers and make wisest choices.

4. A Low carbon Fuel Standard (LCFS) that jeopardizes Canadian crude oil supplies to refineries such as the CHS farmer owned refiner coop in Montana that services most of the farmers in Minnesota is a real threat will increase our reliance on foreign oil from the

Middle East and other hostile regions of the world – threatening American energy security.

LCFS proposals to date look to limit imports of Canadian oil based on the belief that production of oil sands generates greater greenhouse gas (GHG) emissions on a "life-cycle" basis than "sweet" crude, like that produced in the Middle East. Canadian oil currently represents 20 percent of our nation's oil supply, compared to the 14 percent imported from Saudi Arabia. Canada also has the second largest amount of proven recoverable crude oil reserves in the world (approximately 179 billion barrels – most of which are oil sands).

Limiting this critical oil source – which supplies the majority of refiners in the Midwest and Northwest especially **Minnesota** which gets over 75% of its crude from Canada – will only increase our need to import significant amounts of oil from more unstable regions of the world at what will most likely be a higher price.

Canada is already working on its own program to limit greenhouse gas emissions from oil-sands production. It makes more sense for Canada to address oil sands emissions in its country than try to address them through U.S. policy.

5. Role of taxation on fuel. (cont'd from question #1) We recommend the committee investigate these various aspects of taxation. It might be a tool used to permit a delay of the cap and trade system on fuel. There are those who argue for a role for taxation and mention various reasons for its use; such as, it might:

a. Be easier and less costly for the government and companies to manage within the existing tax system.
b. Allow predictability of revenue stream for Treasury.
c. Reduce risks and costs to companies relative to their ability to pass on all the costs to consumers.
d. Eliminate company need to obtain financing to participate in auctions --thereby avoiding potential harm to small business refiners.
e. Be set to truly change demand for fuel; many see the free auction process as never getting high enough in costs to impact driving demand.
f. Avoid imbalance in negative impact of GDP losses between regions in the US.
g. Be a more valid tool to address leakage and unfair imports from noncommitted facilities in underdeveloped countries, when WTO issues arise.
h. Allocate the cost of emissions to the source of those emissions.
i. Be less likely, as opposed to cap and trade, to drive closures of domestic refineries.
j. Provide a more level playing field in dealing with foreign competition.
k. Eliminate the disparity that will occur in distributing the allowances under cap and trade.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
DR. DAVID EDWARD CLAY
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Dr. David Edward Clay

Organization(s) you represent

South Dakota Drought Tolerance Center

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

As with all scientific theories, there is uncertainty associated with the global warming hypothesis. Those auguring against implementing greenhouse gas reduction protocols often based their augment on the belief that heating is cyclic. In the long-term, history may show that they are correct. However, the problem with this analysis is that it does not consider the risk of being incorrect. Climate models suggest that climate change can result in: 1) Decreased global crop production; 2) Increased flooding on the coasts; 3) Increased severe weather events, infectious diseases, and malnutrition; 4) Reduced hydropower potential; 5) Reduced water resources and increased desertification in western United States; 6) Increased salinisation of groundwater in coastal areas resulting from higher sea levels, 7) Coral reef bleaching (expel algae resulting in a white color); 8)Changed global ocean currents; 9) Increased fire hazards; 10) Longer droughts; 11) Melting of the North Pole; and 12) Increased insurance losses change the plant distribution. Decision to implement a greenhouse gas reduction strategy must weigh these risks against the cost of implementing a program. Many people believe that given the serious potential consequences of global warming, the economic and environmental risk associated with inaction is unacceptable, while others believe that it is too expensive to implement a climate change program. The bottom line is that implementing or not implementing a program contains costs. These costs need to be carefully considered.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Yes, for a carbon reduction program, it is critical that the proposed strategies produce measureable long-term changes in greenhouse gasses at a minimum energy cost. Carbon stored in soil and forest can meet these goals. Storing carbon in soil, through the adoption of reduced tillage system, has the added benefit of improving the long-term sustainability of agricultural systems. The question that must be addressed in forest and agricultural system is, was carbon sequestered? In some areas of the United States the adoption of no-tillage may not sequester carbon while in other areas the reverse is true. Documenting carbon storage can be addressed by at least three different approaches, cultural practices, modeling, and direct measurement. All three of approaches can be easily implemented. An approach that is not generally considered is the direct measurement approach. This approach can be based on soil samples that are already collected from production fields. Payments would be based on the actual amount of

sequestered carbon. We just completed an analysis of historic carbon budget studies (last 60 years) that were conducted across the U.S Great Plains and corn belt. Analysis of these sites showed that adopting no-tillage reduced the soil organic carbon maintenance requirement by approximately 1/3. By decreasing the maintenance requirement, carbon is sequestered. Based on measured decreases in the soil carbon mineralization rate, between 50 to 500 Mg CO2-C/acre can be sequestered each year. The actual amount of sequestered carbon depends on the sites productivity, soil characteristics, and prior management.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

For payments, agriculture and forestry should be allocated at no-cost. To meet long-term food, energy, and fiber security requirements, production systems must be sustainable. Payments for agricultural and forestry practices for carbon loss, may destabilize rural economies, which in turn will reduced food security. If a payment program is implemented it must be based on a complete carbon and life-cycle budget, not just a partial budget. For example, greenhouse gases emitted from livestock were originally derived from atmospheric CO2 that was fixed by photosynthesis.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

To minimize confusion, I believe a single transparent program should be implemented across the nation. This program must allow for local and regional differences.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

For any future program, I believe that credits should be marketed through existing commodity markets. The government or its representative should provide over-site to insure that rules are followed.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

For any future program, I believe that credits should be marketed through existing commodity markets. The government or its representative should provide over-site.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

I believe that carbon credits should be marketed though a transparent futures market where all can participate.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

Depending on how the program is implemented, a carbon reduction program can have positive and negative impacts on rural and urban communities in the Great Plains. Taxes on energy derived from coal can increase farm costs and reduce the economic viability of agricultural enterprises, while payments to producers for storing carbon can have the opposite effect. Industries located in Central US are likely to be impacted more severely than business located in large urban areas. Maintaining businesses in rural communities is vital for food security.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Program for insuring the economic, social, and environmental long-sustainability of the nations food supply must be implemented.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

yes

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Payments should be made to land managers to encourage the adoption of appropriate technologies.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

To encourage economic development I believe that rules need to be adopted. When developing business models, industry must know it cost. Therefore, to assist in planning, I believe that short-term limits on carbon prices should be established.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

I am not aware of any program that exists for carbon credits for agriculture. I believe that the US should implement a program that allows for measureable impacts to be marketed, no matter the source.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

I believe that off-set credits should be based on measureable standards or bonus allowances for selected activities. Research shows that the potential to sequester a large amount of carbon exists in agricultural soils. Carbon sequestered in agricultural soil has a larger long-term impact on food security, economic development, and soil productivity than carbon sequestered in almost any other way. Win-win scenarios can be developed.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

No comment,

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Off-set credits must be certifiable. The distribution of the off-set credits should be based on the energy cost of the credit and secondary impact of the credit. Credits, such as soil C sequestration, should have a higher priority than credits with a higher energy cost and limited secondary impacts. Storing carbon in soil will increase the long-term soil sustainability and improve food security. We believe that several certification approaches could be used. First, it would be relatively simple to implement a certification program for soil carbon storage based on measured soil carbon values. Most production fields are sampled on a regular basis for soil fertilizer and lime requirements. These samples could be analyzed for soil organic carbon. This information could be archived in a secure data base. Second, certification could also be based on practices or model predictions.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

We believe that several certification approaches could be used. First, it would be relatively simple to implement a certification program for soil carbon storage based on measured soil carbon values. Most production fields are sampled on a regular basis by crop consultants for soil fertilizer and lime requirements. These samples could also be analyzed for soil organic carbon. This information could then be archived in a secure data base. Second, certification could be based on practices or model predictions followed up annual visits.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Projects must produce documentable credits.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

An approach should be used that minimizes uncertainty. It is likely that different areas of the county might utilize different verification procedures.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

I believe that Congress should implement a project-based approach that measures field results. A field-based approach is required to eliminate uncertainty. We believe that soil-based credits should have as much value as credits from a windmill.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

No comment

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

No comment

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Voluntary markets should be allowed to continue. However, this does not mean that the voluntary and compliance market have the same certification procedures.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

We believe that off-set credit is produced when carbon is sequestered. The fact that carbon was sequestered in the past should not influence future off-set credits. The ability to create off-set credits for carbon should not influence the ability to produce off-set credits for water quality or any thing else.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Again credits should be paid for validated credits. The fact that the federal or state government assisted in implementing practices for some other purpose is not important.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Payment should be made for validated credits. Landowners should not be held accountable for natural disasters.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

A one-size-fits all approach most likely will not work. In many areas of the country periodic tillage is needed to control pest problems. Local and regional flexibility must be allowed.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

There are numerous obstacles faced by producers and landowners to implement practices. To overcome these obstacles flexible rules must be adopted.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

No-comment

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
No-tillage	Excellent	Excellent	medium	High-medium
Cover crops	Good-moderate	Good-moderate	medium	Medium to low
Strip-tillage	Good-moderate	Excellent	low	medium
Chisel plow	Good-moderate	Excellent	low	low

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
CME GROUP
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name:
De'Ana Dow and Chris LaRosa (on behalf of Terry Duffy, Executive Chairman, CME Group)

Organization(s) you represent

CME Group

Address
[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

We support the use of market forces to achieve the national climate objectives through a cap-and-trade program. A national emissions cap provides environmental certainty while allowing the market to set a price for carbon, which should reflect the long-run marginal cost of reducing greenhouse gas ("GHG") emissions. Other cap-and-trade programs, such as the Acid Rain Program, demonstrate the potential for efficient environmental and economic success, especially if a significant percentage of the GHG allowances are allocated initially free of charge.

A cap-and-trade program has superior environmental integrity to a tax because it allows regulators to cap GHG emissions at a set amount. This allows the nation to meet important environmental mileposts and also helps it achieve international commitments. By contrast, it is impossible to know what level of carbon tax is necessary to achieve the GHG emission reduction objectives. Indeed, the level of tax is needed to induce emission reductions is likely to be dramatically different depending on the industrial sector. If continuous emission reductions are necessary, Congress may be required to constantly and frequently adjust the tax to achieve its dual objectives, thus undermining the supposed financial certainty of a carbon tax.

A cap-and-trade program is economically superior to a tax because it allows regulated entities the flexibility necessary to minimize total compliance costs. Assuming that the penalties or fines for noncompliance with a cap are significantly greater than the costs that a capped entity would pay for allowances needed to meet compliance obligations, regulated entities will have the economic incentive to shift the economic burden of achieving emissions reductions to other sources or sectors that are able to achieve emission reductions at lower costs. Thus, this market-based tool seeks out the most cost-effective reductions and thereby minimizes the national cost of attaining any emissions target. A carbon-tax, however, would disperse the economic burden of climate legislation across all regulated sources or sectors with little consideration for a given source's actual emission reduction costs or ability.

A cap-and-trade program, however, has administrative and competition-based impediments that may cause it to be disfavored when applied to certain sectors or source types. A cap-and-trade program has high transaction costs because it requires the monitoring of source emissions and has intensive administrative burdens that are not present under a carbon tax regime. Thus, a cap-and-trade may not be appropriate when administered to small, diffuse sources. Instead, sectors containing smaller source types could be effectively regulated through some other regulatory means.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

We believe that agriculture and forestry sectors should not be subject to a specific emissions cap as part of the carbon reduction program.

Unlike sources that are currently regulated for pollutant-specific air emissions, agricultural and forestry practices do not generally produce emissions through a point-source. Because these sectors' emissions are commonly diffuse across the landscape and affected by specific environmental conditions, their emissions are often difficult or impossible to quantify with adequate certainty. Thus, regulation in the face of such uncertainties would be unjust.

Furthermore, agricultural and forestry sectors lack the institutional background and instrumentalities to regulate their air emissions without substantial developments. Although some agricultural and forestry practices could be significantly modified to allow for the monitoring and reporting necessary for regulation, the undertaking would have significant burdens on the industries. The cost associated with this development is not likely justified by the limited amount of GHGs that would be monitored and reported.

Agriculture and forestry, however, could play an important role in generating emission offsets. For a particular agricultural or forestry activity, it is relatively easy to determine an emissions baseline and measure the emission reductions achieved from agricultural and forestry measures. In this way, these sectors can contribute significantly to the emission reduction goals. Allowing agriculture and forestry offsets also provide additional financial stability to the emissions trading market because, as the price of allowances increase, more forestry and agricultural measure become cost-effective.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congres prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

There are sound arguments for free allocation of allowances as well as the auctioning of allowances. The free allocation of allowances accomplishes a number of objectives. First, allocating all or most of the allowances will help minimize the cost burden imposed on retail consumers in competitive and regulated markets. Companies should not be able to increase prices where neither they nor their competitors are facing increased costs. Similarly, in a regulated market (e.g. electric utilities) companies will not be allowed to increase prices in the absence of increased costs.

Second, it should help ensure a robust allowance trading and futures transactions, which is critical to efficient pricing of GHG allowances. As long as there is a robust trading market for allowances, the price for a CO_2 allowance should reflect the long-run marginal cost of reducing GHG emissions. This has been the case in the acid rain trading market. Having allowances reflect the long-run marginal cost ensures that the largest polluters, those who must make the major investments to reduce emissions, are receiving the correct price signals and can make efficient long-term capital investments. Further, it helps companies engage in long - term allowance management planning by ensuring a vibrant futures market. If all of the allowances were auctioned, with the auctions conducted in the applicable

compliance year, it would greatly restrict the ability of companies to offer futures and options in future years which large emitters need to reduce risks and manage their compliance costs.

There also are benefits to at least some portion of the allowances being auctioned through an open auction. This allows for initial price discovery of allowances which will create important price signals regarding the viability of various GHG abatement options. Auctioning also allows broader market participation such as agricultural offset providers, environmental groups, or clean energy developers to participate in the market if they have a view on future price direction.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

For purposes of ensuring compliance with the environmental regulatory requirements, we believe a federal cap-and-trade program could be efficiently regulated by the U.S. Environmental Protection Agency ("EPA"). The EPA is well situated to monitor and track compliance with a cap-and-trade program. The EPA already is tracking carbon dioxide emissions from the electric generating industry and has proposed regulations to begin monitoring GHG emissions from other significant emitting sectors. Additionally, the Clean Air Markets Division of EPA already manages the emission allowance trading for SO_2 and multiple NOx markets. We believe that the U.S. Department of Agricultural ("USDA") should play a meaningful role with EPA on the development of measurement and verification practices for emission reduction projects from the agricultural and forestry sectors. USDA could offer its expertise to the agricultural and forestry sectors through technical assistance programs that facilitate participation by agricultural and forestry businesses in offset programs created through a cap and trade program.

We do not see any reason to assign regulatory oversight responsibility to spot market transactions associated with a GHG cap-and-trade program. EPA's tracking and registry system fully discloses all of the settled transactions in the SO_2 and NOx markets. While EPA does not require reporting or disclosure of the prices, the prices for these intangible environmental assets are reported daily (sometimes hourly) by exchanges, brokers and reporting services that closely follow these markets.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

The CFTC should continue its role as the regulator of any derivative or futures market that may arise in the wake of the creation of a cap-and-trade program. Since its creation in 1974, the CFTC has been responsible for oversight of the futures market. Its responsibilities have included, encouraging competitiveness and efficiency in futures markets, ensuring the integrity of these markets, protecting market participants from manipulation, abusive trading practices, and fraud, and ensuring the financial integrity of the clearing process.

Through its oversight, the CFTC has enabled futures markets with a means for creating the fundamental elements necessary for a successful commodity market. The CFTC's oversight has allowed for price discovery, transparency, liquidity, and counter party credit risk management. The regulatory experience necessary for achieving these ends cannot be easily re-created. Because the CFTC has already developed deep expertise in commodities and other financial futures and maintains all of the resources and internal infrastructure necessary for overseeing a commodity market, it should serve as regulator for any new market created by a cap-and-trade program.

Furthermore, the CFTC already has successful experience regulating exchanges on which existing cap-and-trade programs partially operate. Currently, emissions futures and options contracts that are associated with the Clean Air Act's Acid Rain Program, the Regional Greenhouse Gas Initiative, and the European Union Emissions Trading System are listed for trading and clearing by the CME Group, which is regulated by the CFTC. In fact, the CME Group is in the process of creating The Green Exchange, which will be a separate designated contract market or futures exchange dedicated solely to futures and options contracts associated with emission allowances and other environmental futures. The existing relationship and previous success of the CME Group, the CFTC, and the emissions allowance market ensures the success of any future, CFTC-regulated commodity market.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants. Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and trade program also be permitted to develop under similar options as for energy-based commodities?

Please respond in 600 words or less.

See answer to Question #6. The derivatives based on carbon allowances are not fundamentally different from derivatives based on other tradable assets. The only difference is the regulatory limitation and declining supply. Companies should be allowed to trade on DCMs, which provide a highly regulated and transparent venue for trading standardized futures contracts. Over the counter trading should be permitted for customized bilateral agreements that allow companies to execute transactions tailored to specific compliance objectives. This will be particularly important if the cap-and- trade program allows for a robust offset market. Offset projects are highly variable and the offsets generated from such projects can be less homogenous, at least in the eyes of some purchasers. However, due to the public policy objectives of cap and trade, OTC transactions should be subject to greater reporting requirements so that regulators have a view of potential position concentrations and supply and demand dynamics. Regulators could also encourage standardized OTC

transactions to be cleared through central clearinghouses.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

11) What role should public lands play in helping to sequester carbon and/or reduce GHG emissions?
Please respond in 300 words or less.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less

Market forces should determine carbon prices. Companies that are subject to a cap-and-trade program face economic decisions daily. They make plans over the long term based on economic forecasts, cost estimates and economic modeling. Once the long-term allocation of allowances is established, market forces will establish GHG allowance prices that should reflect the long-term marginal cost of achieving GHG emission reductions to achieve our national goals. Those market-driven prices are critical to ensure that the investment decisions are made rationally. If arbitrary cost/price limits are set, which limits both the forward costs and revenue from GHG abatement (reductions or sequestration), then the large capital investments that will be necessary to achieve the GHG reductions may be less viable.

While market forces should be the primary force for setting allowance prices, legislation also could utilize market-friendly cost containment provisions to avoid potential market

distortions. Such cost containment provisions should not be intended to prevent the temporary peaks and lulls of a normal, healthy market. Instead, they should serve as temporary adjustments to the market, designed to alleviate conditions of true allowance scarcity or surplus. Numerous types of market-friendly cost containment tools exist that can remedy conditions of market scarcity or surplus. The most common of these tools include permitting capped entities to bank allowances and permitting offset credits to be part of the cap and trade program and market.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already under Way or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Phase I of the EU ETS was a trial period designed to allow the participating countries, and companies within the countries, to understand how emissions trading would work and to develop the trading and tracking infrastructure that would be necessary to implement a comprehensive cap-and-trade program. Phase I was not designed to achieve wholesale emission reductions. Further, because it was not designed to achieve reductions, the system didn't allow banking of allowances, which resulted in wild gyrations in prices that had little to do with the underlying market. Since that time, the EU ETS market has functioned effectively, achieved important emission reductions and demonstrated the effectiveness of cap-and-trade emissions markets.

If there is one other lesson to be learned it is that the governments must set long-term allowance allocations and policies and then allow the markets to function. Phase I's volatility was, in no small part, due to the short term, limited nature of the program. Companies need long-term certainty to make capital decisions to address their carbon emissions. It is critical that the companies know what the supply of allowances will be and that those government policies will not interfere with the market-based system on which they are being asked to rely.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

We believe a voluntary offset program, which prompts agriculture and forestry sector participation based on market-generated price and cost information, would maximize benefits to the sectors and avoid mandates that could impose uneconomical requirements that generate relatively small GHG benefits.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

There have been multiple national and international registries established in recent years that have thoroughly analyzed this issue. For instance, the Clean Development Mechanism has established workable methodologies for the validation and verification of offset projects covering a wide range of GHG reduction activities. In the U.S., there are numerous voluntary GHG action registries that have developed similar criteria for approving and quantifying the reductions from GHG-reducing projects (e.g. EPA Climate Leaders). These existing criteria and standards should serve as a starting point with the objective of creating standards that support high quality emissions quantification and verification.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Setting verification standards for offset projects is complicated and involves too many unpredictable variables for Congress to establish such standards. The system should be designed by a panel of scientific experts from agencies with existing expertise such as EPA, and USDA with input from appropriate organizations with expertise in offset protocol development such as the World Resource Institute. Emission exchanges should not be involved in the development of such protocols and procedures.

20) Should Congress establish a standards-based approach with pre-calculated values or a projectbased approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Setting verification standards for offset projects is complicated and involves many unpredictable variables for Congress to establish such standards. The system should be designed by a regulator agencies with appropriate expertise such as the the EPA and US Department of Agriculture.

The integrity of offset projects can only be ensured by on-the-ground, third-party, verification, measurement, and quantification. This, however, should not require intensive field measurements and analysis. Instead, third-party verifiers should be able to supplement and verify the accuracy scientifically developed models, which consider numerous site-specific attributes, with empirical field measurements. Using both these tools - models and empirical measurements - third-party verifiers should be able to quickly and accurately obtain an estimate of project-specific carbon capture.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

It is our view that both offset credits and allowances should be equivalent to one ton of GHGs. If the market is functioning properly and offset credits are of high integrity then prices for one allowance and one offset credit (for the same compliance period) should be identical. For purposes of tracking, offset credits and allowances they would be treated as separate and distinct instruments.

22) Describe the most important factors in establishing the permanence and duration of offsets under
the program, including contract length and flexibility?
Please respond in 300 words or less.

23) How should Congress address <u>existing</u> offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

There have been numerous projects undertaken in recent years to reduce GHG emissions based on both the voluntary carbon market and on the expectation that there would be national legislation that would establish a cap-and- trade program into which early reduction offsets could be sold. Congress should recognize and award such behavior by crediting emission reductions that have been rigorously validated and verified by recognized GHG registries such as The American Carbon Registry, the California Climate Action Registry and The Climate Trust. Congress or their designated regulatory agency may decide to appropriately discount some of the reductions based on project type and vintage, but it should not simply ignore valid and environmentally beneficial projects.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors

and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

The term additionality is typically used as a criterion for the eligibility of an offset project in a cap and trade market. The additionality test is met when it can be proved that the GHG reduction is truly an additional carbon reduction from the atmosphere. An example of a project that would meet the additionality test is the reclamation and the reforestation of a tract of land that was previously blighted and without vegetation. We believe the demonstration of additionality should be required of all offset projects, whether existing or new. For existing projects, additionality should be demonstrated at the time of creation, not at the time of implementation of a federal cap-and-trade program.

We do not have a strong understanding of the term stackability and consequently, we do not have views on questions surrounding stackability.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Offset projects created, in part, through the use of governmental financial assistance should still be eligible for offset credits, so long as additionality can be demonstrated.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

A project developer should only be able to earn offset credits for carbon actually captured and stored. As with any land management activity (i.e. farming and forestry), results are never certain and nature rules all. Any other result would challenge the integrity of the cap-and-trade program.

Under these situations, a carbon-based insurance market, similar to crop insurance, is likely to develop. Project developers will, therefore, be able to hedge the risk of loss through their purchase of carbon insurance.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

Congress should not design the system. The system should be designed by a panel of scientific experts from agencies with existing expertise such as EPA and USDA with input from appropriate organizations with expertise in offset protocol development such as the World Resource Institute and Clean Development Mechanism. Emission exchanges should not be involved in the development of such protocols and procedures.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

RESPONSE TO QUESTIONNAIRE SUBMITTED BY CNH AMERICA LLC

FIAT GROUP

Agricultural and Construction Equipment

CNH

Harold D. Boyanovsky
President and Chief Executive Officer

April 10, 2009

The Honorable Collin C. Peterson
Chairman, House Committee on Agriculture
1301 Longworth House Office Building
Washington, DC 20515-6001

Dear Chairman Peterson:

I want to thank you for the opportunity to respond to your questionnaire regarding climate change options to reduce greenhouse gas (GHG) emissions as it may relate to agricultural and forestry land use activities. As a major manufacturer of agricultural and construction heavy machinery we are keenly interested in this subject both for our industry as well as our customers engaged in agricultural, forestry, and construction activities. We recognize that climate change and GHG reduction is a tremendously complex challenge for our society and must be based on sound science and economics. It is clear that the three "Es" of environment, economics and energy are inextricably intertwined.

The questions posed in your questionnaire are both sweeping in scope as well as extremely detailed and perhaps are best answered through development of a robust legislative and regulatory record. There are clearly multiple dissertation topics contained in the questionnaire. As such we are not able to respond in detail at this time but can share some general observations:

• Agricultural and construction equipment are presently subject to increasingly stringent and challenging tailpipe emissions regulations aimed at reducing NOX and fine particulate. Tier IV standards loom at a time of tremendous economic challenge both for our industry and our customers. The cost of GHG emissions reductions must be reviewed in light of this existing regulatory framework, the trade-offs involved in optimizing different emissions reduction strategies, the energy efficiency inherent in diesel-powered equipment and their role in both creating and utilizing biofuels.

• The positive and potentially negative impacts of agricultural and forestry activities, if any, need to be better understood through valid scientific research and analysis. A holistic approach, encompassing both benefits and potential detriments of these activities, needs to be taken in any regulatory scheme. There is great promise in the use of agricultural and forestry systems as carbon "sinks" to manage carbon emissions. These activities should be promoted as part of any climate strategy and proper carbon credits for beneficial activities need to be recognized.

• Regulating "area" sources such as agricultural and forestry activities through a "command and control" approach is very difficult and is typically the last regulatory strategy after major "point" and "mobile" sources have been addressed.

• Market-based systems such as "cap and trade" should be favored over "command and control" and taxation. Money generated through the emissions markets must be used for research and technology to ameliorate the economic impact of GHG regulation. Emissions trading within a regulatory framework is understood and has been successful with regards to many other pollutant reduction programs in providing flexibility and economic efficiency.

Thank you again for the opportunity to participate in the development of this very important initiative. CNH intends to carefully monitor and participate in this initiative individually as well as through trade groups that represent our industry sector and interests. Manufacturing, farming, forestry and construction are vital to our country, our security and well being. Properly balancing the three "Es" is critical.

If you have any questions, please contact me or Joseph Samora in our CNH Washington office at (202) 737-7575.

Sincerely,

cc: Joseph Samora

CNH America LLC
[Redacted]

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
COALITION FOR EMISSION
REDUCTION PROJECT (CERP)
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Kyle Danish

Organization(s) you represent

Coalition for Emission Reduction Projects (CERP). The Coalition for Emission Reduction Projects brings together leading companies from the energy, financial services, and emissions reduction project development sectors. CERP's members include American Electric Power, Blue Source, C-Quest Capital, Deutsche Bank, Dominion, DTE Energy, Duke Energy, EcoSecurities, Element Markets, El Paso Corporation, Environmental Credit Corp., Equator, First Climate, John Deere, Leaf Clean Energy Company, MGM International, Natsource, Noble Carbon Credits, PG&E, and Stark Investments.

Address

Van Ness Feldman, P.C.

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Counsel

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?

   Please respond in 600 words or less.

   The Coalition for Emission Reduction Projects (CERP) believes that a cap-and-trade program with offsets is the best approach to reduce emissions while minimizing costs. A cap-and-trade program will put the power of the market to work, seeking the least cost emission reductions and investing in the technology needed to reduce future emissions. The emission allowance market will allow regulated firms the flexibility to cut their own emissions to achieve compliance, sell "extra" emission reductions, or buy cheaper reductions elsewhere. Giving entities the freedom to make such choices will allow capital to be deployed more efficiently and will enhance the overall productivity of our economy. The offsets market will incentivize unregulated sectors to cut emissions as well, and sell those reductions—creating jobs as well as increasing the efficiency of the country's emission reduction efforts, and often providing ancillary environmental benefits. A cap-and-trade program will also easily integrate with other international cap-and-trade efforts to reduce emissions.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

   Please respond in 300 words or less.

   CERP believes that the best way to engage the agriculture and forestry sectors in carbon reductions is through an offsets program. Direct regulation would impose costly allowance surrender and trading programs on family farms and small private forests. Emissions from such sources are difficult to measure accurately. Because of the large number of entities in these sectors, including them within the regulatory regime would increase the administrative costs and complexity of the regulatory program dramatically. An offsets program, however, would provide incentives for those farmers and forest owners that have low-cost emission reduction or sequestration opportunities to implement offset projects and sell the resulting credits, providing cost containment for regulated entities and revenue and jobs for the forestry and agriculture sectors. Such projects will lower the cost of climate change mitigation to society, and provide additional environmental benefits.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?

   Please respond in 600 words or less.

CERP has no position on this issue other than that – as discussed in greater detail in the response to question 23 – there should be allowance set aside to award to early developers of offset projects that have been verified under rigorous voluntary offset programs. .

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

CERP believes it is important to recognize the early efforts that some states and regional programs have made to reduce greenhouse gas emissions by capturing the value of emission reductions registered through these programs. CERP has proposed that Congress rely on the offset project standards developed under these state-run or state-recognized programs to ensure that the offset market continues to produce emission reductions during the transition to a federal regulatory program, and to guarantee that offsets will be available during the first federal compliance period to provide cost containment for regulated entities. Under the CERP proposal, offsets allowances issued under any of the government recognized programs could be exchanged for a federal offset allowance for emission reductions achieved between January 1, 2008 and the promulgation of offset project standards under the future federal cap-and-trade program.

Such government recognized programs would include: the Regional Greenhouse Gas Initiative, California's Climate Action Reserve, the Western Climate Initiative, the Midwestern Governors Greenhouse Gas Accord, the Environmental Protection Agency's Climate Leaders Program, and any programs developed by the U.S. Department of Agriculture's Office of Ecosystem Services and Markets.

Failing to provide such a transition from current programs to the ultimate federal program would likely lead to the abandonment of emission reduction projects (and the loss of ready reductions) and a scarcity of offsets needed for cost containment during the first critical compliance periods of the federal cap-and-trade program. It will presumably take the federal agencies a considerable amount of time to develop federal offset standards. If offset providers have no alternative standards to rely upon during this time, they will be unable to attract the investment needed to develop offset projects. Emission reductions will be delayed or abandoned, and offset project developers may not survive the lengthy regulatory uncertainty. If the industry itself disappears, with its hard-earned expertise in project development, the supply of federal offsets and the associated cost containment benefits will be even further delayed.

Relying on the rigorous offset standards promulgated by government recognized climate change programs will eliminate regulatory uncertainty during the transition to the federal program, and provide for a smooth transition from state or regional to federal offset oversight. Offset providers will be able to begin attracting investment and developing high quality emission reductions projects as soon as the federal legislation is passed, which will ensure that offsets are available for purchase during the first compliance period.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Please respond in 300 words or less.

CERP believes that the Environmental Protection Agency (EPA) and the U.S. Department of Agriculture (USDA) both are well suited to implement the offsets program within a cap-and-trade program. Both agencies have considerable experience with offsets. EPA has overseen offset project regulation under the Clean Air Act for nearly twenty years. EPA has also developed model greenhouse gas offset standards under its "Climate Leaders Program." In addition, USDA has been developing offset standards under authority provided to it by last year's Farm Bill. These agencies, given sufficient resources, are therefore well-positioned to develop and implement an effective, environmentally rigorous offset program that ensures that offset projects produce emission reductions that are real, verifiable, quantifiable, permanent, and enforceable. For these reasons, CERP supports some form of EPA-USDA collaborative responsibility for implementing the offsets program.

CERP believes that creating a new agency would generate unnecessary and highly costly delays in getting a federal offsets program off the ground. In the absence of a transitional regulatory regime such as that suggested under Question 4, offset project developers will not be able to begin attracting investment and planning projects until after the offset regulations have been promulgated—delaying the availability of federal offset allowances and the cost containment benefits they will provide. Creating an entirely new agency to regulate offsets would further delay the development of offset regulations and waste the expertise generated at EPA and USDA under existing offset-related efforts.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

CERP has no position on which agency regulates the derivative carbon market at this time. CERP does have views on how regulation is applied to transactions involving investment in offset projects as discussed below in our response to Question 7.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

CERP supports rigorous oversight of the carbon market. However, CERP believes that such market oversight for the offsets market needs to be carefully designed to guard against market abuse while still making it possible to drive investment into offset projects. To that end, it is important to recognize that offset project development involves a different type of market activity than offset allowance trading, and should therefore be regulated differently.

Government-issued offset allowances are a commodity. Therefore, transactions involving issued offset allowances should be subject to the same market oversight disciplines as transactions involving government-issued emission allowances.

A transaction involving investment in an offset project to generate offset allowances, however, is a different kind of transaction. Project development often involves a land owner, such as a farmer, and an investor. The two parties create a unique contract to finance the project and share its risk and returns. These contracts vary widely according to the nature of the project and the entities involved, and do not lend themselves to standardization. The investor is buying offset allowances that do not yet exist, and whose eventual existence depends not only upon the project's environmental success but also upon an extensive regulatory process. The allocation of risks involved in project development—project approval risk, monitoring and verification risk, and allowance issuance risk—need to be negotiated bilaterally and on a project-by-project basis.

Requiring such transactions to become standardized and formalized through exchanges would result in contracts that are not well-matched to the unique characteristics of each project and would require a large number of parties such as farmers and private forest owners to engage in complex market registration and involvement that is generally reserved for much larger and more sophisticated market participants. This would increase project overhead costs significantly and chill investment in offset projects.

For these reasons, CERP believes that transactions involving investments in offset projects in return for rights to potential future offset allowances should remain over-the-counter transactions.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

CERP does not have the specific information necessary to answer this question. In general, however, studies by the EPA and EIA have demonstrated that there will be costs associated with a climate change regulatory program, and that offsets can lower those costs very significantly. For communities engaged in agriculture or forestry, offsets not only lower the costs of climate regulation but also provide opportunities for communities to engage in the climate program by producing offsets, generating revenue and jobs.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

For agricultural communities that develop offset projects, revenues generated from the sale of offset allowances could offset the higher costs for energy and fertilizer resulting from a carbon reduction program.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

CERP has no position on this question.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

In CERP's view, it is important to pursue all available opportunities for developing offset projects, and public lands offer many opportunities for sequestration. In the context of projects on public lands, it will be important to ensure that the project developer receives the offset allowances resulting from the developer's work and investment.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

CERP has no position on this question at this time.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

There are many valuable lessons to be learned from other carbon reduction programs. As documented in the GAO's 2008 Report on International Climate Change Programs, international offset programs such as the Kyoto Protocol's Clean Development Mechanism can help developed

countries meet their emission reduction targets at less cost while engaging developing countries in emission reduction efforts.[1]

The CDM has also demonstrated that international offset projects can funnel new technologies into developing countries, but that this outcome is not guaranteed and might require careful policy design. Indeed, it is widely recognized that the CDM has been hindered by a cumbersome bureaucracy. It provides an excellent example of why the U.S. program should locate the offsets program within a regulatory agency with notice and comment rulemaking and an established appeal procedure to ensure that the regulatory regime is sensible, transparent, and responsive to problems identified by program participants.

Evaluations of the CDM have also highlighted the difficulty inherent in demonstrating that an offset project produces emission reductions that are additional to what would have occurred in that project's absence. It has become increasingly clear that using a standards-based approach is generally superior to such a project-by-project analysis. Under a standards-based approach, the regulatory agency establishes an emissions baseline and additionality criteria for a certain project type, and projects are evaluated against that standard. This approach avoids the subjectivity and inconsistency in project evaluation that has plagued the CDM. The advantages of a standards-based approached are discussed further in response to Question 20.

With regard to the inclusion of agriculture and forestry sectors, the CDM incorporates a large number of agricultural projects as well as afforestation and reforestation. However, it does not incorporate forest management or avoided deforestation, which has been recognized as a problematic omission and will be one of the key elements of the ongoing international offset reform efforts.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

CERP believes that appropriately engaging the agriculture and forestry sectors in efforts to reduce greenhouse gas emissions can produce significant emission reductions while providing rural areas

[1] United States General Accounting Office, "International Climate Change Programs: Lessons Learned from the European Union's Emissions Trading Scheme and the Kyoto Protocol's Clean Development Mechanism," GAO-09-151 (November 2008), p. 31.

with economic development opportunities and ancillary environmental benefits. As noted above in response to Question 2, CERP believes that direct regulation of the agriculture and forestry sectors would be counterproductive, given the large number of entities involved, their diversity, and the administrative costs that direct regulation would entail. Some farms and forests may not have the capacity to produce significant emission reductions. Engaging the agriculture and forestry sectors through an offsets program and the carbon market, however, will provide project financing and a financial reward for those entities that can produce emission reductions or sequestration cost-effectively. Expanding the range of emission reductions to incorporate the agriculture and forestry sectors will ensure that emission reductions are made efficiently and cost-effectively, benefitting everyone.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

CERP believes that offset projects should meet rigorous standards for environmental integrity. They should be real, additional, verifiable, quantifiable, and permanent. In the Coalition's view, offsets should be limited by these standards for *quality*, not quantity or geographic origin. Qualifying emission reductions generated through offset projects are as real as reductions generated by a power plant. Achieving a larger share of our nation's emission reductions through offset projects will reduce compliance costs, produce ancillary environmental benefits, and curtail emissions of gases like methane that are particularly fast-acting in the atmosphere—creating time for the development and deployment of low-carbon technologies.

Any additional, arbitrarily-chosen quantity limits or discounts will simply decrease the efficiency of our emission reductions by placing some reductions "off-limits" and increase the costs of climate regulation. An emissions cap that declines over time will ensure that private investment flows to the development of low-carbon technologies; revenues from allowance auctions can further support research and development of these technologies. CERP supports a periodic Presidential review of the offsets program and its impacts on technology diffusion. The President could recommend a quantity limit on offsets if there is evidence of a delay in technology development linked to offset availability.

If Congress does decide to impose a quantity limit on offsets, CERP strongly urges Congress to limit the use rather than the issuance offset allowances. If the issuance of allowances is limited, high quality projects will arbitrarily fail to receive allowances because of their position in the regulatory queue. Limits on offset use will allow unused allowances to be banked for future use (and to retain value), and therefore do less damage to the value of offset allowances and projects.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

Once the government approves an offset project and issue offset allowances for the project, it should not constrain the use of that offset allowances. The marketplace should decide the price and disposition of offset allowances.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

As noted above, CERP believes that the offset program should have rigorous regulations to ensure that emission reductions produced by offset projects are real, additional, verifiable, quantifiable, and permanent. To this end, CERP believes that the regulatory agency should be empowered to develop standards and protocols for each offset project type.

18) What should be the criteria for assessing offset projects?

Please respond in 300 words or less.

Please see our answer to Question 17.

19) How should Congress design a system for verifying offset projects?

Please respond in 300 words or less.

CERP is mindful of the distinction between legislation and regulation. CERP believes that there is a careful balance to be struck between respecting the technical expertise of the regulatory agencies and providing legislative guidance to ensure that the offsets program begins quickly and that offset developers have some regulatory certainty between the passage of climate change legislation and the promulgation of offset regulations. Regulatory certainty will be critical to jump-start efforts to finance and develop high-quality offset projects. Clear and transparent requirements in the legislation can generate the early offset project development activity that will help ensure a cost- and environmentally-effective start to the regulatory program.

As noted above, CERP believes that the regulatory agencies should be empowered to develop standards and protocols to guide specific offset project types and ensure the effectiveness of the offset program. Some legislative proposals, however, would establish an unnecessarily lengthy rulemaking process by first identifying a list of project types for agency "consideration." The agency must undertake one rulemaking to determine which project types are eligible, and then another to promulgate standards for the eligible categories.

There are a number of well-established offset project types that are familiar to existing state, regional, and voluntary carbon registry programs. For such project types, CERP believes that Congress should declare the project category *per se* eligible and direct the administering agency to commence work on standards and protocols for these projects types. CERP also believes that the administering agency should be directed to periodically review the list of eligible project types to

add new types and withdraw project types that no longer satisfy the program's additionality standards.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?

Please respond in 600 words or less.

CERP favors a standards-based approach for all project types for which such an approach is feasible. Although project-based approaches have been used in many existing offset programs, they are increasingly disfavored because of the time and expense required to conduct a project-specific assessment and questions about the additionality of emission reductions achieved. A project-based approach also risks inconsistent and subjective assessment of projects.

Standardized approaches, in contrast, provide a set of objective criteria that apply to each project within a project type. This approach is more objective, and provides regulators, investors, and project developers with greater certainty. Standardized approaches are also more streamlined and incur lower administrative and transactional costs. Such standardized approaches are already being utilized in the Regional Greenhouse Gas Initiative, the Climate Action Reserve program, and in the EPA's Climate Leaders Program. In addition, the Clean Development Mechanism is shifting toward such an approach.

21) What should be the relationship between offsets and allowances?

Please respond in 600 words or less.

As noted above in our answer to Question 7, CERP believes that once an offset allowance is issued, transactions involving that allowance should be subject to the same market oversight disciplines as transactions involving government-issued emission allowances. At the commodity stage, offset allowances and emission allowances should be fully equivalent and fungible entities.

As noted above in response to Question 15, as more limits are placed on the use or issuance of offset allowances, their market value will decline and investments in offset projects will become more risky. Because government-verified emission reductions achieved via offset projects are environmentally equivalent to emission reductions achieved by regulated entities, offset allowances and emission allowances should be treated precisely the same.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?

Please respond in 300 words or less.

CERP believes that ensuring the permanence of emission reductions is an extremely important issue. CERP supports the use of a buffer reserve to manage the risk of reversal inherent within any sequestration project. Under the CERP buffer reserve approach, a risk of reversal is calculated for

each sequestration project. The percentage probability is multiplied by the number of allowances that would be issued for the offset project, and allowances equal to the resulting sum would be placed in a reserve account. In the event of an unintentional reversal for the project, a quantity of allowances in the buffer reserve equal to the reversal is cancelled. If the reversal is determined to be intentional, the project representative must submit an amount of allowances to the regulatory agency equivalent to the extent of the reversal. Thus, the cap-and-trade program is "made whole" for any reversal.

CERP has opposed an approach in which the buyer of offset allowances from a project that undergoes a reversal is held liable for returning or replacing those credits. A buyer is not well-positioned to evaluate and manage the risks associated with a project. Further, offset allowances are likely to be bought and sold many times. Were buyers liable for reversals, the result would be significant underinvestment in biological sequestration projects.

A seller might be better positioned to manage reversal risk if the seller is close to the management of the project itself. However, a reversal could occur many years after the commencement of a project—at a point when the original selling entity is no longer in business. Reversal insurance, especially in the early years of the program, could be difficult and expensive for sellers to acquire.

For these reasons, CERP supports the buffer reserve approach described above.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?

Please respond in 600 words or less.

There is a critical timing issue for offset project development. The federal rules and standards for offset projects will not be finalized until sometime in the future, after enactment of the legislation. However, it takes time to develop projects. If project developers have to wait until the final offset rules are published in the Federal Register to begin work, the stream of offset allowances available when compliance obligations come due for capped entities will be a trickle, resulting in much higher compliance costs for the cap-and-trade program.

Fortunately, there is an emerging sector of offset project developers and early offset projects in the United States. A study by Duke University's Nicholas Institute for Environmental Policy Solutions found that this "pre-compliance" sector launched in 2002.[2] Supporting the pre-compliance offset project sector is a set of non-governmental programs that have developed quality standards and also registries for clarifying ownership of emission reduction rights. These standards and procedures attempt to anticipate the ultimate standards and procedures under a compliance program.

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[2] Lydia Olander and Brian Murray, "Treatment of Early Agricultural and Forestry Offsets in a Federal Cap-and-Trade," Duke University Nicholas Institute for Environmental Policy Solutions (October 2008), p. 3.

An October 2008 study by the U.S. General Accountability Office (GAO) concluded that, in 2002, this sector provided a little over two million carbon dioxide equivalent tons of reductions. As of 2007, the sector had 211 projects, which achieved approximately 10 million tons of reductions.[3]

These early efforts have produced significant emission reductions, incentivized technology development, developed green jobs, and contributed to a shift in public perceptions of the importance of climate change mitigation. Failure to provide credit for these efforts could result in the abandonment of emission reduction projects—a waste of project investment and development, and a loss of ready emission reductions.

This sector needs significant investment in order to ensure that it can deliver cost containment when it is needed. To attract the needed investment, the sector needs regulatory certainty. To this end, CERP has proposed an Early Action Project Allowance Set-Aside. The CERP proposal provides that EPA will set aside 200 million CO_2e tons of allowances from the Year 1 emissions cap for an Early Action Project Reserve. These allowances would be issued to projects that produced emission reductions between January 1, 2002 and the first date that federal offset project regulations come into effect. Only emission reductions verified under the American Carbon Registry, the Chicago Climate Exchange, or the Voluntary Carbon Standard would be eligible. Each of these programs requires independent third-party verification of projects and reductions, registers and tracks emission reductions, and uses formal bodies for developing project rules, standards, and methodologies. The reductions cannot have already been retired or used for compliance with the requirements of the program or registry under which they were verified, including a company's voluntary corporate emissions limit or the requirements of the Chicago Climate Exchange.

CERP acknowledges that there may be reluctance to award offset allowances to projects that have not been verified under the eventual federal offset standards. Because the allowances in the Early Action Project Allowance Set-Aside are drawn from the emissions cap, however, there is no jeopardy to the emissions cap if some projects fail to generate additional reductions. Yet, making these allowances available will provide certainty to the offset market and ensuring a flow of investment into early projects.

CERP also strongly urges Congress to provide for transitional offset project standards during time period during which federal offset project standards are being drafted, as described in response to Question 4.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also

[3] U.S. General Accountability Office, "Carbon Offsets: The U.S. Voluntary Market is Growing, but Quality Assurance Poses Challenges for Market Participants," GAO-08-1048 (October 2008), p. 14.

be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?

Please respond in 600 words or less.

As noted above, CERP believes that one of the great benefits of offset projects is the production of ancillary environmental benefits. CERP supports the use of environmental credits to reward and incentive the generation of these other benefits, so long as the offset project continues to meet the regulatory additionality standards established by the climate change program.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?

Please respond in 300 words or less.

CERP believes that projects paid for in part by assistance from Federal or state government programs should be eligible for participation in the offset program provided that the administering agency is satisfied that the emission reductions meet the program's additionality standard.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?

Please respond in 300 words or less.

CERP believes that offset allowances only should be issued after reductions or sequestration have been demonstrated for a project each year; CERP does not support "up front" crediting. To address the risk of later, unintentional reversal inherent in any sequestration project, CERP supports the use of a buffer reserve as described in response to Question 22.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

As noted above in response to Question 19, CERP believes that there is an important balance to be struck between deferring to the expertise of the agencies and providing sufficient guidance to ensure that the offset program is developed quickly and effectively. To this end, CERP believes Congress should designate a list of project types that will be incorporated within the offset program and empower the regulatory agencies to develop rigorous standards and protocols to govern those projects.

As noted in response to Question 5, CERP believes that both EPA and USDA have developed important expertise related to offset programs and should have some form of collaborative responsibility for regulating the offset program.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

CERP believes that one of the primary obstacles facing agricultural producers and landowners who could reduce or sequester greenhouse gas emissions is financial. An offsets program would make great strides towards addressing this problem by providing a financial reward for production of emission reductions. An offsets program would also help farmers and landowners attract the investment they would need to implement emission reduction technologies and practices.

Other obstacles likely include a lack of knowledge of the offsets market and a lack of certainty about offset regulations. A federal offset program will also help remove these obstacles. A federal offsets program will generate a vibrant environmental industry of offset project developers who will help farmers and landowners understand and participate in the offsets program. Federal offset regulations will provide the rigor and certainty that has sometimes been missing from the voluntary offsets market.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

As noted above in response to Question 28, CERP believes that existing conservation and forestry programs do not provide sufficient incentives to encourage the large-scale adoption of practices that would sequester carbon and/or reduce greenhouse gas emissions. An offsets market, however, would create powerful new financial incentives to take up such practices and support a class of project developers who will act as intermediaries to help farmers and landowners take advantages of the opportunities in the offsets market.

An offsets program has many advantages. The money flowing to support offset project development will be from the private sector rather than from taxpayers. Only projects that succeed in reducing or sequestering emissions will receive offset allowances. The power of the market will be put to work to produce emission reductions, and in doing so, will generate revenue and jobs in rural communities.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Market Oversight of Offsets:

Distinguish *Project Investment* from *Credit Trading*

It will be important for a cap-and-trade program to have rigorous market oversight. The public needs assurances that trading in Allowances and Offset Credits will not be vulnerable to market abuses.

However, it is critical that market oversight rules carefully distinguish between *trading* in Offset Credits and *investment* in Offset Projects. We recommend that exchange-related regulation be reserved for transactions involving the *trading of already-issued Offset Credits*. However, transactions involving investment in offset projects and the *purchasing of rights to not-yet-issued Offset Credits* should not be subject to such requirements.

To explain the need for this distinction, we describe below the three steps involved in developing an offset project. We highlight the market oversight implications of each step. While the example we provide involves domestic agriculture, the same considerations would apply to other types of projects, including international projects.

Step 1: Investment in the Offset Project

A market participant (Investor Co.) seeks to acquire Offsets Credits, either to meet its own compliance needs or to trade to others.

With funding, a farmer (Farmer) could implement an offset project: the reduction of nitrous oxide emissions from fertilizer use (Project).

Investor Co. and Farmer enter into a contract in which the Farmer agrees to develop the Project, take the Project through the Agency Project Approval Process, and transfer the rights to any Offset Credits issued from the Project to the Investor Co. Investor Co., in turn, agrees to provide some upfront funding to the Farmer and pay on a forward basis for rights to any Offset Credits issued for the Project.

Implications for market oversight: There are number of reasons why this transaction should not be subject to exchange regulation but rather should remain OTC:

- ***This is not a transaction involving a commodity; it is more like a non-securitized equity investment to create the commodity in the first place.***

- ***These types of project investment transactions do not lend themselves to standardization; they necessarily vary in form and structure. The buyer is purchasing a credit that does not yet exist, and establishment of the credit is contingent upon a multi-stage regulatory process (described in Step 2 below). Therefore, the allocation of risks involved in the project – project approval risk, monitoring and verification risk, and issuance risk – needs to be negotiated bilaterally on a project-by-project basis.***

- ***Regulating such transactions on exchanges could imply requiring farmers to undergo the kind of registration process reserved for more sophisticated and active market participants.***

For these reasons, forcing such transaction onto regulated exchanges likely would chill investment in offset projects.

Step 2: The Project Undergoes an Agency Review Process

Approval and Registration. The Farmer submits a petition for the Project to the Agency. The Agency approves the Project as an eligible offset project only if it meets the standards for such projects. The Agency records the approved Project in the Offset Project Registry.

Periodic Verification. The Agency periodically verifies whether the Project has achieved emission reductions in accordance with environmental standards.

Issuance of Offset Credits. For each verified ton of reductions achieved by the Project, the Agency issues an Offset Credit into an Allowance Account specified by the Farmer.

Pursuant to the Farmer's agreement with Investor Co., the Farmer requests that the Agency issue Offset Credits from the Project, with individual serial numbers, into Investor Co.'s Allowance Account.

Implications for market oversight: Note that two of the concerns sometimes raised in connection with the <u>voluntary</u> carbon market – environmental integrity and credit ownership – are effectively addressed through the Agency Offset Project review process. Because of this process, the public has assurances that each Offset Credit has met governmental standards for environmental integrity; indeed, Offset Credits do not even exist until they have been verified by the government. In addition, the Project

Registry and Allowance Accounts make clear whether a putative Offset Credit seller owns what she is trying to sell.

Step 3: Trading of Offset Credits

Now that Investor Co. has Offset Credits in its account, it uses them in two different ways. It surrenders 75% to the Agency for compliance purposes. Investor Co. then trades the other 25% of the Offset Credits to other entities.

Implications for market oversight: There should be a distinction between these two actions. The first is not transactional; instead, it is an action to comply with government regulation. The second action, on the other hand, is a commodity-like transaction. Investor Co. is acting as a trader. Accordingly, exchange-related regulation might make sense for the second action.

Respondent did not complete the chart at the end of the questionnaire.

CoBANK **RESPONSE TO QUESTIONNAIRE SUBMITTED BY COBANK™** [Redacted]

April 10, 2009

The Honorable Colin Peterson
Chairman
Committee on Agriculture
United States House of Representatives
Washington, D.C. 20515

Dear Chairman Peterson:

Thank you for your continued leadership on rural issues and we appreciate your request for input from the rural community on climate change issues. CoBank recognizes the challenge you, your committee, and the Congress face with climate change legislation as you attempt to balance benefits to our environment with the costs that will inevitably be borne by taxpayers and/or consumers. We especially applaud your committee's effort to ensure that agricultural producers, agribusinesses, and rural utilities are treated fairly in this process.

With assets of over $61 billion, CoBank is a financially strong, dependable, cooperative bank that provides capital and financial solutions for businesses that operate in and serve rural America's vital industries – food, water, electricity and communications. Part of the $214-billion U.S. Farm Credit System, the bank also finances agricultural exports.

CoBank's customer-owners are diverse, but they also carry the common thread of serving and providing jobs in rural America. For example, CoBank's Agribusiness Banking Group serves cooperatives and other companies involved in grain handling and marketing, farm supply, food processing, dairy, livestock, fruits, nuts, vegetables and cotton. Many of our agribusiness customers rely on the utilities served by another segment of CoBank's portfolio - CoBank's Communications and Energy Banking Group (CEBG). CEBG serves rural utilities, including electric generation (including some wind, solar and biomass), transmission and distribution cooperatives; water companies; and wireline, cable and wireless communications service providers. Our customer-owners make up the backbone of rural America.

CoBank is closely monitoring how the proposed climate change legislation could impact our customer-owners. Almost a quarter of CoBank's portfolio is comprised of rural electric cooperatives. Many of our agribusinesses rely on rural electric cooperatives for their energy; therefore, the impact of climate change legislation on rural electric cooperatives will be felt by virtually all of our customers. The National Rural Electric Cooperative Association represents our rural electric customers and the National Council of Farmer Cooperatives represents the majority our farmer-owned cooperatives. Both of these organizations are going to provide specific comments to the questions you posed on this issue. CoBank also is involved in the 25 X '25 organization because of the contributions agriculture and forestry can make in stemming climate change.

Thank you for your commitment to supporting the interests of rural America and your leadership in shaping climate change legislation.

Sincerely yours,

Robert B. Engel

Robert B. Engel
President and CEO

Proud Member of the Farm Credit System

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
COMMODITY MARKETS COUNCIL
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name
Michael D. Walter

Organization(s) you represent
Commodity Markets Council

Address
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

I am president of the Commodity Markets Council and have served in that capacity since January 2008.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?

> As an organization that represents commodity futures exchanges and end-users of such exchanges, our expertise on this topic is limited. At this time, we defer to other organizations with more detailed knowledge and experience.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

> As an organization that represents commodity futures exchanges and end-users of such exchanges, our expertise on this topic is limited. At this time, we defer to other organizations with more detailed knowledge and experience.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-costs allowances?

> As an organization that represents commodity futures exchanges and end-users of such exchanges, our expertise on this topic is limited. At this time, we defer to other organizations with more detailed knowledge and experience.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

> As an organization that represents commodity futures exchanges and end-users of such exchanges, our expertise on this topic is limited. At this time, we defer to other organizations with more detailed knowledge and experience.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

> CMC believes the US Department of Agriculture should play a significant role in a cap-and-trade programs and the role should be focused on greenhouse gas offset protocol development and implementation for relevant offset projects such as forestry projects.

We believe that the Environmental Protection Agency, through its successful Acid Rain Clean Air Markets program, has the expertise, infrastructure, and track record to oversee the issuance of emission allowances and compliance with emission reduction goals.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

CMC would support the inclusion of greenhouse gas allowances, offset credits, and derivative instruments under the jurisdiction of the CFTC. We believe the expertise of the Commission makes it the appropriate regulator of such markets.

CMC would also support the trading of such contracts on designated contract markets. We would also like to see the opportunity for OTC trading to allow for instances when customized transactions are necessary. We would recommend that centralized clearing be encouraged as these markets mature and develop.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?

Please see our answer to Question 6.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agricultural community? Such groups should include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

As an organization that represents commodity futures exchanges and end-users of such exchanges, our expertise on this topic is limited. At this time, we defer to other organizations with more detailed knowledge and experience.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

As an organization that represents commodity futures exchanges and end-users of such exchanges, our expertise on this topic is limited. At this time, we defer to other organizations with more detailed knowledge and experience.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

As an organization that represents commodity futures exchanges and end-users of such exchanges, our expertise on this topic is limited. At this time, we defer to other organizations with more detailed knowledge and experience.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

As an organization that represents commodity futures exchanges and end-users of such exchanges, our expertise on this topic is limited. At this time, we defer to other organizations with more detailed knowledge and experience.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

As an organization that represents commodity futures exchanges and end-users of such exchanges, our expertise on this topic is limited. At this time, we defer to other organizations with more detailed knowledge and experience.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

As an organization that represents commodity futures exchanges and end-users of such exchanges, our expertise on this topic is limited. At this time, we defer to other organizations with more detailed knowledge and experience.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major tropic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

As an organization that represents commodity futures exchanges and end-users of such exchanges, our expertise on this topic is limited. At this time, we defer to other organizations with more detailed knowledge and experience.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

As an organization that represents commodity futures exchanges and end-users of such exchanges, our expertise on this topic is limited. At this time, we defer to other organizations with more detailed knowledge and experience.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

As an organization that represents commodity futures exchanges and end-users of such exchanges, our expertise on this topic is limited. At this time, we defer to other organizations with more detailed knowledge and experience.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

As an organization that represents commodity futures exchanges and end-users of such exchanges, our expertise on this topic is limited. At this time, we defer to other organizations with more detailed knowledge and experience.

18) What should be the criteria for assessing offset projects?

As an organization that represents commodity futures exchanges and end-users of such exchanges, our expertise on this topic is limited. At this time, we defer to other organizations with more detailed knowledge and experience.

19) How should Congress design a system for verifying offset projects?

As an organization that represents commodity futures exchanges and end-users of such exchanges, our expertise on this topic is limited. At this time, we defer to other organizations with more detailed knowledge and experience.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?

As an organization that represents commodity futures exchanges and end-users of such exchanges, our expertise on this topic is limited. At this time, we defer to other organizations with more detailed knowledge and experience.

21) What should be the relationship between the offsets and allowances?

As an organization that represents commodity futures exchanges and end-users of such exchanges, our expertise on this topic is limited. At this time, we defer to other organizations with more detailed knowledge and experience.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?

As an organization that represents commodity futures exchanges and end-users of such exchanges, our expertise on this topic is limited. At this time, we defer to other organizations with more detailed knowledge and experience.

23) How should Congress address existing offset projects or credits established through voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?

As an organization that represents commodity futures exchanges and end-users of such exchanges, our expertise on this topic is limited. At this time, we defer to other organizations with more detailed knowledge and experience.

24) The term "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?

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As an organization that represents commodity futures exchanges and end-users of such exchanges, our expertise on this topic is limited. At this time, we defer to other organizations with more detailed knowledge and experience.

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As an organization that represents commodity futures exchanges and end-users of such exchanges, our expertise on this topic is limited. At this time, we defer to other organizations with more detailed knowledge and experience.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not have been covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
CONSERVATION INTERNATIONAL
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Manuel J. Oliva

Organization(s) you represent

Conservation International

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Director, U.S. Climate Policy

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?

Please respond in 600 words or less.

Addressing global climate change is one of the most pressing challenges facing the United States and the rest of the world. Conservation International supports the setting of aggressive reductions in global greenhouse gas emissions, including by the United States. A market-based cap and trade system allows the setting of quantified emissions reduction targets, which price emissions accordingly.

Scientific and economic analyses (Stern Report and Eliasch Review) clearly conclude that it will be impossible to meet any of the atmospheric carbon dioxide concentration goals needed to provide reasonable climate stabilization without significantly reducing the loss of tropical forests. Forested wetlands and peat lands account for approximately 20% of global greenhouse gas emissions. This is more than all the world's transportation sources combined. Each year, a swath of tropical forest the size of New York State is destroyed, sending more than five billion tons of greenhouse gases into the atmosphere and causing permanent damage to some of the planet's most cherished places. Because the scale of investment needed to address global deforestation - estimated at $15-$30 billion per year - public funding is likely to be insufficient to the task, carbon markets are likely to be the best hope for achieving the bulk of the carbon emission reductions and conservation needed.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

Please respond in 300 words or less.

Yes, the agriculture and forestry sectors must be included. Changes in land use patterns and forest sector emissions account for approximately 33% of the world's greenhouse gas emissions and thus Conservation International believes that the agriculture and forestry sectors must play a meaningful role in any successful effort to stabilize atmospheric greenhouse gases at a level sufficient to avoid dangerous climate change.

For example, by deploying a market-based approach that credits forest carbon activities which demonstrably reduce emissions or sequester additional carbon, a U.S. policy approach could generate as much as $10 to $20 billion per year (based on EPA carbon price estimates) to protect forests and their vast carbon stores, while supporting reforestation and other forms of sequestration and reducing the

overall cost of a U.S. cap-and-trade program. Eliasch and Kindermann estimate that $15 -$30 billion per year would reduce forest loss by fifty percent. Such investments could, for example, protect tens of thousands of square miles of tropical forest in areas such as the Amazon and Indonesia—forests that would otherwise be lost forever—while preserving biodiversity, reducing poverty and positioning forested developing countries as partners in the solution to climate change.

Credits from agriculture, forestry and other land use (AFOLU) activities provide a critical means of cost containment that will enable the United States to commit to needed levels of emission reductions, while maintaining acceptable domestic cost and price signals that will be sufficient to drive the transformation of the U.S. energy sector. Inclusion of credits from these activities could also well be the key to achieving an international agreement that elicits meaningful participation by developing countries - a longstanding condition for U.S. reengagement - thereby forging a more global agreement that will help to level the competitive playing field for U.S. manufacturing and save American jobs.

If left out of global carbon market regimes, AFOLU activities may significantly contribute to further greenhouse gas emissions from deforestation, loss of soil carbon, inefficient use of fertilizers and poor management of animal wastes, etc. Alternatively, carbon markets have the potential to create important financial incentives for broad farmer adoption of practices that sequester carbon, contribute to higher agricultural productivity, and conserve biodiversity and ecosystem services.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Both market-based incentives and development assistance funding are needed together to direct urgently-needed carbon finance to developing countries to protect their forests and meet the global climate change challenge. Therefore, Conservation International believes that a significant portion of the emission allowances be distributed by means of an auction to generate needed funds for development assistance as well as drive real emission reductions.

Specifically, funding should come from: (1) A share of the revenues from government auctions of emission permits in a cap-and-trade program should be "set-aside" for reducing emissions from international forestry; and (2) from private companies that purchase qualifying, tradable credits from domestic and international agricultural and forestry activities as part of their compliance actions under the U.S. cap-and-trade program.

The use of funds from this set aside program should target forest activities in tropical forest nations and should be used for:

- Programs to build the capacity of developing nations to better manage their forests as well as participate in international forest carbon markets. These capacity building and market readiness activities may include improving forest sector governance, building working forest sector institutions, land tenure and judicial reform, and support for systems to measure, report and verify international forestry emission reductions.
- Programs to conserve existing forests, including payments to countries with low deforestation rates to keep those rates low even as high deforestation nations reduce their emissions.
- Programs to improve forest management and land-use policy. Such programs may include support for conservation trust funds, forest management policy reforms and activities, efforts to combat international illegal logging and international trade in products from illegal logging, changes in agricultural policy, and the development of non-forest low-carbon energy sources that would help reduce deforestation.
- Upfront loans for emission reduction activities, including policy reforms and implementation activities in high risk countries and other nations that are not able to affordably access private capital to finance their emission reduction strategies for the forest sector.
- Pilot and experiment activities, such as for conservation of peat lands and other soil carbon in qualifying ecosystems.
- "Credit for early action" defined as action to reduce emissions from international forests taken after the enactment of domestic climate legislation but before such emission reductions are eligible to be tendered by regulated entities for compliance purposes in a U.S. cap-and-trade program.

A U.S. cap-and-trade legislation should allow regulated entities to receive compliance credit for tendering verified domestic and international emission reductions from agricultural and forestry activities. With regards to international forestry activities these credits should originate from:

- Verified emission reductions that originate from any nation that U.S. implementing agencies determine has adopted a credible national forestry baseline.
- Verified emission reductions from projects of any scale from small emitting nations (The Environmental Protection Agency, in consultation with a specialized scientific advisory board, should categorize nations as either large or small emitters based on their contributions to total global greenhouse gas emissions).
- Verified emission reductions that originate from any sub-national jurisdiction that U.S. implementing agencies determine has adopted a credible sub-national forestry baseline. U.S. implementing agencies should adopt rules to avoid disincentives for nations to delay adopting credible national baselines, and that ensure that eligibility to originate emission reductions from new projects in sub-national jurisdictions ceases immediately when the nation adopts a qualifying national baseline, with provisions to avoid double counting of emission reductions.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

Conservation International believes that within the U.S. there has been the development of positive carbon reduction programs that should be considered for linkage into a Federal program in some way. U.S. state and regional programs have made many important strides in development of methods, protocols and policies for credible carbon reduction. For example, early credits generated from programs such as the regional greenhouse gas initiative (RGGI) should be incorporated into a U.S. carbon reduction program.

In addition, the agreement between California, Illinois and Wisconsin and six states in Brazil and Indonesia to work together on new programs for protecting and restoring tropical forests represents a valuable "proof of concept" effort to bring international forest carbon activities into existing and emerging compliance regimes. As such, the effort carries global significance as a signal to other governmental entities and to the broader climate policy community that this is achievable and that there is and will be a meaningful process of transnational cooperation. It is imperative that Congress recognize that climate policy, which seeks to address forest-related emissions, must support these important efforts previously undertaken by states and regional carbon reduction programs.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Please respond in 300 words or less.

Conservation International believes that the Environmental Protection Agency (EPA) in concert with other appropriate agencies (e.g., Department of State, Department of Agriculture, National Oceanic and Atmospheric Administration, etc.) is best suited to manage a U.S. cap-and-trade program. The EPA has a successful history of managing U.S. cap-and-trade systems (i.e., the Acid Rain Program, the NO_X Budget Program) as well as an expertise of climate change issues from their management of various voluntary greenhouse gas reduction programs, and the development of the U.S. greenhouse gas inventory annually to satisfy the U.S. requirements under the United Nations Framework Convention on Climate Change.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

Conservation International believes that the absence of a proper carbon reduction program will have greater negative impacts on all communities, including the agriculture community, from the negative impacts of climate change (e.g., droughts, severe storms, etc.) and the costs associated with subsequent climate change adaptation efforts.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

The Emission Trading System (ETS), as the world's largest emissions trading system, offers valuable lessons for a U.S. carbon reduction program. These lessons include the need for a tight national cap on emissions, better program coverage (the ETS covers approximately 40% of the European Union's greenhouse gas emissions), and better distribution of allowances to avoid industry wind-fall profits.

However, one of the most important lessons that can be learned is from the ETS's failure to include emission reductions from deforestation in developing countries. Conservation International believes that inclusion of offset credits from both domestic and international agriculture and forestry activities not only offers the possibility of significant greenhouse gas emission reductions, but also offers valuable co-benefits, such as the protection of critical biodiversity, improved livelihood of local communities, etc. In addition, the inclusion of these offset projects can maintain the environmental integrity of global reductions while serving as a cost containment mechanism for regulated sources under a U.S. carbon reduction program as we continue to develop and deploy the low emissions technologies needed to achieve deeper future cuts in greenhouse emissions.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

Both market-based incentives and development assistance funding are needed together to direct urgently-needed carbon finance to developing countries to protect their forests and meet the global climate change challenge. Conservation International is supportive of mechanisms that will incentivize the greatest amount of real climate mitigation and conservation as soon as possible, such as, early action credits, and bonus allowances for

selected agriculture and forestry activities (both domestic and international activities) that produce significant co-benefits (e.g., critical biodiversity protection, etc.).

For example, the use of funds from development assistance funding should be used for:

- Programs to build the capacity of developing nations to better manage their forests as well as participate in international forest carbon markets. These capacity building and market readiness activities may include improving forest sector governance, building working forest sector institutions, land tenure and judicial reform, and support for systems to measure, report and verify international forestry emission reductions.
- Programs to conserve existing forests, including payments to countries with low deforestation rates to keep those rates low even as high deforestation nations reduce their emissions.
- Programs to improve forest management and land-use policy. Such programs may include support for conservation trust funds, forest management policy reforms and activities, efforts to combat international legal logging and international trade in products from illegal logging, changes in agricultural policy, and the development of non-forest low-carbon energy sources that would help reduce deforestation.
- Upfront loans for emission reduction activities, including policy reforms and implementation activities in high risk countries and other nations that are not able to affordably access private capital to finance their emission reduction strategies for the forest sector.
- Pilot and experiment activities, such as for conservation of peat lands and other soil carbon in qualifying ecosystems.
- "Credit for early action" defined as action to reduce emissions from international forests taken after the enactment of domestic climate legislation but before such emission reductions are eligible to be tendered by regulated entities for compliance purposes in a U.S. cap-and-trade program.

In addition, A U.S. carbon reduction program should allow regulated entities to receive compliance credit for tendering verified offset credits from both domestic and international agricultural and forest emission reduction activities. In the case of international forestry emission reductions, these credits should be:

- Verified emission reductions that originate from any nation that U.S. implementing agencies determine has adopted a credible national forestry baseline.
- Verified emission reductions from projects of any scale from small emitting nations (The Environmental Protection Agency, in consultation with a specialized scientific advisory board, should categorize nations as either large or small emitters based on their contributions to total global greenhouse gas emissions).
- Verified emission reductions that originate from any sub-national jurisdiction that U.S. implementing agencies determine has adopted a credible sub-national forestry baseline. U.S. implementing agencies should adopt rules to avoid disincentives for nations to delay adopting credible national baselines, and that ensure that eligibility to originate emission reductions from new projects in sub-national jurisdictions ceases immediately when the nation adopts a qualifying national baseline, with

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

A U.S. cap-and-trade should include strict methodologies to address the issues of additionality, activity baselines, measurement, leakage, uncertainty, and permanence of any offset projects.

For example, the Voluntary Carbon Standard (VCS) Program is an existing program that provides a robust, global standard and program for approval of credible voluntary offsets. The VCS program objective is to:

- Standardize and provide transparency and credibility to the voluntary offset market.
- Enhance business, consumer and government confidence in voluntary offsets.
- Create a trusted and tradable voluntary offset credit; the Voluntary Carbon Unit. (VCU)
- Stimulate additional investments in emissions reductions and low carbon solutions
- Experiment and stimulate innovation in emission reduction technologies and offer lessons that can be build into future regulation.
- Provide a clear chain of ownership over voluntary offsets that prevent them being used twice. This is achieved through multiple VCS registries and a central project database that is open to the public.

In addition, Conservation International is a founding member of the Climate, Community & Biodiversity Alliance (CCBA), which has developed standards that complement existing standards, such as the VCS standards, to help design and identify land management projects that not only minimize climate change but also support sustainable development and conserve biodiversity. These standards also ensure that the rights of Indigenous Peoples and local communities are respected, environmental and social monitoring programs are in place, no invasive species are used, local stakeholders are effectively involved, carbon property rights are clear and there are no unresolved land tenure disputes.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Early action credit should be provided for real and verifiable reductions of greenhouse gas emissions or sequestration efforts resulting from actions taken by entities prior to the enactment of a U.S. carbon reduction program. The environmental integrity of the U.S. carbon reduction program should be assured by accepting early action credits only from credible regulatory or voluntary programs, as well as limiting the time frame for acceptance

of these credits following the enactment of the carbon reduction program. Early action credits are important to spur action that is needed now to begin combating the impacts of climate change as well as preserve valuable forests and the critical biodiversity that these forests contain.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Current development funds to address climate change mitigation are not sufficient. For example, deforestation accounts for approximately 20% of global greenhouse gas emissions and the scale of investment needed to address global deforestation is estimated to be between $15 and $30 billion per year. Therefore, public funding in conjunction with investments from carbon markets are the best hope for achieving the levels of emission

reductions and conservation needed to combat the impacts of climate change. A U.S. carbon reduction program should incentivize agricultural and forest activities both domestically and internationally via the use of offset credits, as well as increase the level of public funding for complementary programs such as technology transfer and capacity building in developing countries.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
COUNCIL OF WESTERN STATE FORESTERS
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Pete Anderson

Organization(s) you represent

Council of Western State Foresters

Address

Council of Western State Foresters
[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Chair, Council of Western State Foresters

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

The Council of Western State Foresters does not have an official position on which approach would be best, but forests will be an important part of the solution whether it is carbon taxes/fees, a cap-and-trade program or a hybrid approach. Several state programs have already been initiated and sufficient flexibility should be maintained to allow individual state programs to continue to function.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Yes, the roles as forests in mitigating climate change and the support for forest adaptation should be included in a carbon reduction program, but not as a capped sector.

Western forests – from the Douglas-fir and redwood forests of the Pacific Northwest – to the mixed-conifer and pine forests of the Intermountain, Columbia Basin, and Sierra Nevada Mountain regions – to the riparian forests of the Great Plains – are some of the most valuable and productive forests in the world. Western forests act as net sinks for carbon; annually removing a net 74.0 million metric tons in all non-soil pools – trees, standing dead and down wood, understory, forest floor, and wood products.

Given western forests' ability to remove and store carbon from the atmosphere, maintaining the area and performance of our forests as carbon sinks will not only be key to western regional efforts to reduce atmospheric carbon, but to any national and international efforts as well.

Climate change can be mitigated through reductions in forestland conversion; increased carbon sequestration and storage in forests and wood products; substituting wood products for non-renewable building materials and woody biomass for fossil fuels. Adaptation strategies are also an important way to address the effects of climate change on western forests.

While western forests need to be an important part of the solution to reducing atmospheric carbon they are also vulnerable to the risks of climate change. Forestry climate change strategies are most effective when they pro-actively

manage trees and forests to increase resistance and resilience, while reducing both the probability and the severity of catastrophic disturbances (wildfire, insects, and pests) that have the potential to cause negative ecological, economic and social impacts. Active management of forests also helps achieve sustainability, maintain productivity and creates green jobs.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

The Council of Western State Foresters does not have an official position on which approach would be best. Emission allowances could be donated to entities in the agriculture or forestry sectors (which are outside of the cap) for them to sell back into the capped sectors in order to raise money for complementary carbon sequestration activities on agriculture and forest land. Providing no cost access to allowances to be used by the agriculture and forestry sectors will be an important part of the cap-and-trade program.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

The Council supports the broader inclusion of forestry that has been developed through the Western Climate Initiative (WCI) and the potential for forestry offsets. It is important to note that of all the sectors in the initial scope for the WCI, only trees and forests represent a potential carbon sink. The WCI is investigating the inclusion of forestry projects and protocols as an offset component of the cap-and-trade program.

In addition to working through/with WCI, the forest carbon working groups for Oregon, Washington, and California have been meeting to discuss the role of forests in a cap-and-trade program as well as coordinating and information sharing on this important issue. Developing a program that allows linkage to existing and emerging carbon reduction programs will facilitate the creation and enactment of a federal program. In developing a federal program, we recommend the evaluation and potential adaptation of existing and emerging program structures, standards, and protocols, so as to build on the diligent work that has been and continues to be done. These programs may include WCI, CCX, CCAR, RGGI, and CDM. Oregon, Washington, and California are coordinating efforts to conduct research, share information and develop rigorous, yet practical and

attainable approaches to quantifying, monitoring, verifying, and enforcing forestry contributions to carbon reduction. The work of this forest carbon working group and that of similarly rigorous existing and emerging programs should be considered in the development and design of a federal carbon reduction program.

Dimensions of forestry and carbon policy should:

- Promote management actions that improve resiliency and sustainability of forest ecosystems while providing for the economic, environmental, and social goods and services expected by the public.
- Recognize that many forest landowners actively manage their forests sustainably. As a result, these forests have provided sinks for atmospheric carbon and are more resilient and adaptable to climate change threats.
- Promote active approaches to reducing the severity of impacts of forest fires by implementing large scale, long-term forest health and fuel reduction programs in areas of high severity fire risk.
- Reduce the risk of adverse environmental outcomes through activities that increase the resilience of ecological systems to climate change and maintain ecosystem services.
- Reduce stresses that exacerbate climate change impacts to forests (e.g. overstocking, fire, insects, disease, air pollution, development and forest conversion).
- Optimize ecosystem goods and services and preserve options for future forest owners and land managers.

Forestry can be included in ways that support market-based solutions, including:

- Adopt an incentive-based framework through the development of carbon markets that provide the financial means and economic return to manage western forests as net sinks for atmospheric carbon and to ensure their resiliency to climate change threats.
- Develop common protocols, accounting mechanisms, registries and other tools to facilitate the development of carbon markets and a common language of exchange between those supplying reductions in atmospheric carbon from forests and those seeking to use these benefits as mitigation or offsets for greenhouse gas emissions.
- Make the rules of eligibility and participation in carbon markets simple, understandable and verify that "real tons" are accounted for by transaction.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Please respond in 300 words or less.

The Council of Western State Foresters recommends that an agency with expertise in forestry have a consulting or lead role in development and oversight of forestry offsets. This is the approach being taken in Oregon - the Oregon Board of Forestry being the state Board with strategic vision over all forest policy matters affecting all forestlands (regardless of ownership) - should be the lead on developing standards and principles for forestry carbon offsets. While existing efforts may take the lead on developing and recommending these standards (e.g., the Western Climate Initiative) - when it comes down as a matter of policy for Oregon, the Board should validate, or if necessary, vet further those standards.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

The Council of Western State Foresters has not developed an official position on this topic.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

The Council of Western State Foresters has not developed an official position on this topic.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

The Council recommends adopting carbon policies that are cost effective and practical in order to provide the broadest participation by individuals and communities. These should include policies that provide options for innovation and partnership, and increasing the use of forest products, woody biomass, and renewable energy from biomass thereby reducing GHG emissions. Examples include:

- Develop projects and actions to cost effectively provide the greatest desired mitigation or adaptation benefits; encourage projects and actions that incorporate proven technologies and that are easy to understand and implement.
- Avoid unnecessary or hidden costs and penalties from climate policy compliance especially those that disproportionately burden small landowners and small businesses.
- Make the rules of eligibility and participation in climate strategies straightforward and understandable.
- Encourage research and development that supports efficient harvesting and conversion of forest biomass to renewable energy with low carbon or carbon positive footprints.
- Improve methods to ensure integrity of forestry related greenhouse gas measurement, reporting and monitoring.
- Promote applied research to address gaps in understanding and data while also providing enhanced tools for decision support.
- Encourage the use of forest products from sustainably managed western forests as substitutes for more carbon intensive products like steel and cement.
- Encourage appropriately scaled renewable energy from woody biomass including heat, power and biofuels (such as cellulosic ethanol) from sustainably managed western forests as a substitute for fossil fuels.
- Structure and implement forest health and fuels reduction programs and projects on public, tribal and private lands to facilitate the beneficial use of biomass for production of energy and biofuels.
- Where appropriate, develop large scale, long-term projects and use forest stewardship contracts that can support use of forest fuels and wood waste for biomass energy.

Finally, the definition of "renewable biomass" should be kept as broad as possible in order to allow biomass from naturally growing forests and federal lands to contribute renewable energy, and count towards federal renewable energy goals.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Revenue streams, if they were made available, should be utilized to broaden incentives for landowners to implement forest carbon projects that contribute toward national emissions reductions. This could include increased opportunities for some project types, such as avoided deforestation, reforestation, restoration and hazardous fuels reduction, and innovative approaches to incentive program designed to increase landowner participation. The goal here would be broadening the beneficial aspects of the cap beyond the capped sectors by funding carbon storage practices in non-capped sectors, especially for practices that cannot demonstrate strict "additionality" requirements (see our response to question 22 for additionality). A portion of those funds could go for the activities and priorities described below.

Stewardship and Conservation Programs: Maintaining our forests as forests and promoting healthy, resilient forests are essential first-response strategies to address the effects of climate change on forest systems. Existing stewardship and conservation programs offer valuable tools to help private landowners and state and federal agencies to accomplish these goals, and should be adequately funded.

Planning Tools: Each State's Forest Resource Assessments, Strategies and State Wildlife Action Plans will identify near term opportunities to practice adaptive management for climate adaptation and target early responses to major stressors on forests from climate change. Improved funding and partner contributions will be necessary to identify and accomplish mitigation and adaptation options in these plans. The commitment of the federal lands sector is essential if these plans are to be effective and functional across the landscape.

Wildlife Habitat: Encouraging stronger landscape connectivity will be important to support adaptation for some forest species. Appropriate forest management practices can also help increase resiliency of individual species and natural systems at a landscape level.

Adaptation Science: Scientific uncertainty regarding forest adaptation could be substantially reduced by supporting further research, and by implementing techniques such as the use of expert science panels and rigorous inventory and monitoring systems.

Although the Council of Western State Foresters has not taken an official position in relation to carbon offsets on federal lands, management for healthy and resilient forest on federal lands needs to be fully funded. Revenue streams that can be obtained from forest carbon offset projects on federal lands or from the generation of capital from the sale of allowances under the cap should be available to invest in these activities.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

The Council of Western State Foresters has not developed an official position on this topic.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Climate change is currently impacting federal land's ability to provide ecosystem services and benefits for the American public. Carbon storage and

emission reductions should be part of the wide spectrum of objectives for management of federal lands, in addition to clean water, scenic beauty, outdoor recreation, fish and wildlife habitat, natural resource-based jobs, forest products and renewable energy. The critical forest health situation on federal lands in the west has the potential to amplify the threat from climate change and to increased fire incidence. There is a critical need for active forest management on federal lands across the west in order to achieve carbon sequestration and GHG emission reduction goals.

Federal lands can provide a platform for research and development that supports efficient harvesting and conversion of forest biomass to renewable energy with low carbon or carbon positive footprints. Activities on federal lands can help in developing protocols for forestry in carbon management and markets, and platforms innovation and learning in order to provide a strong science basis for what is known about forest, carbon and climate change.

Federal lands are and will continue to be an important part of the western landscape and need to be considered in broad adaptation and mitigation strategies. Consider all forestlands – federal, tribal, state, local, urban and private - within the scope of climate policies for western forests; however, specific policy mechanisms need to recognize the unique roles, purposes and management objectives for the various land ownership types.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

The Council of Western State Foresters has not developed an official position on this topic.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

The Council of Western State Foresters does not have comments for this topic.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

We support the forestry sector participating voluntarily in any cap-and-trade program, through development of offset projects that can be sold to capped entities. The forestry sector includes many small private landowners, public lands and large industrial landowners. Therefore, there should be a broad suite of cost effective options for voluntary landowner/manager engagement. Provide flexibility by maintaining a high quality voluntary market for use by the sectors that are not covered by the regulation. The State Forestry Agencies are best positioned to assist with this forestry related activity.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

The Council of Western State Foresters has not developed an official position on this topic.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

The Council of Western State Foresters has not developed an official position on this topic.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

Forestry sector emission reduction (or sink enhancement) is still evolving and is very complex. Establishing goals is complicated because of the difficulty of separating human and natural influences in greenhouse gas emissions from sources such as wildfires. The large number and diversity of forest landowners also adds complexity. However, the coordination of greenhouse gas inventories will help with legitimacy of offsets.

Greenhouse gas inventories attempt to characterize the flow of greenhouse gases into and out of the atmosphere from natural and human-induced sources. They are an important scientific method of measuring greenhouse gasses and assist with understanding the appropriate scope of cap and trade programs, economic incentives/disincentives and uncertainties that help prioritize research needs. Inventories are required for certain multi-government agreements, such as the

Kyoto Protocol, and while many have been completed (i.e. California) improvements are continuing.

A common set of guidance and methodologies for including both greenhouse gas emissions from and sequestration in western forests needs to be included in greenhouse gas inventories. Currently, some states and provinces include removals from forests and forest fire emissions while others do not. Developing common protocols, accounting mechanisms, registries and other tools will facilitate the development of carbon markets and a common language of exchange between those supplying reductions in atmospheric carbon from forests and those seeking to use these benefits as mitigation or offsets for greenhouse gas emissions. Also it will be important to make the rules of eligibility and participation in carbon markets simple, understandable and verify that "real tons" are accounted for by transaction.

Measurement systems should be simple and cost-effectiveness and have their foundation in normal professional forestry measurement systems that can be independently verified. Additional resources may be needed to improve existing forest inventory systems (FIA) for use in carbon accounting over time.

The goal of including all aspects of the forestry sector in greenhouse gas inventories should be to provide background trends in the status of the region's forests as net sinks or sources of atmospheric carbon, as well as be inclusive of this sector's human-induced emissions from development, manufacturing, transportation and use/disposal of wood products. If all aspects of forestry are included in greenhouse gas inventories, then all aspects of other comparable sectors such as agriculture and range should also be included.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Options for including forestry should involve both adaption and mitigation components. The Council of Western State Foresters endorses full-carbon accounting with forest offset projects and use of performance standards. Policy should consider the following:

- Recognize that trees and forests store carbon in many above and below ground pools, in both living and dead material and continue to store carbon in harvested wood products.
- When reporting the carbon emission mitigation or offset benefits from conducting the forest offset project or action, account for the greenhouse gas emissions from conducting the forest project.
- When conducting voluntary forest offset projects or actions, if practical, require net greenhouse gas emissions and storage reporting for all affected

forestland controlled or owned by the reporting entity, either for mitigating or offsetting greenhouse gas emissions.

- Recognize and quantify the risk of reversal of carbon storage and provide adequate buffers (insurance) to possible future carbon project losses.
- When certifying project carbon, ensure that the certified carbon is additional, is appropriately quantified, accounts for leakage, and meets permanence requirements.
- Emphasize a clear performance standard for effective carbon offset policies for western forests.
- Ensure that the rules of eligibility and engagement with carbon markets, including measurement protocols, accounting mechanisms, registries and legal instruments, are simple, understandable, cost effective and practical.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

The verification system should be part of the rulemaking by the agency charged with implementing the new policy in conjunction with state forestry agencies. This allows modification and adaptation over time as we learn how to most effectively and efficiently meet the climate change goals. In designing a rigorous system for verifying offsets, we recommend that the agency that manages the carbon reduction program to review, evaluate, and consider adopting the structure and protocols of similarly rigorous existing and emerging carbon reduction programs.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Forestry projects can help achieve both climate change mitigation and adaptation, so providing flexibility through a menu of options that allows for the full life-cycle consideration of forest related projects is important. The benefits frequently go beyond the "measured field results" and cross sectors when product substitution and avoided emissions are considered.

The Council of Western State Foresters recommends a standards-based approach developed by forest project type category. The standard - in the right case - could adopt a pre-calculated values approach (i.e., look-up tables). A combination of all the approaches is needed and they should not be viewed as mutually exclusive.

Incentive programs should adopt different project design guidelines than offset markets, as long as they are still limited to supporting forest carbon activities with measurable climate benefits. This enhanced flexibility should be used to incubate innovative forest carbon activities and otherwise increase opportunities for landowners to participate. Incentive programs should explore lowering

compliance costs through a categorical approach, with standard carbon benefits assumed for specific practices and incentives provided accordingly.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Both marketable offsets and use of emission allowance auction revenues (from within the cap) are ways of incentivizing forest carbon sequestration projects. Offsets have higher standards due to their need to be equivalent to a capped emission reduction, while incentive systems that go beyond the cap can have more flexibility. The Council of Western State Foresters recommends providing the flexibility through incentives in addition to offsets.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Forests will be adapting to climate change at the same time we will be relying on them for their role in climate change mitigation. Furthermore, the past and present conditions may not be good indicators of future "business as usual" conditions. Therefore, periodic assessment and monitoring of offset performance will be necessary. The following principles should help assure environmental integrity:

There is consensus on the first four factors below. Although additional factors such as leakage, equivalence, and sustainable may be important, the ability to use factual information to evaluate these factors is still under debate.

Additional: Forest projects should be required to meet a carbon additionality test. Methodologies should be developed for determining baselines that are quantifiable and matched to project type. Adopt policies for establishing baseline and additionality that recognize and give credit to forest landowners that have been voluntarily managing their forests as net sinks for atmospheric carbon.
Permanent: The term "permanent" for forest carbon offsets should mean removal and/or storage of the subject carbon from the atmosphere for at least 100 years. Forest carbon contracts should assign clear obligation for reversals. The potential to use multiple shorter contracts to reach the 100 years is desirable. Also, permanence should consider carbon stored in wood products.
Real and Quantifiable: All carbon pools expected to significantly change should be quantified and reported. Carbon pools include live and dead biomass, soils, and harvested wood products. Field measurements and estimates for forest-carbon projects and selected pools should be required to meet a specified benchmark for accuracy, to be reviewed and updated regularly over time using the best available scientific understanding.
Verifiable: Third-party verification of reported amounts of carbon should be completed before they are registered for offset credits.

Consideration of how factors could be enforced is also important.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

The Council of Western State Foresters has not developed an official position on this topic.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Forest offset projects can provide valuable co-benefits, including other ecosystem services. We are currently working with partners in state and federal agencies and organizations to address this topic. "Stackability" should be allowed which would allow simultaneous benefit from multiple government policies. Carbon offset project with co-benefits that has sold its carbon benefit should NOT be precluded from the future sale of the other co-benefits (e.g., water quality, biodiversity) in respective markets as they develop.

Projects should not be required to quantify co-benefits, but voluntary reporting could be advantageous for project developers. Also, recognize the contributions that our urban and community forests provide, not only in terms of carbon captured in plantings, but also the energy savings achieved in reduced heating and cooling needs when a tree is planted in the right location.

It will be important to adopt policies for establishing baseline and additionality that recognize and give credit to forest landowners that have been voluntarily managing their forests as net sinks for atmospheric carbon.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Federal or state financial cost-share assistance should not preclude the landowner from selling the carbon or other ecosystem service credits in their entirety. Frequently implementing a single project can achieve multiple environmental and social goals, and project developers often use funding from a variety of sources in

order to create a financially viable project. The more we can integrate (rather than separate or disqualify) carbon offset projects with objectives of other federal programs, the larger the impact. Meeting the requirements of the climate change related practice or standard should qualify the project, not the source of funding.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?

Please respond in 300 words or less.

A producer must recognize and quantify the risk of reversal of carbon storage and provide adequate buffers (insurance) to possible future carbon project losses. There is a currently a considerable amount of discussion about what mechanisms could be put in place to provide these buffers or insurance, including concepts such as carbon banking and aggregating projects to share risk.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

Protocols and procedures should be developed through regulation in appropriate government agencies. Although overall coordination and consistency by a lead agency is important, experts from different sectors (such as forestry or agriculture) should have the lead within their sector.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

One of the obstacles will be the adoption of policies for establishing baseline and additionality that recognize and give credit to forest landowners that have been voluntarily managing their forests as net sinks for atmospheric carbon. Other obstacles include initial investment costs to modify practices or purchase new technologies, and the perceived potential for economic losses in the transition of moving away from business as usual. Finally, simple methods of measurement and verification will expand participation by landowners.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

Existing conservation and forestry programs have provided valuable incentives for sustainable forest management that contribute to the current ability of forests to provide carbon sinks. Future climate policy that recognizes both the role of forests in mitigation and the need for adaptation strategies would reinforce their important role, and provide additional revenue sources to support these efforts. Coordination between federal and state agencies along with additional investment in forestry programs that also contribute to climate change policy goals could speed adoption. Consider federal support for aggregation services for small forest landowners wishing to develop offset projects. Maintaining flexibility and program control at the state/local level will also help speed adoption.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Climate change policy needs to consider both adaptation and mitigation for the forestry sector, and be regionally relevant.

Development of Adaptation Strategies

Adaptation consists of a set of actions that are taken to avoid or minimize impacts from climate change. Even with substantial reductions in greenhouse gas emissions many climate related impacts are likely. Adaptation strategies are needed to cope with predicted changes and to increase the resilience of human and natural systems. Some states and local government entities in the U.S. have started assessing their vulnerabilities to climate impacts and are developing adaptation strategies. Regionally specific implementation strategies will continue to be important.

When developing adaptation strategies for western forests, policy-makers should consider how both managed and unmanaged forest systems will react to climate change over various time periods, and spatial scales. Healthy ecosystems are more resilient, better able to respond to and recover from disturbances, which may become more frequent and severe. Actively managing forests to increase their resistance and resilience to climate change threats while minimizing the amount of forest fragmentation and conversion will reduce the probability and severity of large catastrophic events (e.g. wildfire, insects, disease) that have the potential to cause negative ecological, social and economic impacts.

To address uncertainty, land managers can develop a general adaptation framework of science and policy for their area of interest that includes commitment to local management flexibility, and adaptive management policies to address unforeseen conditions from climate change. Proactive climate planning will reflect a range of sustainable management approaches. To maintain

resilience, some ecosystems may require aggressive treatment; others little or no treatment; and others may require reduction of current stressors that exacerbate climate change impacts to forests (e.g. overstocking, drought, fire, insects, disease).

Forest management that encourages a naturally diverse species mix will partition the climate change risks across multiple species. Reforestation after wildfire may require different species than were present on the site pre-fire to better match site-type changes due to climate effects. Genetic diversity of planting stock may require different mixes than traditionally prescribed by seed zone guidelines. Actions may need to be taken to preserve genetic legacies represented by rare or isolated populations of plants.

Responses to climate change will need to reflect local and regional differences in climate, ecosystems, and the social and economic settings. It may be more effective to avoid a range of undesirable future conditions rather than targeting a single desired future condition. In light of climate change, it may be necessary to revisit current assumptions about genetic diversity guidelines, restoration treatments, best management practices, and regeneration practices.

Effective adaptation strategies will promote proactive approaches to improving forest health and reduce the severity of negative impacts from resulting disturbances. These strategies will include reducing the risk from uncharacteristically severe wildfires; reducing adverse impacts from invasive species, pests, and diseases; and restoring and maintaining healthy watersheds and diverse and connected habitats. Monitoring effectiveness of mitigation and adaptation activities will be essential to our success. Given the magnitude and importance of our information and communication needs, collaborative efforts at local, state and regional scales should be explored.

Development of Mitigation Strategies

Mitigation comprises a set of actions that when implemented will result in a reduction of greenhouse gas emissions through both avoided emissions and increased carbon sequestration. Mitigation strategies are needed to identify and prioritize cost effective actions that can be taken to reduce GHG emissions. A broad range of mitigation strategies are available to ensure that forests continue to operate as carbon sinks. In the absence of mandatory federal climate change targets, state and regional entities have started the mitigation planning and protocol development that is estimated to meet the desired greenhouse gas reduction targets.

A broad range of sustainable forest activities that can contribute to mitigating climate change impacts should be applied for western forests. This approach can increase the flexibility and options for achieving greenhouse gas reductions while increasing landowner participation across the forest sector.

Forests and forest management can provide cost-effective methods for sequestering carbon and reducing greenhouse gas emissions. Effectively designed mitigation strategies will encourage sustainable management of forests to produce forest products along with an array of ecosystem benefits and services. Activities that mitigate include increased carbon sequestration, increased use of renewable fuels that offset fossil fuels, and reduced emissions from large scale events such as wildfire or insect outbreaks. The primary objective of any carbon mitigation or offset project will be to sequester carbon, but when developing mitigation projects for forests in the west or elsewhere, policy-makers should strive to optimize forest productivity and health, while balancing carbon sequestration with other ecosystem services. Adaptation and mitigation activities must complement each other. It will be important to assess potential tradeoffs between the two approaches and to seek strategies that achieve synergistic benefits.

Key to mitigation strategies is avoiding deforestation and conversion of forests. Forest conservation helps protect genetic diversity, provides refuge, and facilitates species migration. To this end, we encourage any mitigation strategy, and adaptation strategy for that matter, to provide incentives for private landowners for "keeping forests as forests" and creating new forested landscapes in urban and suburban communities as this will reduce forest conversion and fragmentation which are responsible for large amounts of carbon emissions.

Further, mitigation strategies can and should also reduce greenhouse gas emissions through energy conservation and efficiency improvements, and promote the appropriate substitution of renewable for non-renewable energy sources. Mitigation actions should strive to manage forests sustainably and use wood products to store carbon and as a substitute for other materials with greater life-cycle carbon emissions such as concrete or steel. It is important to recognize in the short-term, forest management activities that reduce risk may reduce carbon stocks below current levels, in order to realize long-term benefits from healthier forests and larger trees. It will be critical to work with communities and across sectors so that mitigation projects are sustainable when considering potential climate change scenarios. And lastly, climate change mitigation projects provide important opportunities for innovation and adoption of new technology, especially when sustainability considerations are used to select the technology and project's scale.

In order for the broadest participation by different forest landowners, processes required to meet the requirements of a forestry offset program should be cost effective, and be integrated with existing forest practices programs to the extent possible.

The Council of Western State Foresters has the following comments in response to the table of forestry practices:

Forestry practices available as offsets may include forest management, avoided deforestation, reforestation, afforestation, urban forestry, and include incentives for use and substitution of forest products instead of higher energy intense products. At this time, the Council of Western State Foresters declines the opportunity to provide specific details on these and other forestry practices available as offsets as this discussion is still evolving in the western states. We recommend that criteria for offset projects be defined in the rulemaking process of a carbon reduction program, and that potential projects, including forestry practices, be considered based on the defined project criteria.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
CROPLIFE AMERICA
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Beau Greenwood, Vice-President of Government Affairs

Organization(s) you represent

CropLife America

Address
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

CropLife ★AMERICA★

April 10, 2009

The Honorable Collin C. Peterson
Chairman
House Committee on Agriculture
1301 Longworth House Office Building
Washington, DC 20515

Dear Mr. Chairman:

On behalf of the members of CropLife America, I am writing to commend you for your leadership role in insuring that all of agriculture has a seat at the table as Congress proceeds to consider climate change legislation. We applaud your commitment and your efforts and are looking forward to continuing to work with you and your colleagues as this discussion continues.

We do appreciate the opportunity to respond to the questionnaire the Committee sent out seeking specific input on a variety of issues associated with various facets of possible climate change legislation. As you can understand, following discussions with our member companies, CropLife America has found it challenging to develop specific responses to the issues addressed in that questionnaire; however, there is general consensus around key concepts that I am pleased to share with you.

First, there is a strong interest in insuring that any program advanced by Congress will work in the practical context and that any such program is sufficiently flexible to allow for adjustments given its impact on the economy of the United States. We believe that it is important to insure that legislation on climate change be designed to avoid, to the maximum extent possible, severe and unnecessary economic dislocations within the agriculture sector.

Further, we believe that Congress needs to recognize the unique nature of U. S. agriculture and the role that it has played and can play in addressing the concerns of those seeking enactment of climate change legislation. Specifically, our industry is quite proud of the role that agricultural chemicals have played in reducing greenhouse gas emissions. Through the use of agricultural herbicides, crop yields can increase by up to 20% but also allow enable growers to manage weeds without excessive tillage. Such practices result in annual saving of 337 million gallons of fuel that tilling would require and prevents an estimated 356 billion pounds of disturbed soil from eroding into rivers and streams. Conservation tillage is a solution to greenhouse gas emissions in at least three ways:

1) Less fossil fuels burned for tillage.
2) Carbon sequestration increased in lower tilled soils.
3) Greater productivity per acre of land in production.

There is no doubt that these greenhouse gas reductions by modern agricultural and conservation practices are permanent and measureable by USDA. We believe that it is important that these and other climate friendly agricultural land management practices are recognized by any legislation ultimately approved by Congress. Credit for what has been accomplished is essential – as is additional incentive to expand conservation tillage even more.

Renewable fuels from biological sources – particularly farms and forests – have been a tremendous boom to both the US farm economy and net reductions in greenhouse gas emissions. We strongly support work in climate change legislation by the Congress to take those benefits into account and to devise additional policy to reinforce the great system already developed.

There seems to be growing consensus in support of a Federal, uniform approach to enforcement of climate change legislation. We find it difficult to imagine a state or regional approach to climate change that could adequately address the diverse nature of agriculture in the United States. From crops, to conservation practices, to distinct soil conditions, a regional approach would create and overly complex set of standards that would be difficult for USDA or any other designated agency to properly regulate. A uniform Federal approach with sufficient flexibility to allow for localized implementation taken into account those differenced is soil type, crops, weather, and is an important balance to be achieved.

There seems to be consensus in seeking to insure that the development and implementation of climate change legislation recognize the pressures on agriculture and the important role that we will continue to be asked to play in addressing the problems of world hunger plus meeting demand for renewable fiber and fuels. We do not believe that climate change legislation should unduly limit the ability of our customers to act to address these pressing and growing human needs.

I hope that these comments will be of some use to you and your colleagues in defining the parameters for climate change legislation so that U. S. agriculture can continue to thrive and continue to be an important part of our overall economy. We look forward to continuing to work with you as the discussion continues and the legislation moves forward in the Congress.

Sincerely,

Jay Vroom
Chief Executive Officer

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
DAIRY FARMERS OF AMERICA, INC.
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

John J. Wilson

Organization(s) you represent

Dairy Farmers of America, Inc.

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Senior Vice President
Marketing and Industry Affairs

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

At this time, Dairy Farmers of America, Inc. (DFA) is reluctant to embrace any type of climate change legislation without a better understanding of its impact on the entire U.S. economy and specifically, the dairy industry. Should the U.S. enter into a system where it effectively reduces its greenhouse gas (GHG) emissions in the aggregate, it must also work to ensure that other industrialized nations agree to similar terms and developing nations adopt equally significant reductions. The U.S. needs to ensure that the costs of any climate change legislation do not exceed the benefits, that new regulations are based on sound-science and that the global burden is fairly distributed.

We are especially cautious of mandatory GHG measures without a more complete and thorough understanding by all the major affected U.S. parties as to what these changes would mean for their incomes, businesses, livelihoods and ways of life. This is especially the case given the depths and extent of the nation's current economic crisis whose negative effects are all too immediate and from which we have yet to see an end.

We would like to echo comments by the National Milk Producers Federation (NMPF) and note that the dairy industry has already taken significant steps to identify where emissions come from and what is the best way to reduce those emissions. NMPF and DFA, as well as others in the industry, are currently involved in a comprehensive survey and lifecycle analysis of the GHG emissions for the entire U.S. fluid milk value chain.

With respect to specific climate change policies, should one be enacted, DFA has serious concerns about a carbon tax program. A carbon tax program would generally lead to more inefficient GHG reduction efforts for the economy as a whole, at higher cost, and would give fewer incentives than cap-and-trade to help farmers achieve and further accelerate the considerable reductions in total GHG emissions and emissions in total for some portions of agriculture, and per unit of agricultural output for all of agriculture. U.S. agriculture's GHG emissions from 1990 to 2005 have remained nearly constant, increasing by less than .5% since 1990, with both year-to-year increases and decreases occurring in that period..

DFA is also concerned about the ramifications of a cap-and-trade system on the entire, currently fragile U.S. economy, even though a carbon offset program might offer some incentives for dairy farmers to continue to pursue innovations and gain the market benefits as a result.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

Please respond in 300 words or less.

DFA supports the comments of the National Council of Farmer Cooperatives (NCFC) and does not believe that agriculture should be covered under a carbon reduction program. According to EPA, only 6.4% of emissions come from agriculture with animal agriculture being directly responsible for about 2.5% of total U.S. emissions in 2006.

Farms represent too many small or minor sources of GHG emissions. There are nearly 2 million farming operations in the U.S., including approximately 60,000 dairies. Regulating GHG emissions from the agricultural sector would be highly impractical and cost prohibitive.

It is far more sensible to allow agriculture to participate in the cap-and-trade program's voluntary offsets credit market. DFA believes that a credit offsets program, with market-driven benefits that explicitly and directly reward innovation, would offer the best set of incentives for farmers to continue to pursue the same type of innovations as in the past that led to the sector's impressive GHG emissions record.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?

Please respond in 600 words or less.

We currently have no position.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

DFA believes that Congress should establish a single, national program rather than separate state or regional programs. Existing programs should be integrated into this new federal program.

Some of the existing carbon offset programs in operation today fail to provide full value for all of the concrete, verifiable GHG reductions that some farmers can achieve. That is why we feel strongly that a new, national offsets program needs to be established with tiered pricing for offsets that reflect the higher degree of certainty around the actual offsets achieved by some practices, like methane capture and destruction, relative to other practices.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

DFA feels that USDA has the technical expertise and reach to administer climate change programs for the agricultural sector.

We suggest that this task will require significant resources and urge adequate funding for its proper and successful administration, including resources for educating producers, technical advice, verification activities, etc…

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

Until the full scope and details of the cap-and-trade program are determined, the designation of the appropriate regulatory oversight should not be predetermined. CFTC should retain oversight until such time that it is determined that a different regulatory approach is required due to the scope and details of the program.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

DFA supports the answer submitted by the National Council of Farmer Cooperatives and echoes that the key to appropriately functioning markets is transparency and liquidity.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

DFA agrees with the comments submitted by the National Council of Farmer Cooperatives and the National Milk Producers Federation and the assertion that prices of electricity and petroleum products and other related key determinants of business and household expenses will go up. DFA is very concerned about the potential that a carbon reduction program will result in higher energy costs and higher costs for construction materials and other inputs. For example, either a cap-and-trade system or a carbon tax likely would result in higher electrical costs for farmers served by rural electric cooperatives (which as a group generally are more dependent on coal). DFA is also concerned that a carbon reduction program may affect fertilizer manufacturing and result in higher fertilizer costs.

Some DFA members will see higher increases in energy costs relative to their colleagues in other parts of the country. Also, not all dairy farmers will be able to benefit to the same degree from carbon offset trading opportunities.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

It is fair and appropriate for a substantial portion of the revenues created through the auction of GHG allocations to be used to reduce the level of sacrifice called for from those less able to bear it. Large sectors or regional portions of agriculture may be found to be bearing their own disproportionate share of the sacrifices needed to achieve national GHG reductions. These portions of agriculture should receive a share of the assistance provided from the revenues generated by the auctioning of allowances.

Also, funds might be used to further research into, specifically in the livestock sector, less expensive and size neutral technologies. Reinvesting in the system will yield dividends as we look to meet GHG targets.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

Yes, businesses that are affected by overall costs should receive transitional assistance.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

We currently have no position.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Carbon prices should be set by market forces. Consistent with other commodity exchanges, it is appropriate to set daily price change limits to ensure orderly functioning.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Many lessons can be learned from the system currently in place in the European Union (EU). The Europeans should have allowed row crops to participate. The Europeans set their caps for the capped sectors too high and so there was too little value in the offsets market to create a thriving and effective credit trading system. The Europeans Clean Development Mechanism (CDM) required direct verification of each GHG offset seller's GHG mitigation measures. This unnecessarily drove the transaction costs of the offsets program far too high for the amount of the carbon being offset and sought far too much certainty about the offset than is needed to provide systematic, real, high quality and good value carbon offsets. This verification standard therefore contributed significantly to the poor performance of the system.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

A robust voluntary market should provide as many real offsets as the market can bear. While bonus allowances for selected GHG emission reduction activities could be included as a companion and work in parallel to the offsets market, DFA believes that the first and most important need that should be addressed with any revenues generated by allowances allocated to USDA would be for transitional assistance to those operations not able to benefit from cap-and-trade for whatever reason, and are therefore bearing only the costs of

GHG reduction in the U.S. Such funds could also be used for research and development of further low cost GHG reducing or mitigating practices in agriculture.

If the intended meaning of the phrase "performance standards" is that meaning associated with the standards set in Section 111 of the Clean Air Act (CAA) and used to establish Title V CAA permit requirements, we thoroughly reject the use of performance standards in the GHG program. If a sector is not capped under the program, then those uncapped entities should be permitted to generate offset credits for sale to the emitters seeking the least cost solution to meet their capped emissions targets. Failure to adopt this offset approach simply raises the overall costs of the program to all participants.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

No, as long as the offsets program can establish that the offsets being purchased are real and verifiable, there should not be a limit on the number of offsets. Analysis of legislation introduced last Congress in the U.S. Senate demonstrated dramatically lower compliance costs as more offsets are allowed. Also, DFA firmly believes that a tiered system should be used to assign a higher price for those offsets with a lower degree of uncertainty as to the exact value of GHG reductions being achieved.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

The distribution of the offsets, assuming they are real and verifiable will be determined by the market facilitating the trades among willing sellers and buyers given the prevailing prices.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Offsets should be measurable, verifiable and enforceable. Where measurement uncertainties exist, discount rates should be applied. Where immediate measurable, verifiable and permanent offsets exist, fast-tracking of those offsets should occur. Also, national standards should be established to determine measure rates for offset types. These standards should be regularly updated according to science, protocols should be subject to peer review and they should be established by public notice and comment rulemaking. In addition they need to be real and achievable for the conditions at hand at the locations where the offsets are being generated. USDA should be charged with establishing these project type standards.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

DFA believes a verification process must allow for third party audits. This would allow those offset providers to bear the higher audit costs in order to ensure a higher degree of certainty of the amount of GHG reductions being achieved. This would also allow these providers eligibility to receive a higher price for these "higher quality credits" in the offset credit market.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Criteria should be established by USDA for classes or categories of agricultural project types, not on a project-by-project basis. As mentioned in a previous answer, a project-by-project system, like in Europe, would increase the transactions costs of the program with no real benefit. Agencies within USDA have been working on a measurement and verification process. DFA feels that USDA, with its technical expertise and the necessary staff across the country, should have the responsibility to design a system to verify these offsets. This system should include verification by both USDA and third-party entities.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Congress should establish the authority for a standards-based approach and set very broad parameters. USDA can establish these standards and perform random audits of the program to ensure actual GHG reductions are being accomplished. Project specific data can be used by USDA to improve the standards.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

We agree with and defer to the comments submitted by the National Milk Producers Federation which outline why offsets and allowances should be kept in separate markets.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

For methane destruction, permanence is not a factor. Methane will be destroyed through a digester or dietary change.

The length of the contract should be at least 3 years to find the right balance of transaction costs per trade while increasing the general sense of confidence in the permanence of the reductions to be achieved by the overall program. Longer-term contracts can be allowed and encouraged between willing parties, again to lower further the transaction costs per trade, but that is a decision between the contracting parties. Longer contract periods imply more risk for the seller, and should result in a higher price received for the offsets.

Flexibility to account for the uniqueness of the agricultural sector which incorporates the impact of weather and other factors, as well as land ownership and land transfer issues should be considered when establishing the program.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Existing offset commitments in pre-existing voluntary markets must be eligible for participation in the new cap and trade program, but to do so they must:
- Be able to meet the new standards and contractual obligations;
- Require on-going actions by the offset seller to ensure that offsets will continue to occur; and
- Only be paid for the future offsets that occur as a result of these on-going actions, and not for offsets that occurred in the past.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

DFA believes that early actors, regardless of the original intent of their activity, that have actual and verifiable projects and credits should be able to participate in whatever federal system is established. This includes the less than 100 methane digesters currently operating on U.S. dairies.

Methane digesters provide other valuable environmental benefits, including water and air quality improvements and protections, and their methane emission reductions should be considered "additional", and "stacking" these GHG reduction benefits on these other environmental benefits should be allowed. The same is true if there is an environmental credit market (as distinct from a federal financial assistance program) that trades in these other non-GHG benefits. More farmers will be able to generate more offset credits than would otherwise occur, helping both the climate and other aspects of the environment. It is

clear that in the methane capture market, additional incentives are needed in order to expand this technology across the industry and across various sized operations. Without stackable credits this may not be possible.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

In the case of methane digesters, incentives are needed to expand the current number of digesters in use today to provide a substantial GHG reduction. Many current digester projects have received federal or state government assistance. However, that monetary assistance is often meager when compared to the overall cost and maintenance of these projects. Digester projects average in cost from $3 - $5 million, while the average USDA grant for the technology is approximately $500,000. More incentives are needed and warranted.

As mentioned in a previous answer, as long as the project is reaching it GHG reduction objectives the fact that GHG reductions we not part of the original plan or practice is irrelevant. Credit should still be given for reductions made.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

DFA supports the comments submitted by the National Milk Producers Federation. There are several ways to address problems that may occur in the system regarding natural disasters or other uncontrolled events. They include, but are not limited to: establishing a reserve pool, creating an insurance system for GHG reductions, establishing a discount rate for risky offsets, and establishing federal risk management tools such as currently exists with crop insurance.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Rather than setting detailed protocols in the legislation, DFA supports that the majority of those details be left to proper notice and comment rulemaking, provided there is continual and effective oversight from the Congressional Committees of jurisdiction and the relevant agencies of jurisdiction. As stated in our answer to question 5, USDA should hold primary responsibility.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

For the dairy industry, the primary obstacle is the high cost of methane capture technology and its maintenance. This technology has proven to be generally cost prohibitive.

Also carbon credits are undervalued relative to the costs of many of these sound practices that reduce GHG and additional incentives do not currently exist in order to make these projects viable. The creation of hard caps for the emitting sectors to achieve the GHG objectives should increase the carbon market value. In addition, the cap-and-trade program will need to establish well-defined credit trading markets with all party's obligations clearly defined including the risks of failure to meet contractual obligations due to circumstances both under and beyond the contracting parties' control. The transaction and verification costs must be kept to the lowest level possible while still providing for sound trades of real value.

Lastly, further education and access to information are need by producers in order to fully participate in this market.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

No, currently there are fewer than 100 methane digesters in the U.S. An increased amount of research, advanced technology and incentives are needed to bring the U.S. the success that other countries are currently experiencing with their digester programs. Digesters in other countries exist on small and large farms because the proper incentives and support have been established.

Higher levels of compensation for the costs of these practices are needed by producers to increase their adoption and ensure their long term maintenance and value. Congress could increase the financial incentives in these programs to achieve these ends. Alternatively, allowing for the stacking of credits in the GHG offset market will also lead to more widespread adoption and greater long term certainty as to the size of offset being created. Furthermore, using this market-based system for GHG offset credit trading will do a better job of ensuring that the level of GHG reductions actually taking place match that level

needed to achieve the program's objectives, given that the market value of the GHG credits will adjust automatically as the market functions to match supply with the regulatory-driven level of aggregate demand.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

DFA supports the additional comments prepared and submitted by the National Milk Producers Federation for Part III.

Respondent did not complete the chart at the end of the questionnaire.

A CENTURY OF COOPERATION
Dairylea
Cooperative Inc.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
DAIRYLEA COOPERATIVE INC.

U.S. House of Representatives
Committee on Agriculture
Room 1301 Longworth House Office Building
Washington, DC 20515-6001

April 10, 2009

Sent via e-mail:

To Whom It May Concern:

Dairylea Cooperative Inc. (Dairylea) joins Dairy Farmers of America, Inc. (DFA) in their comments regarding the House Committee on Agriculture's climate change questionnaire. Dairylea is a member milk cooperative of DFA, operating in the Northeastern United States with more than 2,300 dairy-farmer members.

Dairylea is taking a proactive approach to sustainability with a wide range of initiatives and activities at the farmer-member level, the employee level as well as at an operational level. There was collaboration among the staff of both DFA and Dairylea on the questionnaire, and the response submitted by DFA accurately captures our collective thoughts relative to carbon sequestration legislation in the future.

We, in particular, would like to provide special emphasis relative to question 23; in the past, there have been significant public and private resources extended to implement green-house gas reduction structures as well as to implement revised cropping and tilling practices. We feel strongly that producers should be able to realize value for these modifications in the future.

Sincerely,

Gregory I. Wickham
Chief Executive Officer
Dairylea Cooperative Inc.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
DEERE & COMPANY
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Vanessa Stiffler-Claus

Organization(s) you represent

Deere & Company

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Manager, Public Affairs

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Deere believes public policies to address greenhouse gas emissions and climate change need to ensure environmental integrity and economic resilience. We believe a cap and trade approach is the best path to do so for the following reasons:

Broadest Market Participation: A well-crafted cap and trade program will provide numerous opportunities for all sectors of the economy to participate in a carbon market. Notably, under a cap and trade system, agriculture, forestry, and land use sectors can provide emissions offsets to the regulated sectors through a variety of projects and practices that sequester carbon, reduce greenhouse gases, and have additional environmental benefits, such as water quality improvements, soil quality improvements, and habitat and greenspace creation. For these reasons, cap and trade delivers environmental goals in the most cost-effective manner.

Environmental Integrity: A cap and trade program establishes an environmental framework that can guarantee emissions reductions, through the emissions cap. A tax, on the other hand, does not have the same environmental certainty, as setting the tax or fee at the appropriate level would require continual revision and assessment to ensure the environmental goals were being met at the least cost.

Linkages to Other Markets: A cap and trade program can be linked to existing and emerging carbon markets and emissions reduction programs.

Cap and Trade Adjusts to Economic Conditions: A market-based method of controlling greenhouse gas emissions can most effectively respond to changing economic conditions and technological innovations. A tax, on the other hand, would require constant adjustment to respond to economic conditions.

Cap and Trade Provides Long-Term Planning Certainty: Given the ability of carbon markets to respond to economic conditions, cap and trade provides a price signal to the market that is consistent with the ongoing costs to meet emissions reductions targets. While a tax may provide price certainty, it may not deliver the longer-term results of transforming to a low-carbon economy.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

Please respond in 300 words or less.

Agriculture, forestry, and the land use sector should not be directly regulated under cap and trade. The sectors compose only a minority of US greenhouse gas emissions, with a significant number of participants in the sector. It is therefore not cost-effective to attempt to directly regulate emissions from these sectors to address the fraction of emissions generated.

The agriculture, forestry, and the land use sectors contribute benefits far outweighing their emissions through emissions reductions and sequestration, as well as supplying renewable energy resources. Therefore, these sectors can provide substantial emissions reductions that create cost-effective solutions for the economy to reduce and sequester greenhouse gas emissions. Enabling agriculture, forestry, and the land use sectors to participate in cap and trade through emissions offsets will result in a much more effective reduction of emissions from these sectors, as well as an increase in the sector's ability to sequester additional greenhouse gases.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Deere believes a significant portion of emission allowances under a cap and trade program should be initially allocated free of cost to regulated entities. Over time, these free allowances should transition to auction. Allowances should be distributed to enable the transition of consumers and businesses to a low carbon future; drive investment in low carbon technology development and deployment; create the workforce needed to deploy these technologies; and respond to impacts caused by a changing climate.

Assuming the agriculture, forestry, and land use sectors are not directly regulated, allowances would not be allocated to these sectors based on emissions and compliance. However, given these sectors' abilities to mitigate climate change impacts, in recognition of the fact that these sectors must adapt to a changing climate, as well as to incentivize certain practices and projects, or to recognize early actors, Deere believes allocating some allowances to these sectors is an important consideration.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

In order to achieve the necessary level of greenhouse gas reductions, the United States must take advantage of all opportunities to reduce and sequester greenhouse gas emissions. There are numerous programs currently enabling entities to voluntarily reduce emissions,

track progress, and report their greenhouse gas footprints, as well as systems designed for regulatory compliance of a region or a sector. These programs should be recognized for these contributions, possibly through allowance value distribution as credit for early action; allowance value distribution to states and regions that have implemented greenhouse gas markets; and recognition as emissions offsets under a national program. Each of these options will require detailed analysis of the existing programs, their comparability with a future national program, and the protocols utilized for greenhouse gas measurement, report, and emissions reductions.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

Deere believes that a cap and trade program can be implemented and managed without creating additional agencies. In particular, the EPA and the USDA have significant expertise and programs in place currently that can be adapted and expanded to implement a science-based cap and trade program. EPA and USDA collaboration on developing and implementing the final program will most effectively utilize these existing resources and programs. For example, USDA has long-term experience developing standards and information for agriculture and forestry practices, many of which also have greenhouse gas benefits. In addition, USDA professionals understand prevailing agricultural practices as well as the temporal and regional conditions necessary to develop appropriate protocols. EPA has expertise in implementing large scale regulatory programs, including market-based systems such as emissions trading. A coordination of existing agencies, their relevant expertise, and their jurisdictions will be necessary.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

Deere does not have a position on the regulation of carbon futures at this time. A cap and trade system will be most effective if strikes the appropriate balance between market flexibility and encouraging investments and necessary transparency and market oversight.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

See above.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

A carefully crafted cap and trade will be able to achieve significant greenhouse gas reductions without disproportionate negative impacts for various regions or populations. Any negative impacts that might arise can be mitigated through proper allowance allocation, crafting a robust offset program, crafting additional cost containment mechanisms such as a strategic reserve, and generating additional sources of revenue for rural communities through incentivizing renewable energy generation.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

As discussed above, revenues from cap and trade can be directed towards mitigating any undue negative impacts, smoothing the transition for regions, consumers, businesses, and the workforce, and adapting to climate change impacts. However, these priorities must be targeted to accomplish the economic transformation and transition needed to address climate change. Distributing revenue from cap and trade broadly or for other purposes can disproportionately impact certain regions or sectors of the economy, creating excessive benefit to others.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

As discussed above, appropriate allocation of allowance value to regulated entities will buffer costs to businesses, particularly those that require transitional assistance. Further, Deere believes a portion of allowance value should be utilized to assist energy-intensive industries, as well as those excessively exposed to trade competition.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

The United State's extensive public lands can also generate greenhouse gas mitigation opportunities, through practices like improved grazing patterns, improved forest

stewardship, and increasing or improving parks and public spaces. In many instances, these results can be achieved in a cost-effective manner by emphasizing greenhouse gas benefits of certain activities, products, and services in public procurement and land management contracts. Comprehensive policies to address greenhouse gas emissions will take these opportunities into account and harness the ability of all lands in the United States to contribute to national emissions reductions goals. Provisions accounting for the greenhouse gas benefits of public lands can lead to improved land management practices, potentially providing revenues that help cover costs associated with public land care and maintenance.

The nation's public lands may also provide opportunities for renewable energy generation -- certain practices and projects can be undertaken that generate renewable energy as well as feedstocks for renewable fuels from public lands. These practices can be developed and deployed in a way that ensure sustainable renewable energy production and provide a significant contribution to the nation's greenhouse gas goals.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Ideally, the carbon market will fully and adequately determine prices on carbon. Deere does not support concepts that set an arbitrary value for a "safety valve" in legislation, above which the greenhouse gas program would be terminated or interrupted. However, Deere does support development of an oversight board that can intervene with a variety of options should carbon pricing experience extensive volatility or rapid price increases, such as utilizing a strategic reserve of offsets and allowances, and setting parameters on market participation to prevent extreme market manipulation. Excessive price volatility can thwart investment and technology development needed to transition the economy and cause competitive disadvantages for certain sectors.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

The EU ETS is the first regulatory trading system for greenhouse gas emissions. Many of the criticisms leveled at the ETS are due to issues that arose in the first phase of the program, which was intended to be a learning phase. The second phase (starting 2008) is the first period in which the EU has binding emissions obligations. The US can learn from some of the first phase ETS experience, and avoid some of the same challenges. The EU first phase overestimated greenhouse gas emissions, resulting in caps that were too high, distorting the carbon market. The US can develop a cap and trade system based on up-to-date and accurate emissions data and banking of emissions allowances. Further, the EU ETS started with limited regulatory coverage, including only about 40% of emissions sources. Comprehensive US climate policy should include as many emissions

sources as possible; Deere believes it is possible to cover the significant majority of emissions sources through a cap and trade program effectively.

Existing programs under the Clean Development Mechanism (CDM) for EU ETS compliance can provide guidance in structuring a cap and trade program. The CDM can provide low-cost emissions reductions for compliance purposes while expanding technology and practices to developing countries, however its implementation process is often lengthy and bureaucratic. The US can learn from this experience that offsets programs, particularly in the agriculture, forestry, and land use sectors will benefit from a clear legislative and regulatory process for approval, verification, and monitoring of projects. Additionally, experience with a project-based approach as under the CDM shows that development of a standards-based approach, where legislative and regulatory procedures establish project criteria standards, will result in a more streamlined and efficient system that can be consistently implemented.

The CDM includes limited agriculture and forestry emissions reduction projects, such as methane digesters and afforestation and reforestation. However, there are many more agriculture, forestry, and land use sector opportunities, both domestically and internationally, that should be considered by policymakers, such as the full array of soil-based sequestration opportunities, forest management, and avoiding deforestation.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

Deere believes the most effective opportunity for agriculture and forestry to participate in a carbon reduction program is through a robust offset program. Crafting an offset system that includes any project, product, or activity that can demonstrate effective greenhouse gas reductions and mitigation in these sectors will be a crucial component of legislation and regulations that attain significant emissions reductions in the most cost-effective manner.

As discussed above, in addition to the offsets program, there may be compelling reasons to include some allowances for the agriculture, forestry, and land use sectors that can be utilized to develop and deploy technologies, recognize and reward certain practices, and smooth transition costs to the sector.

Deere does not believe performance standards for segments of the agriculture, forestry, and land use sectors are appropriate at this time. However, industry and sector-specific standards and best practices may evolve in the future to the point they can play a role in greenhouse gas reductions.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

Deere believes the total number of offsets in a cap and trade program is integrally linked to other provisions of the program, such as the timelines and levels of emission reduction targets, allocation of allowance value, and complementary measures for various sectors. For example, if targets and timelines for emissions reductions are ambitious, as the USCAP Blueprint for Legislative Action recommends, Deere believes the 2-3 billion tons of offsets included in USCAP's proposal will be the appropriate volume to contain costs and transform the economy. If legislative policies include more or less ambitious emissions goals, Deere believes the level of offsets would conceivably be higher or lower to achieve the integrally linked goals of environmental results with economic sustainability.

Aside from linking levels of offsets to total emissions reductions under a cap and trade program, Deere believes offsets quality protocols should be the determining factor in whether specific projects are awarded offset credit, rather than arbitrary discounting factors or exclusion of certain project types.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

After an offset project is approved, the offset should be fully bankable, salable, and tradeable, just as allowances are. There should not be limitations on who can originate, generate, sell, and trade offsets, so long as the offset meets applicable quality criteria.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Deere believes the specific standards-based criteria for various offset types and projects should be developed by the appropriate agencies, including USDA and EPA. These agencies can most appropriately determine the detailed specifics related to quantification, verification, and monitoring of a given offset type, and are in the best position to determine the applicable quality criteria. Climate change proposals should specify the broad parameters of offsets, including volumes and broad project categories for which detailed regulations can be developed. Policies should also include provisions for development of new offset standards and revising existing standards to account for changing technology and information.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Offsets projects should be evaluated based on standards developed by the appropriate agencies to establish the offset quality. This may include third-party verification, selective auditing, or an insurance-based system to verify projects.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Legislation should determine the respective roles for various agencies, particularly the USDA and EPA, in offset protocols, verification, and oversight, enabling the agencies to develop the relevant quality criteria. Congress should include provisions to regularly update the greenhouse gas program and offsets protocols to reflect additional scientific understanding, and include a provision to recognize additional types of offset projects in the future.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

A standards-based approach will result in the most effective offset development, validation, and market. A project-based approach can result in lengthy processes in developing or validating offsets, which will result in additional costs. The appropriate standards for a given project type in a given region enable more consistent implementation of the offsets program with minimal bureaucracy. These standards must be developed as soon as possible after legislation is passed, before the cap and trade system begins operation, so that offsets providers can generate sufficient numbers of available projects at the start of trading, thereby helping to ensure the cost-containment benefits of offsets are realized and a robust offset market with broad participation develops.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

A qualified offset represents an emission reduction, and therefore should be valued on par with allowances. Offsets and allowances should both be freely tradable, salable, and bankable in a cap and trade system.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

There are a variety of mechanisms that can establish permanence of offsets in a cap and trade system: a buffer reserve can be tapped if there are unforeseen reversals or loss of sequestration; contractual liability in the case of intentional reversals; an insurance program. However permanence is addressed, it is important to structure an offset system that effectively manages risk for both the agriculture and forestry sectors that generate offsets projects as well as regulated sectors that purchase offsets for compliance. Different offset project types may require different contract lengths, flexibility, and permanence standards, and the mechanisms for ensuring each of these may vary.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

As discussed in question 4, existing offset projects and credits should be recognized appropriately so that future policy does not create perverse incentives by rewarding market participants for actions that create offsets while penalizing other participants that have chosen to engage in offset markets at an earlier time. These early actors in the offsets arena might be covered under a program that rewards credit for early action, they might pursue offset credits if they meet established quality criteria for additional greenhouse gas benefits, or otherwise recognized for positive actions taken in past.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

In addition to discussions above, there are numerous instances in which a project generating greenhouse gas reductions can also generate benefits for other environmental concerns, such as water quality or habitat creation. Participation in a program for greenhouse gas reductions should not necessarily preclude a given project from developing water quality or habitat benefits, so long as applicable quality standards are met.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Any projects that meet applicable quality standards should be eligible to participate in offset markets. In some instances, Federal or state government contributions may impact a project's eligibility, if additionality, permanence, and quality standards cannot be met.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?

Please respond in 300 words or less.

Offset credits should be awarded after a project has demonstrated, in accordance with a standards-based protocol, the relevant emissions reductions. As discussed above, options to address the risk of greenhouse gas emissions resulting from natural disasters or unforeseen events could include such concepts as a buffer reserve, insurance, or contractual specifications.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

The offset program parameters should be determined in legislation, with specific protocols and procedures to be determined by the relevant agencies, including USDA and EPA.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

Many technologies and projects to reduce or sequester greenhouse gas emissions are not cost-effective absent a value on greenhouse gases. In addition, the status of current voluntary programs for offsets is unknown in a regulatory system. Further, many technologies and projects that could have significant greenhouse gas benefits have not been developed and tested for climate benefits. As legislation and regulation to address greenhouse gas emissions develops, additional investment, research, and development will take place that can lead to broader adoption of beneficial practices and technologies. However, these projects all have a cost to implement, and different offset projects will likely be deployed at large scale at different prices in a greenhouse gas market. Finally, complementary measures, such as a renewable energy standard, that may be considered separately or in conjunction with climate policies, will also impact the cost-effectiveness and scale of adoption of various practices.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

The recent Farm Bill and Energy Bill include programs that can have greenhouse gas benefits, such as through expansion of soil conservation practices, nutrient and manure management, and biomass utilization. In addition, the establishment of the Office of Ecosystem Services and Markets within USDA under the recent Farm Bill can promote education and engagement by the agriculture and forestry sectors in the near term, in preparation for national climate policies. However, these programs must be dramatically expanded and complemented with emerging carbon policies to ensure cost-competitive adoption of beneficial practices in order to achieve significant greenhouse gas reductions needed to mitigate risks of climate change.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
DEFENDERS OF WILDLIFE
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Noah Matson

Organization(s) you represent

Defenders of Wildlife

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Vice President for Land Conservation, Defenders of Wildlife

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Defenders of Wildlife believes that a cap-and-trade program is likely the most efficient and effective means of achieving greenhouse gas emissions reductions.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Certain aspects of the agriculture and forestry sector, particularly those that are large, single source emitters of greenhouse gases like large combined animal feed operations and wood processing facilities, should like be regulated under the carbon reduction program. Reductions in greenhouse gas emissions, or increases in greenhouse gas storage and sequestration for most aspects of the agriculture and forestry sector, however, would likely be more efficiently and equitably addressed through offset and allowance programs.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Emissions allowances should be auctioned to regulated entities. Giving pollution permits away for free will not reduce the cost to consumers and will deprive the US of funding necessary to invest in solutions to reduce global warming pollution and address the impacts of climate change. The Congressional Budget Office acknowledges the folly in giving away pollution allowances for free, "A common misconception is that freely distributing emission allowances to producers would prevent consumer prices from rising as a result of the cap…Producers would pass that opportunity cost on to their customers in the same way they would pass along actual expenses."

Certain percentages of allowances and proceeds from auction allowances should be dedicated to natural resources adaptation and agriculture and forestry programs that may not be commercially available for offset programs. These would include programs and practices using emerging technologies, developing new methods for measuring carbon, have high uncertainty, cause unusual concern about additionality or leakage, and projects

with landowners unable to participate in offset programs because their landholdings are too small to be competitive but nonetheless store and sequester carbon.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

National forest lands can play a significant role in storing and sequestering carbon. The goal should be to optimize carbon storage while also considering adaptation strategies and other goals such as conservation of biodiversity and water supply, and not to "maximize" carbon storage.

National forest lands can also help demonstrate climate mitigation and adaptation strategies for forests. While National forest lands may have a role in national accounting schemes under international agreements, they should not be eligible for offset markets, nor should they serve as a carbon "bank" or insurance for offset markets.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

Yes, if carbon offsets are permitted, they should be initially limited to a small percentage of the total reduction. If the carbon benefits of the offset system prove to be real, substantial, and quantifiable, a greater proportion could be considered in future years.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Offsets under a federal program should demonstrate the following traits:

Additionality
A project must demonstrate that it goes above and beyond a baseline measure of what would otherwise have occurred or what is ordinarily required. If offsets are intended to replace emissions reductions, it is critical that any offset project measurably increase the overall amount of sequestered carbon in order to meet the specific greenhouse gas emissions goals needed to avoid catastrophic climate change. If carbon credits are issued for activities that are not additional, there will be no overall carbon sequestration benefit.

Permanence

The benefits of carbon sequestration need to remain over time (see question #22). There are several tools that can help ensure that carbon sold as offset credits is properly maintained and managed at least in the long-term, if not in perpetuity. Such tools include placing a conservation easement on a property, setting up endowment funds that can be funded by a portion of the credit sale, and providing higher credit ratios (e.g. 1 ton of carbon emitted = 3 tons of carbon that need to be sequestered) to allow for uncertainties surrounding carbon storage.

Avoiding leakage
Generally, a project must not transfer emissions to another location outside the project area. This can occur when emissions reductions at one site or point of time, indirectly drive increased emissions from activity outside of the project boundary.

Transparent, Verifiable Credits
Carbon credits must represent high quality, transparent and verifiable projects. Buyers and regulators should be able to track details of a credit to ensure that the projects generating credits are legitimate. These values are critical to the success of carbon markets.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Offset projects should be limited to those projects with proven carbon benefits, certified methodologies, or technological standards to measure and account for achieved emissions reductions or increased sequestration. Since many sequestration practices and standards of the forestry and agriculture sector are still in development, allowances and/or allowance auction revenues should be strongly considered as a means to further develop these programs, while achieving carbon reductions outside of the cap. See question #3 for additional criteria for allowances.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

There are many uncertainties that pertain to the permanence and duration of offsets, relating to the physical and biological characteristics of forest and agricultural systems, as well as the legal and administrative mechanisms employed. However, the most fundamental issue that needs to be addressed is the disparity in longevity between, on the one hand, biological systems and human institutions, and, on the other the persistence of CO_2 emissions in the atmosphere. Current best estimates are that at least 25 percent of emissions will persist for 1000 years and 10% for 100,000 years or longer (Archer 2005, 2009; Archer and Brovkin 2008; Montenegro et al. 2007). The effects of fossil fuel emissions should be considered largely irreversible (Solomon et al. 2009).

Archer, David. 2005. Fate of fossil fuel CO2 in geologic time. *Journal of Geophysical Research* 110.

Archer, David. 2009. *The Long Thaw*. Princeton and Oxford: Princeton University Press.

Archer, David, and Victor Brovkin. 2008. The millennial atmospheric lifetime of anthropogenic CO2. *Climatic Change* 90 (3):283-297.

Montenegro, A., V. Brovkin, M. Eby, D. Archer, and A. J. Weaver. 2007. Long term fate of anthropogenic carbon. *Geophysical Research Letters* 34.

Solomon, Susan, Gian-Kasper Plattner, Reto Knutti, and Pierre Friedlingstein. 2009. Irreversible climate change due to carbon dioxide emissions. *Proceedings of the National Academy of Sciences.*

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

While only projects that demonstrate additionality should be considered for an offset program, other policy tools can and should be used to reward early actors. Issuing allowances or offering landowner incentives for carbon sequestration can help skirt the need for clear additionality, because such programs are not intended to directly replace

emissions reductions. An offset program should also avoid creating a perverse incentive for landowners to clear their land before enactment of a climate bill in order to later claim carbon credits for "improvements." Some existing carbon markets avoid this problem by setting the baseline year in the recent past.

Landowners should be eligible to participate in other environmental market activities, as long as accounting measures ensure any credit sold is truly additional (i.e., a given benefit cannot be sold twice). Participating in other environmental markets will help early actors gain credit for past activities by selling in markets where additionality is less of a concern, and it can help promote carbon sequestration projects that offer ecological co-benefits, such as fish and wildlife habitat and water quality. Stacking of credits can help make participating in environmental markets (include carbon markets) more economically viable for landowners while improving the ecological benefits associated with a given site.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Landowners should not be able to sell carbon credits from projects that were funded by government programs through cost share or grants with the express goal of greenhouse gas reductions or carbon sequestration, because these credits would not be considered additional. Such problems could be avoided by treating public payments as a loan, with payment deferred until a landowner decides to sell credits. In any case, a landowner that receives cost share or grant funds should not be excluded from selling credits on other, unfunded activities.

Technical assistance (such as that provided by extension agents or NRCS conservationists) should be treated differently, because access to this assistance plays a key role in a variety of land management practices. For example, creating disincentives for landowners to seek technical assistance as needed could have unintended negative effects in management of soils and nutrients, water, and invasive species.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Yes. Forest carbon contracts should assign clear obligation for reversals, or the carbon benefit from the sequestration project is lost and the carbon emission unmitigated. Sellers of offsets should be required to make up for lost carbon by purchasing credits from another producer. Discounting or other insurance measures should be explored as means

of addressing natural disasters or another event uncontrolled by the producer or landowner.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

The criteria and guidelines for an offset program should be detailed in legislation, but specific protocols and procedures should be developed in regulations by the Environmental Protection Agency in cooperation with USDA for the forest and agriculture sectors.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Existing conservation and forestry programs do not provide sufficient incentives for either climate change mitigation or adaptation. However, many existing programs are compatible with these purposes and could easily be refocused on climate issues. For example, existing Farm Bill incentive programs, many of which already create some climate mitigation and adaptation benefits indirectly, may be more specifically directed toward these goals. Incentives for private landowners, whether new or existing, can promote activities that create additional carbon reductions but may not necessarily meet the quality or measurability requirements for offsets.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.
Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
DRD ASSOCIATES;
INTERNATIONAL BIOCHAR
INITIATIVE
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Debbie Reed

Organization(s) you represent

DRD Associates; International Biochar Initiative

Address
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

DRD Associates: Director, President
International Biochar Initiative: Policy Director

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

While most economists indicate that a carbon tax is a more efficient means of establishing a carbon price signal, a carbon tax does not establish a greenhouse gas (GHG) target, and is a regressive tax. A cap-and-trade program, on the other hand, establishes a GHG target and is designed to be economically efficient by capping the largest emitters of GHG, and those that are most amenable to GHG reductions, and by allowing the trading of GHG 'credits' in order to achieve the lowest cost emissions reductions possible. A properly designed cap-and-trade program will incorporate GHG offsets as a cost-containment mechanism that provides a transitional strategy to allow capped sectors and entities to purchase lower-cost offset credits in order to meet their emissions reductions obligations cost-effectively. Offsets are particularly important at the start of a cap-and-trade policy, and in the early years when capped sectors must change investment decisions and strategies, and when capitol stock turnover and changes in infrastructure are occurring. Agriculture, as a sector that does not lend itself to being capped in a cap-and-trade system, can benefit more from a cap-and-trade policy than from a carbon tax by providing low-cost, high-benefit GHG emissions reductions and carbon sequestration offsets to aid the capped sectors in complying with their obligations at a lowest possible cost, thus benefitting the capped sectors, society, and the sector itself.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

The agriculture and forestry sectors should not be covered, or capped, under a carbon reduction program. Both sectors represent widely dispersed ecological systems under varied degrees of management which do not lend themselves to emissions reductions mandates, and which would be costly and inefficient to try to regulate for GHG emissions. In the case of the agricultural sector, in particular, efforts to regulate the more than 2 million farms in the US would be more costly than the potential benefits that could be achieved. Production agriculture is a highly complex, constantly evolving business that varies from one farm to another, one state or region to another, and involves a multitude of commodities, products, practices, and investment decisions that would make regulating for GHG emissions costly, burdensome, and of questionable impact. History has shown, however, that the agricultural sector is entrepreneurial and innovative, and can respond to market forces in ways that ultimately benefit the production of food, feed and fiber while delivering multiple additional services to society. In the case of GHG management, agriculture clearly has a role to play in the delivery of real, verifiable GHG offsets via

emissions reduction and increases in sequestration that will help mitigate climate change while also delivering valuable ecosystem services to society. The practices and changes in management necessary to provide such agricultural offsets, while largely known, are not one-size-fits-all, will not work in all cases and in all places, and thus should occur in a voluntary, flexible system that allows agricultural producers to adapt their particular systems when and as appropriate. Offsets can provide the economic incentive to do this.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

The allowance allocation system in a cap-and-trade policy should be structured so that it achieves the goal of reducing GHG emissions at the lowest possible costs to society. If allowances are provided to the agricultural and forestry sectors, as uncapped sectors, they should be provided at no cost, and the proceeds from the sale of the allowances should be utilized to mitigate increased costs borne by the sector, or members or the sector, such as increased costs or other burdens that cannot be recovered or that provide undue harm. For example, if all of or any segment of the agricultural sector finds that a cap-and-trade system results in net negative economic impacts that threaten the livelihoods or success of agricultural producers, the income from the sale of allowances should be used to protect those producers from harm or failure. It is highly likely that a cap-and-trade system, once enacted, will result in many unintended consequences, and the proceeds for the sale or auction of allowances should be utilized to protect those unduly harmed by such consequences, or in the case that no harm is caused, then the proceeds should be used to help achieve the goals of reducing GHG.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

A federal cap-and-trade system, once enacted, should become the sole carbon reduction program in order to avoid duplication of efforts, double-counting of emissions or emission reductions, multiple regulatory or program burdens, and overlapping or competing systems and requirements. However, the federal system should take advantage of the lessons learned and work achieved by existing regional, state, or voluntary programs, inasmuch as they help to inform a better federal product. In this way, it may be possible to transition these existing programs into the federal system, once established. Appropriate recognition to activities and projects underway in existing systems should be accorded in the federal system, whether by rewarding early actors and activities, or ensuring that they not be penalized in the federal system.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

In the case of agricultural and forestry participation in an offset system, USDA should retain jurisdiction and authorities to develop and implement participation of these sectors in the cap-and-trade program.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

Given the recent and ongoing economic problems experienced in the US and even globally, created largely by speculation in commodities markets, there is a clear need for regulations and transparency in mandatory carbon markets and a federal cap-and-trade policy.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

Depending on how the policy is established, negative impacts can be felt by the agricultural sector as well as society at large. The goal of any such policy should be to create the necessary reductions in GHG emissions or enhancement of carbon sinks in a manner that minimizes harmful impacts to all, but particularly for low-income populations and those least able to accommodate or absorb these impacts. Also, under the understanding that negative unintended consequences will result from the enactment of such a complex new system, the policy should be structured to detect and minimize such consequences as quickly as possible. Flexibility in implementation will thus be necessary.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

Transitional assistance should be targeted to those businesses most impacted by the policy and those for whom assistance is necessary to ensure their survival and continued success. Agricultural producers typically survive on notoriously marginal incomes, and in the event that a carbon reduction program would cause producers to fail or to not succeed, they should receive transitional assistance as appropriate.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

The federal government should consider changes in management policies of public lands in order to protect existing terrestrial carbon stocks and to further enhance terrestrial carbon stocks. It is largely the case that ecosystem management in such a manner is consistent with good public policy and with the delivery of multiple additional environmental benefits, such as improved air and water quality, improved soil fertility and productivity, reduced soil erosion, reduced flooding and impacts from flooding, and enhanced biodiversity and wildlife habitat. Since public lands account for a significant land mass in the US, management policies aimed at sequestering carbon and reducing GHG emissions could have dramatic impacts.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

A well-designed cap-and-trade system will allow market forces to determine the price of carbon, and will keep this price as low as possible through development of an efficient, flexible system which provides ample offsets for cost-containment. Offsets are particularly important at the start of and in the early years of a cap-and-trade system, when changes in investments, capitol stock turnover, and infrastructure are occurring, and while new technologies and a carbon-free energy infrastructure is being developed and deployed.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

The EU ETS had some fits and starts, such as problems establishing a baseline and the over allocation of allowances that caused a price collapse and the near-failure of the system. This lesson should be heeded in the design of a U.S. system. Also, while industrialized countries within the United Nations Framework Convention on Climate Change (UNFCCC), which is the context in which the EU ETS was developed and is operating, were allowed to account for terrestrial sinks (forest and agricultural sinks) in the design of their domestic programs, the EU did not include them in its early phases. However, after undertaking an EU-wide assessment of terrestrial sinks, called the Integrated National Sink Enhancement Assessment (a joint effort of the EU and European Commission (EC); see also http://eusoils.jrc.ec.europa.eu/projects/insea/index.htm for more information) -- the EU has decided to include terrestrial sinks in future phases of the ETS. Within the last month, the European Parliament voted to include forestry sinks in the next phase of the EU ETS. Also significantly, the EU, the US, and many other countries participated in an agricultural workshop held during the negotiations of the UNFCCC in Bonn, Germany on Saturday, April 4, 2009, in favor of integration of agricultural mitigation options for both developed and developing countries, to include agricultural sinks, in the post-2012 Framework to be negotiated in Copenhagen in December, 2009. Finally, some Canadian provinces (Alberta in particular) have developed and implemented agricultural sector GHG emissions reduction and enhanced sequestration methodologies, for the agricultural sector to participate in its GHG mitigation efforts.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

The most effective option for agricultural and forestry GHG emissions reductions and enhanced sequestration to occur within a cap-and-trade program would be to develop a fair, effective, and efficient voluntary offset program, developed in keeping with the Ecosystem Services and Markets provisions in the 2008 Farm Bill. The offsets program should be science-based, credible, and transparent, and should strive to maximize participation across the agricultural and forestry sectors in a cost-effective manner that is neither onerous nor burdensome to participants, and that takes advantage of USDA's expertise and infrastructure inasmuch as possible. Whether this system is or includes project-based or

performance-based structures, or both, should be determined by the preceding principles in such a manner as to ensure the continued production of high-quality, safe, efficient food and fiber for the US and for the world. To the extent that bonus allowances are also made available to the agricultural and forestry sectors, they should be utilized to protect the sectors and members of the sector from economic harm and potential unintended consequences, including potential increases in food, feed and fiber costs that might pose harm to consumers or segments of society ill-equipped to bear the potential impacts. While many in the broad U.S. agricultural sector have indicated a desire to constructively engagement in such a system, there is also awareness that some segments of the sector do not lend themselves well to participating in offsets markets, and that the net impacts of a cap-and-trade system may incur costs that outweigh or outstrip any potential income generation opportunities from offsets for some of these segments. Bonus allowances should provide transitional assistance as necessary to any portion of the sector that suffers unduly from these potential costs. Additionally, to the extent that the policy might penalize 'early actors' from participating in offset markets due to the establishment of baselines, additionality or other programmatic definitions that would preclude their participation, bonus allowances should be provided to reward these producers for the GHG emissions reductions or increased sequestration that they provide on an ongoing basis, since their actions benefit and are enjoyed by society at large. Otherwise, these actors are unfairly and perversely penalized for their early adoption of the very practices the policy seeks to promote.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

The design of the cap-and-trade system can and should guide whether limits on offsets are included. The EPA analysis of the Lieberman-Warner bill can provide clear guidance in this regard. EPA reported that the offsets sensitivities they ran as part of their 2008 modeling of that bill showed that offsets can provide cost-containment to a cap-and-trade program while not hampering technological innovation (see link to analysis at http://www.epa.gov/climatechange/downloads/s2191_EPA_Analysis.pdf). That analysis showed, for example, that if the use of domestic and international offsets was unlimited, allowance prices would fall by 71% compared to the bill as written. Conversely, if no domestic or international offsets were allowed, then allowance prices would increase by 93% compared to the bill as written. The price of allowances is borne by the capped sectors and society at large -- thus the role of offsets should not be artificially limited in such a way as to increase allowance costs. A bill with a low enough cap can enjoy unlimited offsets and still drive technological innovation, as evidenced by this analysis.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Congress need not decide on the distribution of available offsets. Offsets should be made available on the carbon market to capped emitters who need them or choose to buy them as

a means to help them meet their emissions obligations. As indicated in the response to #15 above, a properly-constructed cap-and-trade program with a tight enough cap can allow for unlimited offsets and still drive the technological innovations sought by the development of the GHG policy.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Offsets should be accounted for by utilizing the best available science in a credible, transparent system that encourages practices and activities that reduce GHG emissions or enhances sequestration to provide real, verifiable offsets. For some offsets, measurement protocols or systems will be more straightforward than others (e.g., the use of anaerobic methane digesters). For others, such as for soil carbon sequestration, valid, scientifically-based means that combine the use of sophisticated models and on-site sampling can be and have been devised that provide robust estimates of soil carbon sequestration over time in a cost-effective manner that can be utilized for carbon markets. USDA's Natural Resources Conservation Service (NRCS) and Colorado State University (CSU) have developed and tested such a system already, based on circa 5,000 statistically chosen soil sampling sites over the U.S. land area, coupled with the CENTURY and DAYCENT models housed at CSU, as an example.

The most important concept is that, for the many and varied potential practices or activities that the agricultural sector can undertake to create offsets credits, the scientific certainty of the GHG emission reduction or increased sequestration can be quantified. All practices or activities that meet a determined level of certainty should be eligible to generate offset credits. The amount of offset credits awarded to any such activity or practice should be based on the associated level of certainty/uncertainty. For example, if project X sequesters 50 tons of carbon and the measurement system utilized has 10% uncertainty, the project should be awarded 45 tons of offset credits (calculated as 50 tons x .90 certainty = 45 tons). By discounting offsets up front, based on scientific certainty, this ensures the full fungibility of offset credits on the market, and will avoid a different pricing structure for agricultural (or other) offsets.

Eventually, land-based offsets should move towards a landscape approach, and away from a project-based approach, in order to promote a comprehensive system of terrestrial carbon management, with its many attendant benefits.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Science. If science shows that a category of offset projects reduces greenhouse gas emissions or enhances sequestration and we can ascertain the certainty (or conversely, level of uncertainty) associated with that project category, we can develop policies and protocols to include and reward these projects as offset projects. The important point is that we get

the system right; it is less imperative that we get every detail 100% correct -- but if we can establish a system that works and is credible and transparent and based on science, we can develop adequate criteria and protocols and methodologies for offset projects and categories of projects. An expert panel with appropriate agricultural, science and policy backgrounds (e.g., practitioners, agronomists, soil scientists, etc.) should be assembled to help develop the appropriate criteria, with USDA guidance and input.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

This will largely depending on the category of offset projects, but for many (if not most), USDA and associated bodies (e.g., NRCS, Extension Service, National Association of Conservation Districts, etc.), can either aid in verification activities as an extension of their existing activities, or USDA can certify third party verifiers from within these same systems, as well as from the private sector. Satellite-based systems for verification of many projects are becoming more common, as well, and should be utilized as appropriate.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Given the multitude of potential offset activities and projects that the agricultural and forestry sectors might credibly be engaged, there is likely justification and opportunity for both approaches. Congress should not exclude either.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Offsets and allowances within a cap-and-trade system represent currency, and as such, should be fully fungible and exchangeable. Offsets, however, represent the currency for emissions reductions, whereas allowances represent the currency for emissions (or the right to emit). Additionally, offsets provide cost-containment in a cap-and-trade policy, and the policy for the role of offsets can impact the resulting cost of allowances, and thus the cost of the overall system, as indicated by the 2008 EPA analysis of the Lieberman Warner Bill (S2191) debated in the U.S. Senate, (see link to analysis at http://www.epa.gov/climatechange/downloads/s2191_EPA_Analysis.pdf). That analysis showed, for example, that if the use of domestic and international offsets within the policy was unlimited, allowance prices would fall by 71% compared to the bill as written. Conversely, if no domestic or international offsets were allowed, then allowance prices would increase by 93% compared to the bill as written. Offsets, then, can impact the cost of allowances, as well as the cost impacts of the overall policy.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?

Please respond in 300 words or less.

The permanence or duration of offsets, particularly as relates to terrestrial/biological sinks, is really a contractual issue to be established by the policy, since terrestrial sinks are, by their very nature, temporary. The objective of terrestrial sinks as offsets in a GHG policy is to increase the residence time of carbon in these sinks for as long as possible, as a means of slowing or bending the GHG emissions curve downward while we transition to a lower-carbon emitting economy, and ultimately, to a non-carbon emitting economy. Offsets, and terrestrial offsets, in particular, are a transitional strategy. They are not a solution, but a temporary means to an end -- the end being a carbon-neutral economy. The important concept, then, is to ensure their integrity and their accountability during that time period in which we are relying on terrestrial sinks as offsets, whether it be for 30 years or 50 years, and the way to do that is contractually. Conceivably, 50 years from the date of enactment of a policy, we will no longer have a need for offsets, since technologies should have been developed by that time that will ensure the scope of reductions needed to ensure stabilization of the climate. For non-biological offsets, as well as for the utilization of biochar as a soil amendment, permanence and duration are less of an issue, if they are an issue at all.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Projects enrolled in a system or market for which they have been or will be paid should not receive credits or payments again. However, the larger issue of whether and how to reward early actors is a difficult one, and care must be taken to avoid perverse incentives or penalties for early actors. Conceptually, the issue can be addressed by allowing early actors to participate in offsets provisions but provide rewards only for the incremental emissions reductions or increased sequestration achieved after a date certain (temporal baseline) as established by the legislation. This would allow producers engaged in certain practices to be rewarded for their emissions reductions going forward. To the extent that the policy might penalize 'early actors' from participating in offset markets due to the establishment of baselines, additionality or other programmatic definitions that would preclude their participation, bonus allowances should be provided to reward these producers for the GHG emissions reductions or increased sequestration that they provide on an ongoing basis (from the baseline), since their actions benefit and are enjoyed by society at large. Otherwise, these actors are unfairly and perversely penalized for their early adoption of the very practices the policy seeks to promote.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

See the response to #23. Also, relative to the stackability of credits for ecosystem services achieved in addition to GHG emission reductions or increased sequestration, the answer is yes. Society benefits from the many ecosystem services achieved by agricultural practices and changes in practices, and to incent better practices and innovative approaches that build synergies by creating multiple benefits, we need to better quantify these services and impacts, and reward them financially.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

There should be no parsing of rewards or impacts for programs or activities paid for wholly or in part from public funds. If that were the case, we would not consider giving credits for technologies such as energy efficiency, geologic carbon sequestration (which is already receiving billions of dollars in federal funds to demonstrate and deploy), renewable energy, etc. Agricultural activities and programs should be treated no differently, regardless of the justification or purpose of the program (i.e., whether it was implemented to address GHG emissions or not).

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Intentional reversals or intentional actions taken to not achieve the GHG emissions reductions or increased sequestration accounted for in a contract or program should mandate the return of revenue or the replacement of credits. Unintentional reversals or natural disasters should be accounted for via use of insurance (e.g. crop insurance) or buffer reserves (although, for terrestrial offsets, buffer reserves for forestry projects should be separate and distinct from buffer reserves for agricultural projects, since the sheer volume of forestry tons is so much larger than the volume for agricultural tons, and the likelihood of catastrophic reversals for forestry, such as due to forest fires, is greater than the relative likelihood of catastrophic reversals for soil sinks). Alternatively, the federal government could 'absorb' such losses from natural disasters by adjusting a future cap to account for these losses (for instance, in the year immediately succeeding a catastrophic loss).

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

USDA has a clearly defined role to play in this as established by the Ecosystem Services Market Program in the 2008 Farm Bill. To the extent that greater detail or authorities may be necessary, USDA should be clearly designated as the governing authority, given is knowledge, experience, expertise, and relationship to production agriculture.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

Knowledge and information and access to such are potential obstacles, as well as the availability of sufficient protocols and methodologies to allow landowners and producers to begin to anticipate and plan for involvement in offsets programs. Delays in developing the protocols and methodologies that will govern producer participation in these programs will exacerbate what is already a several-year lag-time in getting agricultural offsets into a cap-and-trade system. For instance, if a producer has to learn about what is needed to enroll a project, then undertake necessary changes in practices, document and apply for participation in a project, undertake the changes in practice, and verify emissions reductions or increased sequestration -- all before receiving credits -- then it will already be a few (or several) years before these projects are providing offsets for carbon markets. If the cap-and-trade policy anticipates those offsets before they are actually available, it could impact the overall costs of the system, creating price shocks until those offsets are actually available. To prevent such shocks, development of these protocols and access to them at the producer level must begin far in advance of enactment of the actual program.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

Existing agricultural conservation and forestry programs were not established with the goal of mitigating climate change by reducing GHG or increasing sequestration. Some, however, do provide the ancillary benefits of achieving some of these impacts. One exception is the Conservation Reserve Program (CRP), which does have an explicit soil carbon sequestration sub-criteria within the Environmental Benefits Index (EBI), although soil carbon could conclusively be incorporated as a separate criteria within the EBI, rather than a sub-criteria within the air quality category (particularly since it achieves the goals of other criteria, such as improved water quality, reduced flooding impacts, etc.). A comprehensive assessment of how much GHG mitigation efforts can and should be achieved within the agricultural sector should analyze changes in focus or programs that would help to achieve these impacts, as well as the costs and incentives necessary to promote adoption of the practices and activities. Particularly for those categories of activities or projects that may not be incorporated into an offset program, it would be beneficial to provide farm program support provisions to encourage practices or activities that reduce GHG emissions and/or enhance sequestration.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Biochar is a promising new technology that offers the prospect for virtually permanent soil carbon pools. Biochar is a form of charcoal produced from heating waste biomass under controlled conditions (controlled temperature in the absence of oxygen) that, when utilized as a soil amendment, greatly enhances soil productivity, tilth and fertility, and has been shown to reduce nitrous oxide and methane emissions from soils. Biochar's positive agronomic impacts are most remarkable in degraded soils, and can help reverse soil and land degradation. Biochar is very recalcitrant to degradation in soils, and has a mean residence time of 1,000-2,000 years. Work is underway to further the demonstration of biochar production and utilization systems at various scales, and to develop protocols for the use of biochar as an offset in carbon trading systems.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Agroforestry	Excellent	Excellent	medium	High

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
High performance animal selection (breeding)	Excellent	Excellent	High/medium	medium
Feeding practices (improved forage quality	Good	Good	Medium	High
Dietary additives	Good	Good	Medium	High
Pasture management	Excellent	Good	Medium	High
Manure management	Excellent	Excellent	High/Medium	High

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Reduced tillage, residue management	Excellent	Excellent/Good)	Low	High
Agronomic practices, activities	Excellent	Excellent/Good	Low	High
(e.g., improved varieties, crop rotations)				
Nutrient management (precision agriculture)	Excellent	Excellent/Good	Medium	Medium
Rice Management (new cultivars, changes in irrigation practices)	Good	Excellent/Good	Medium	Medium
Biochar	Excellent	Excellent	Medium	Low (at present)

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
DUCKS UNLIMITED, INC.
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Dan Wrinn

Organization(s) you represent

Ducks Unlimited, Inc.

Address
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Director of Public Policy

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Ducks Unlimited supports the development of a federal cap and trade greenhouse gas program that utilizes the forces of markets to achieve cost-effective environmental protection significant enough to reduce the threat of global climate change to wetlands and associated habitats used by North America's waterfowl. A U.S. cap and trade program must set limits that achieve a reduction in greenhouse gas emissions of at least 80 percent below 2000 levels by 2050. A federal cap and trade program should not over allocate free permits or allowances, but rather implement the use of auctions to the extent deemed appropriate by those developing the program. Portions of revenues generated from the auction of allowances should be directed to natural resource climate adaptation efforts and research programs.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

While Ducks Unlimited has not developed an official position on the specific sectors that should be regulated under a GHG emissions reduction program, we do not feel that the agriculture and forestry sectors should be regulated by an emissions cap at this time. Administratively, measuring and monitoring a cap of these sectors would be infeasible for emission reductions that can be best achieved through offsets and or other regulations.) Agriculture and forestry stakeholders can most effectively participate by producing cost effective emissions reductions for capped sectors. Providing offsets for other regulated industries will help increase the economic stability of the agricultural and forest industries in the U.S. while providing additional co-benefits to society.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

A combination of auction and no cost distribution should be considered and evaluated by economists. However, care should be taken to not over allocate allowances based on

incomplete or inaccurate GHG reporting as this would hamper market development and carbon price signals.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

DU does not have an official position on which state or regional GHG programs should be linked to a nationally regulated cap on emissions. However, early action and participation in these existing programs should be considered if emissions reductions or offsets are to be qualified or transferred. Although not an official endorsement, allowances and offsets derived from the Climate Action Registry, The Climate Registry, and the Regional Greenhouse Gas Initiative should be considered credible under a federal program.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

N/A

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

N/A

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

N/A

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and

forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

N/A

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Recent legislative activity demonstrates acceptance of the fact that the United States must invest in measures to adapt ecological, social, or economic systems to the impacts of climate change. Further, efforts to mitigate climate change resulting from human-induced greenhouse gas emissions will reduce but not halt climate change effects. Ducks Unlimited has supported provisions in recent climate bills that appropriately proposed investments in federal, state, and tribal natural resources agencies for conservation efforts guided by science-based federal and state natural resource climate change adaptation plans. However, there is currently no specific language addressing the use of these funds for conservation on privately-owned lands.

Privately-owned lands provide the vast majority of the habitat for most species on the United States endangered species list. Also, they provide vital habitat for non-threatened species and will provide necessary migration corridors as these species adjust and migrate in response to climate change. Further, the vast majority of ecological goods and services for people, including carbon sequestration and storage, clean drinking water, flood control, clean air, and outdoor recreational opportunities are provided by land under private ownership

We believe it is important to directly acknowledge the central role of private lands management and stewardship in climate change adaptation strategies. Further, we believe strategies that fail to explicitly consider and incorporate private lands management and stewardship will fail to achieve the effects intended by Congress through climate legislation. We respectfully suggest that adaptation funding be made available for conservation programs on private lands via a competitive grant process or through existing governmental conservation programs, or agencies that administer such programs.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

N/A

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

A fundamental question about the role public lands play in helping to sequester carbon and/or reduce GHG emissions is whether or not that role involves the creation of offsets and the characterization of additionality for carbon offsets generated on public lands. Possible program areas that will need to be explored are the business as usual scenario and to what extent public funding are matched with private investment to create the offsets. Alternatively, if public lands are managed to increase sequestration of carbon and reduce GHG emissions on behalf of the US or to reduce the emissions footprint of agency operations then there is significant contribution that can be made by the public sector. Additional roles for public lands include providing an insurance/buffer reserve for terrestrial offset projects on private lands or generating voluntary carbon offsets for unregulated sectors.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

In the context of biologically derived offsets, no price limitations should be imposed that would limit fungibility amongst offset types, i.e. temporary crediting, as this will greatly discourage investment in biologically-based projects.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

It is important that entities have accurately reported their emissions inventories in GHG registries in order to assist with any allowance allocation process. The ETS market had numerous problems with over (and sometimes under) allocation of allowances which hindered the development of a healthy market. The US should require mandatory (EPA) GHG emissions reporting as soon as possible for sectors likely to be regulated under a cap.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected

agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

We believe a voluntary carbon offset program complementary to a regulated program, will still be a viable source of revenue for the agriculture and forestry sectors after a national regulatory program is implemented. There will be many sectors of the economy, entities and individuals that will not be subject to the cap but will want to voluntarily reduce emissions to demonstrate environmental stewardship. A cap and trade program should offer bonus allowances for management practices or land-uses that contribute to a working landscapes while also sequestering carbon and/or avoiding emissions, such as grassland-based programs like CRP. Consideration should also be given to awarding bonus allowances for these activities if they occurred prior to the enactment of a cap, thereby rewarding early actors and encouraging further re-enrollment in the practice or program.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

N/A

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

N/A

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

Much work has gone into establishing GHG quantification and verification protocols for voluntary offsets in North America. Protocols and standards considered to be of top merit suitable for use in a regulatory program include the Climate Action Reserve (formerly the California Climate Action Registry), the Voluntary Carbon Standard, and the Regional Greenhouse Gas Initiative. The rigor of these protocols, and offsets verified against these standards should be considered suitable for a federal regulatory program, particularly the Climate Action Reserve.)

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Project methods and offsets that meet the requirements for additionality, permanence, leakage, and co-benefits similar to those established under existing CAR and VCS protocols and/or the Climate Community & Biodiversity Standard.

To maximize societal, economic, and ecological benefits, biological offsets should ideally be coupled with perpetual conservation easements that ensure the permanence of generated carbon stocks. Purchased conservation easements have proven to be popular with landowners and effective in sustaining habitats but require significant up-front capital investment.

Incentives to encourage investor confidence in securing forward sales of biological carbon offset credits will be necessary to provide project developers critical up-front capital. Forward selling of greenhouse gas reduction credits is often the deciding factor in a terrestrial project's financial viability and its ultimate implementation as the emission reductions of most terrestrial projects accrue over long periods of time. Development of contractual or legislative mechanisms for addressing permanence issues that increase investor confidence in forward sales of biological carbon offset credits will be necessary. One such mechanism is the establishment of reasonable offset crediting periods during which project offsets are recognized. A crediting period of at least 20 years, renewable following successful project validation, should be considered reasonable.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

To minimize administrative restraints on offset supply, it is important that a sufficient number of program-approved verifiers exist to meet verification demand. A large number of accredited offset project verifiers already exist in the U.S. providing verification services for CAR, RGGI, and the VCS. It is advised that verification remain with the private sector with oversight from an approved regulatory body. Accreditation for verification entities could be against new criteria developed by congress or a regulatory agency, or to existing accreditation standards such as ISO 14065.

It is also suggested that projects be 'validated' and individual offsets 'verified' to remain consistent with existing offset program terminology.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Where applicable, such as small scale afforestation projects, a standards-based or a Program of Activities (PoA) approach should be preferred to a project-based approach for purposes of administrative ease and cost-minimization. However, there should be sufficient flexibility for project proponents to propose projects or project components that deviate from the standards if deviations can be proven to an approved verifier at proponent's own expense.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

There should be no discount between verified offsets and allowances, with compliance usage at a 1:1 ratio. Any discount would discourage investment in offset projects, limiting emission reductions from uncapped sectors and undermining the principle that a ton is a ton.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

We believe that preference should be given to biological offset projects that use perpetual conservation easements that protect the habitat and carbon stocks in perpetuity. Private investors are positioned to provide financial support for terrestrial offset projects, thus lessening the need for public funds. However, their involvement hinges on how cap and trade legislation is crafted with respect to eligible crediting periods and forward accounting rules. A guaranteed crediting period, renewable if project compliance can be re-demonstrated following subsequent project validations should also be allowed. Operating protocols for a national, market-based greenhouse gas reduction program should address the unique financial challenges of biological offset project developers seeking to implement permanently protected, high quality biological offset projects. Such projects require substantial but critical upfront capital for emissions reductions that accrue over long periods of time.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Offset projects that meet the requirements of existing state, regional or federal GHG programs or meet the standards established under a voluntary private registry or GHG reduction program that are materially similar to a regulated program should be eligible under a federal cap and trade program.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

One possible strategy to lower the cost of developing a carbon offset is to stack a carbon project with other restoration or management practices that generate other types of environmental credits. The pooling of projects allows project costs to be dispersed amongst the credit products sold. However, project stacking requires clear demonstration that the carbon related project activity is generating sequestration above and beyond the hypothetical business-as-usual baseline scenario. Effective stacked projects delineate sequestration under the business-as-usual scenario, i.e. sequestration occurring by minimum required restoration for mitigation and project actions taken to enhance sequestration from the baseline, e.g. increasing plant stocking densities. The difference in carbon stocks between the minimum mitigation requirements and that attributed to supplemental management and/or restoration would be eligible as a carbon offset. If project activities are not as clearly defined, credit prices from a stacked credit project should be discounted so that the individual credits/services are reflected in the final cumulative costs. For example, a wetland restoration project may produce mitigation, endangered species habitat, and carbon credits. In order to sell all three credits, each form of credit would need to be discounted so that the total price would be the same as if the project had only sold one form of credit, otherwise no additional mitigation, habitat, or sequestration occurs.

Inherently, a stacked project contains multiple management objectives and actions to optimize one objective may come at the expense of others. Several studies have found that efforts to maximize carbon sequestration adversely affect biodiversity. A sustainable management plan and use of native species offer an ecologically ideal trade-off, but will most often lead to a less than optimal sequestration result.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Where it can be demonstrated that existing Federal or State programs are not competitive with competing land-uses that have comparatively higher net emissions, consideration for some form of stacked federal-private payments should be considered. An appropriate discount may be the prevalence of the land-use/program in the county of the project activity. Where the land-use is clearly the business-as-usual activity, offsets should be discounted by the percentage of government funds applied to the project to ensure clear additionality.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Project proponents should not be responsible for carbon stock losses due to natural disasters or other uncontrollable events. It is unlikely individual producers (unless they are very large) will be held directly liable for under performance. Typically, this would be a liability covered by the aggregator or project developer and managed with buffer reserves, conservative carbon rates or insurance policies such as a federal lands insurance reserve. If perpetual conservation easements are used, then there are legal steps that can be taken directly with the landowner to replace lost carbon stocks, ensuring that project sites remain permanent carbon sinks. Short-term contracts for other types of terrestrial offsets will not have that type of legal recourse.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

The protocols and procedures for a national cap and trade program with provisions for offsets should be delegated to the appropriate government agency with stakeholder involvement. The process and protocols developed through the Climate Action Reserve suit these criteria. DU has no official opinion on which agency should be responsible, so long as development of the protocols and procedures involve affected parties and stakeholders - including project developers, producers and the financial sector.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

The largest obstacle faced by many producers and landowners to implementing GHG reducing land-use practices and technologies is uncompetitive land-use returns relative to

other land-uses and management practices. Primary factors contributing to the uncompetitive returns include an insufficient price signal from low offset prices and a lack of incentives for forward sales. In the absence of these two conditions, the financial viability of most terrestrial sequestration projects will remain unviable. Forward sales, encouraged by a sufficient crediting period address the latter issue. Policies that encourage full fungibility across offset project types and between allowances will help create conditions suitable for offset prices needed to encourage broader landowner participation.

Another important factor is the lack of project protocols for GHG reducing activities to be verified against, such as grassland preservation or wetland restoration. Grassland preservation and restoration must be recognized as an important way to slow or mitigate climate change, equal to afforestation and re-forestation in terms of desirable environmental benefits. In addition, in order to achieve sustained benefits, grassland offset credits should be coupled with perpetual conservation easements that ensure grasslands will remain intact forever.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

In regions where conservation and forestry programs enjoy robust participation, it can be assumed that existing offers provide sufficient incentives. In regions where available conservation program funds exceed the availability of willing landowners, a consideration would be to stack conservation payments with private investment dollars for the creation of offset projects. There are questions about financial additionality with this approach, however it can also be demonstrated that without the supplemental private investment, the sequestration activity would not occur. Increasing budgets and reducing enrollment restrictions for farm bill programs such as the Wetland Reserve Program and the Conservation Reserve Program are additional options to be considered.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Afforestation	Excellent	Excellent	High	High
Improved Forest Management	Good	Good	Low	
Avoided Deforestation	Good	Moderate	Low	

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
DUPONT
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Linda Fisher

Organization(s) you represent

DuPont

Address
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

VP and Chief Sustainability Officer

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

DuPont supports a federal cap-and-trade program to address climate change. Cap-and-trade, coupled with cost containment measures and other complementary policies, provides a clear pathway to rapid transformational change to a low-carbon economy in an economically sustainable manner. Both a carbon tax/fee and a cap-and-trade program are market-based mechanisms to drive greenhouse gas emissions, and they each have strengths and weaknesses. They also both have real complexities. A cap-and-trade approach would establish clear, predictable, market-based requirements to reduce greenhouse gas emissions. A cap provides greater environmental certainty on greenhouse gas emissions reductions. To achieve similar environmental performance from a tax the government would need to monitor how the economy responds to a tax in terms of reducing greenhouse gas emissions and modify the tax level over time to meet the desired reductions. A cap-and-trade program allows the market (rather than the government) to set the price of carbon, thereby driving emissions reduction investments towards the most cost-effective opportunities. A cap-and-trade program provides the opportunity to address unintended or unfair economic impacts through distribution of allowances with no impact on the environmental effectiveness of the program and minimal impact on overall cost-effectiveness. The process of determining equitable allowance allocation will be complex, but it is important to note that a carbon tax carries similar complexities. With a tax, the resulting revenues would be redistributed via the tax code in a way that helps balance the economic effects of the tax, a process that parallels the kinds of decisions that have to be made to determine allocations of allowances in a cap-and-trade program. While many point to the simplicity of a carbon tax, the tax code is not simple, nor is the process less prone to political decisions. Lastly, there has not historically been significant political will for tax increases, and we believe that cap-and-trade is both the more effective and the likeliest route to timely passage of legislation.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

There is an important role for the agriculture and forestry sectors to play in a federal climate program. However, because of the widely dispersed nature of greenhouse gas emissions resulting from the agriculture and forestry sectors, it is likely to be administratively infeasible and complex to directly regulate emissions from many operations in these sectors as covered facilities. A more effective way of driving needed emissions reductions in these sectors is through a robust offset program.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Distribution of allowance value is an important cost containment tool that can direct allowance value to those sectors and regions that may be disproportionately impacted by a carbon price. Free allowance allocation is particularly important in the early years of a program as a carbon price is being established and the economy is in a transition period. Over time, as the carbon price impacts become more uniform across industries and regions of the world, free allowances should be phased out and the program should transition to an auction. DuPont believes that allowance allocation will provide a needed transitional assistance buffer to U.S. industries that compete internationally, giving industry and U.S. negotiators time to develop a well-functioning global treaty that ensures meaningful emissions reductions globally. For the most part, in a cap-and-trade program the agricultural and forestry sectors wouldn't have a compliance obligation, so would not receive allowances. Rather, these sectors would be offset generators, providing offset credits into the broader carbon market.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

There is a strong need for uniform carbon pricing. Multiple programs with different prices would create inefficiencies, could send mixed signals with respect to carbon reducing activities, and would impede our ability to eventually link a U.S. program with other global carbon markets. One cohesive federal program is important for ensuring economic efficiency and lessening the administrative burden for the program administrators and those entities with compliance obligations. There will be many important roles for local, state and regional entities in the implementation of a federal climate program, such as establishing regionally-appropriate standards for building efficiency or power generation, and implementing smart growth plans that encourage efficient use of resources and limit greenhouse gas emissions.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

Among existing agencies there is significant knowledge and expertise that will be valuable for the successful implementation of a federal climate program. Regardless of whether there is a single entity with overall regulatory authority, there will be important roles for existing government agencies such as the Environmental Protection Agency (EPA), United

States Department of Agriculture (USDA), the Department of Interior (DOI), and the Department of Energy (DOE). Inter-agency coordination will be essential.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

A carbon market will deserve careful regulation and oversight to ensure transparency and effectiveness, and that speculation and market manipulation do not create unduly volatile or high carbon prices.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

In general, carbon markets should develop in a manner similar to that of other commodities, through futures and over-the-counter trading.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

Those in the agricultural community may be some of the most impacted by a changing climate (e.g. severe drought, flooding, changing weather or rainfall patterns, etc). For this reason, some might say that taking action to stabilize our climate is even more important to these populations than others in the country. We don't envision that the agricultural community would be directly regulated in a federal climate program, so would not have a compliance obligation. But we do expect that, like others, they would feel an increase in energy prices as the carbon price signal flows through the economy. To the extent that an increase in energy prices has disproportionate impacts on certain regions or populations, policy design should take this into account and address through distribution of allowance value or other policy mechanisms. It is important to note that given the benefits to the agricultural and forestry communities from a robust offsets and an overall increase in

demand for low carbon sources of energy, on a net basis, agriculture could benefit from greenhouse gas regulations.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

To the extent that energy costs increase above the national norm for certain regions or populations, distribution of allowance value (e.g. through allocation of allowances to local distribution companies) would be appropriate. The economic value associated with offset generation, and the expected increase in demand for low-carbon energy would also help balance any negative impacts. A portion of allowance value should be directed to promote alternative energy (e.g. biofuels and cellulosic biomass technology deployment), agricultural research for carbon reducing products, improved agriculture cropping and livestock management practices, and programs that aim to educate those in the agricultural community who will be impacted by a federal climate program and promote broad participation in the offsets market.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

A carbon price is meant to drive a change in behavior by incentivizing actions that emit less carbon. In order for the behavior change to be realized, and for us to meet our long-term carbon reduction goals, some price signal is needed to incent people to look for lower-carbon emitting alternatives. However, in the near-term, particularly before there is a functioning global climate agreement, there is a need to provide transitional assistance to businesses that are affected by higher overall costs resulting from a carbon reduction program - particularly those businesses facing international competition – to prevent undue competitive disadvantage.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

There is an important role for both public and private lands to play in sequestering carbon and reducing greenhouse gas emissions. We have no particular view as to how best to structure a regulatory process for public lands. However, public lands represent a large base of acres and should be included in the overall plan for greenhouse gas emission reductions. In considering the role of and requirements for public lands in a federal climate program, care should be taken so as to not create competitive disadvantages to private landowners in the offsets or other related markets.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Policy tools, such as allowance value distribution, should be used as needed to help dampen price increases and/or volatility, but in general the market should operate free of any hard limits on carbon prices.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Two important lessons can be learned from the European Union's Emission Trading System (ETS). First, that program design is very important and there are many complex and interwoven parts to a comprehensive national or regional climate program. Second, that despite best efforts the first phase or early years of a program might reveal that the policy framework did not get everything "right", highlighting the importance of a program structure that allows for modifications to program design and implementation so that there is a method by which the program can be improved over time.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

A voluntary offset program would be most effective and equitable, allowing the market to drive the implementation of the most cost-effective emission reduction projects. Performance standards may play a role in determining what qualifies as an offset. The Keystone Alliance for Sustainable Agriculture, in its "Field to Market" report, discusses a range of ideas related to sustainability and agriculture, some of which may be helpful in informing the process of developing a standards-based approach to setting criteria for offsets projects.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

The US Climate Action Partnership (USCAP) recommends an initial annual limit of 2 billion metric tons per year which could be increased to a maximum of 3 billion metric tons per year if deemed necessary in order to avoid undue economic harm from excessively high allowance prices. Within these overall limits, USCAP recommends that Congress set maximum upper limits of 1.5 billion tons each on the use of either domestic or international offsets in any year. Note that USCAP calls for these numbers of offsets to be available each and every year, even as the cap declines.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

We don't see a role for Congress in distributing offsets – rather we envision a system where offsets are generated and placed in a market where they are purchased as a commodity. It may be appropriate for Congress to place limits on the total number of offsets a given regulated entity can use for compliance.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

USCAP recommends that criteria be established to ensure all offsets are environmentally additional, verifiable, permanent, measurable, and enforceable. The US EPA, drawing on the expertise of USDA and Department of Interior among others, should establish the specific details of an offset-program using a standards-based approach that allows flexibility for the range of projects that may qualify as offsets. Note that many organizations (governmental, NGOs, academic) have done valuable research into the science of carbon sequestration through agricultural and land management practices, and that this scientific work could help inform the process to establish criteria and assess the quality of offsets. One example is The Consortium for Agricultural Soils Mitigation of Greenhouse Gases (CASMGS), a USDA funded effort that brings together a range of experts from universities and government.

18) What should be the criteria for assessing offset projects?

Please respond in 300 words or less.

Specific guidance should be developed, taking into account the wide array of possible offset projects and the need in some cases for criteria that are tailored to specific projects or practices. In general a standards-based approach for determining offsets will be most efficient.

19) How should Congress design a system for verifying offset projects?

Please respond in 300 words or less.

Congress should create a broad framework, the details of which would be determined at the implementing agency level.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Emission reductions resulting from offset projects need to be real, measurable and quantifiable. To support rapid adoption of carbon reducing practices and to support a carbon trading program, a standards based approach should be used to establish offset eligibility. The standards should be based on agreed-upon scientifically validated methodologies, and should be flexible enough to accommodate the diversity of agricultural practices, activities and regional differences. As the program matures, the opportunity to transition to other methods to calculate net greenhouse gas change on a project-based level can be considered, assuming there are scientifically validated protocols to do so. The specifics of the development of a standards-based process should be delegated to USDA.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Entities with compliance obligations should be able to use offsets as they would use allowances. Those projects that meet the offset criteria should be able to be traded and submitted for compliance on a one-to-one basis with allowances. A ton of carbon reduced is a ton of carbon reduced.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

We believe agricultural offsets have some unique characteristics that should be taken into consideration. In the case of agricultural offsets a reasonable duration of emissions reduction and/or carbon sequestration associated with a particular activity or practice should be taken into account, particularly when establishing the "permanence" of an offset project. Because agriculture is not a static activity, the goal in establishing permanence for agricultural offset projects should be focused on the permanence of the greenhouse gas emission reduction or avoidance, not the permanence of the activity itself. For example, if an activity is undertaken that sequesters 10 tons of carbon, but over the course of the project, 8 tons are released, then the net-reduction is 2 tons sequestered. Likewise, if a methane digester was in use for 5 years, the real emissions avoided should be counted, regardless of whether the use of the digester was carried on indefinitely. Temporal aspects should also be taken into consideration, such as the length of time that a practice has been underway and the increasing stability of agricultural carbon over time as it migrates to greater soil depths.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Congress should establish a robust credit for early action program that would create an adequate set-aside of allowances from which to provide credit to entities who demonstrate voluntary early actions to reduce greenhouse gas emissions. The credit for early action program should be structured to ensure that the highest quality early actions performed intentionally for GHG emissions reductions/avoidance preferentially receive early action credits while also ensuring that allowances are available for beneficial activities taken by entities that did not have formal GHG reduction programs.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

As discussed above, agricultural producers and forest landowners who may have taken early action to sequester carbon or reduce greenhouse gas emissions could work within the boundaries of a credit for early action program or early offsets program to have their efforts recognized. Documentation to demonstrate the additionality of a reduction project may vary based on the specific practice, but could include records submitted to programs established through Farm Bill legislation that encourage voluntary sequestration of carbon through agricultural practices. To the extent that there are multiple programs that are awarding credits or attempting to incent behavior changes, a single offset project that had demonstrated benefits for multiple programs (e.g. carbon and water) could generate credits for each of those programs.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

No position.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

The dynamic nature of land use and agriculture should be taken into consideration when assessing permanence of emission reductions. To avoid a situation where significant cash payments would be required, effective risk management tools should be used to address the

risk of release of sequestered carbon in an economically sensible manner (e.g. insurance or creating an offset reserve account).

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Congress should create a broad framework, the details of which would be determined at the implementing agency level.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Generally speaking, carbon credits may be priced relatively low on a per acre or per year basis, and it will therefore be important to structure the program in such a manner that maximizes the market incentive to pursue cost-effective emission reductions projects in the agricultural sector. This will require high efficiencies and low transaction costs. Given the likely complexities of a federal carbon program and offsets market, education and outreach to agricultural producers will be important. Technical training may be needed for some agricultural practices and assistance with carbon offset accounting techniques should also be made accessible to agricultural producers wishing to participate in the offset market.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

A robust offset program will provide a meaningful financial incentive. There will be a valuable role for agencies such as USDA to provide technical assistance to help farmers understand the program and create and bring to market valid offset projects.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

As referenced throughout, we believe that as a general matter US agricultural producers should not be directly regulated and subject to mandatory emission reductions under proposed cap and trade policies, given that it would be impractical to measure and regulate individual emissions of such dispersed

activities. In addition to the contribution the agriculture sector can make to carbon sequestration and avoided emissions it also has a significant role to play as a provider of low carbon energy. From wind and solar to biomass based electricity and fuels, agriculture can assist the transition to a low carbon economy.

As regards biofuels, we would like to note one area that may impede agriculture's ability to contribute fully. We believe that low carbon biofuels are both important and available. In the Renewable Fuels Standard (RFS) Congress recognized the importance of low carbon biofuels, though we believe that fixed thresholds are less a market incentive than the sliding scale of a low carbon fuels standard. One area that Congress added to the RFS at the last moment, however, raises significant concerns, and that is the concept of indirect land use effects of agriculture producing biofuels feedstocks. The idea is that any change in US production patterns can create a smaller supply of some product to the global market and that volume must be made up somewhere else in the world, and that the resulting agricultural practices elsewhere in the world can result in carbon emissions. Notwithstanding the very serious issue of tropical deforestation, we believe there are serious issues associated with the concept of indirect land use induced changes that have not received sufficient policy scrutiny and deliberation. First the concept assumes a wholly inelastic market that presumes one to one supply demand correlations. Second it presumes that somehow US agricultural practices will, through these indirect mechanisms, result in reduced deforestation, despite the fact that the majority of forces causing deforestation are local in nature. This raises issues of effectiveness; whether regulating US entities in this manner really achieves any net decrease in deforestation. It also raises issues of equity; there are many things that effect US agricultural production from normal crop rotation, demand for animal feed, land lost to roads, schools, houses and shopping malls, and biofuels demand. Of these, we are currently only attempting to regulate one on this basis. We are also in effect holding US farmers accountable for activities that occur outside the United States over which they have no influence, much less control. We believe this issue deserves much further deliberation. We also believe that we should be aggressively pursuing more direct and effective tools for reducing tropical deforestation, and believe that carbon offsets can be a powerful tool in that regard.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
ECOTRUST
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Brent Davies

Organization(s) you represent

Ecotrust

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Director of Forestry

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Ecotrust strongly supports a cap-and-trade system with carbon offset provisions for a host of reasons: achieving mandatory emission reductions at lower cost, providing incentives for innovation in low-carbon strategies in non-capped sectors, and providing a source of emission reductions while cost-effective technologies are developed in the capped sectors. However, we should never lose sight of the basic arithmetic of offsets -- every ton of carbon dioxide sold as an offset project allows one additional ton of carbon dioxide to be emitted by the offset purchaser. This requires that offsets always meet high quality standards. Other considerations, such as parity between states, rewarding early actions, and providing stability to project developers, while all worthy, should always be subsidiary to the principal goal of reducing emissions.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

To achieve maximum reduction in GHG emissions, the cap-and-trade program should ultimately include all economic sectors. Ecotrust appreciates the complexity of capping forestry and agriculture at this time, but note that simply providing offsets may not allow these sectors to maximize their contribution to reducing emissions, given their unique role as both a potential source of emissions and a source of sequestration. Care should be exercised to create neither an entitlement nor expectation that these sectors will remain uncapped indefinitely.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Ecotrust encourages an initial high proportion of allowances distributed through an auction, growing to full auction as comfort and confidence are bolstered by experience. Economic theory and emitter history in other cap-and-trade systems suggest that free allowances accrue to the benefit of the emitter's shareholders and not to the benefit of the public (with the exception of where the distribution of the benefit can be controlled or serves the public interest – as is the case of rate-regulated utilities or consumer-owned utilities). In essence,

the public pays twice, once through the free distribution of a public good and then again through higher energy prices.

When determining the exact strategy form the distribution of allowances, policymakers should seek to ensure that the costs of a carbon reduction program are not borne disproportionately by vulnerable populations, natural systems, and sectors or regions of the economy.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and

forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

Rural populations will be disproportionately affected by both climate change and climate policy for two important reasons. First, the ecosystems on which rural populations rely for their livelihood are being adversely affected by changing climatic conditions. Second, rural populations generally lead more energy-intensive lifestyles and have higher incidence of poverty. Households and people in poverty will likely be more severely impacted by raising energy and commodity pricing ("Incidence of U.S. Climate Policy" Resources for the Future 2008). However, it is extremely difficult to predict the net distributional consequences of climate policy that may provide economic opportunities for rural areas, especially through different agriculture and forestry practices. For example, to the extent that sustainable natural resource management is a priority in climate policy, there may be landscape- or ecosystem-scale restoration opportunities that offer jobs and income to rural economies.

The true impacts of a carbon reduction program on rural populations, either positive or negative, will depend primarily on the structure and implementation of the policy. If key elements are not included, such as redistributive mechanisms for compensation of affected regions and populations, specific policies to address forest and agriculture mitigation opportunities, and strategies for addressing the adaptation needs of affected ecosystems, the program will likely have severe negative impacts on rural populations. These elements should be included as part of a carbon reduction program in order to produce the greatest environmental benefits with the least cost to society.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Ecotrust believes that partners should have as much flexibility as possible in the use of auction revenues to address diverse needs and opportunities. However, to achieve our common objective of rapid and effective GHG reduction, we should ensure that partners use auction revenues for investments in technology and innovation that help accelerate GHG reduction. Revenues should also help address impacts on affected vulnerable populations, including low-income families grappling with higher energy prices. Auction revenues should not be used to subsidize a capped industry in a way that creates competitive advantage or disadvantage.

Uses of auction revenues that will accelerate an equitable transition to a low-carbon economy include:

• **Assist lower-income households in adapting to higher energy prices**, such as through energy efficiency investments, fuel efficiency (for example, retiring and

replacing fuel inefficient cars), household-scale renewable energy, and other mechanisms.

• **Invest in projects that have high GHG reduction or storage potential**, or that deliver high co-benefits, but that have technical issues which limit their adoption as eligible offset types. In the forest sector, reducing fire risk and treating insect infestations both serve to reduce forest emissions and increase long-term sequestration. Providing incentives against conversion of forestland and farmland can potentially prevent significant emissions, but is difficult to address in an offset system because of leakage. All of these have high environmental, social and financial co-benefits and merit public investment.

• **Reward early actions**; early and progressive action should be strongly encouraged. Compensating early action through eligible offsets raises additionality issues, so compensation is best addressed through auction revenues.

• **Public investment in "green" infrastructure which reduces long-term energy use**, such as public and non-motorized transportation, green building, water efficiency, and effective stormwater management.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

Ecotrust has reviewed the arguments for and against the use of quantitative limits on offsets, and find both positions have some merit. No limits on offsets could slow achievement of emission reductions, reduce investment in the capped sectors, slow the transition to low carbon technologies, and perpetuate investments in high-carbon infrastructure.

Quantitative limits on offsets could increase compliance costs and increase emissions through leakage by displacing capped economic activity to jurisdictions without a cap. These arguments will be informed by experience. The conservative approach is to impose a quantitative limit in the first compliance period, and to closely monitor GHG reduction investments made in each sector, the cost of reducing emissions in each sector, and the price and quality of offsets. Unless there is evidence to the contrary and as long as GHG emission targets are being achieved, Congress should consider relaxing the quantitative limits in future compliance periods and allow offsets to perform their desired functions of providing cost-effective compliance and flexibility to capped sectors.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

Congress should adopt offset standards that enable the participation of large and small landowners in developing offset projects. Holders of compliance credits (i.e., offsets) should decide where to sell their credits including to buyers who are not regulated by the cap (e.g., voluntary purchasers through over-the-counter transactions). Participation in offset activities should be on an opt-in basis such that there is no need to "distribute" offsets.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

For forest-related offset projects, quantification should not generally rely on standard tables, but instead be based on growth and yield modeling supported by periodic field measurements. However, quantification of forest carbon projects should consider the needs of small forest landowners and the economics of doing a forest carbon project on small holdings. For small projects, simple measurement systems should be developed, ideally based on remote sensing methods, that are robust but do not require expensive inventory, modeling, and sampling which is not financially viable in a small project.

Project protocols should clearly define objectives and quality standards, but not be overly prescriptive on specific sampling methodologies. Where possible, assessment of carbon stocks and reporting should utilize existing industry practices and resources and avoid adding unnecessary costs. Estimation, monitoring and verification of carbon stocks should ideally be fully integrated into standard financial and forest management inventory, valuation, and audit procedures.

Verification should be provided by a third party independent verifier. To encourage the participation of small landowners, verifiers should be encouraged to develop group verification systems where project developers can aggregate projects and the verification addresses the aggregator's inventory and monitoring procedures rather than verifying each project. The intent is to reduce verification costs for small projects, but not to reduce the rigor of the forest carbon offset associated with small projects. Aggregators should have sufficient financial resources, carbon reserves, or insurance to assume the project failure risks in their portfolios and to deliver replacement tons where needed.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Forest carbon offsets should be real, surplus (additional), verifiable, enforceable, and permanent. While these tests pertain to all offsets, it is especially important for forest carbon projects to be particularly well designed given that sequestered carbon can be released through natural disasters, changes in land use, and logging activities. If these events occur, all or part of the sequestration can be released.

Forest offsets should result in a net permanent increase in carbon stocks in forests while supporting, or at the very least not providing disincentives, for public policy goals such as:

- Maintaining a supply of high-quality, locally grown and processed wood products.
- Maintaining and enhancing the development of a robust forest products industry, including efficient processing and distribution, and a well-distributed network of mills and other wood fiber processing facilities (such as biomass, biofuels, and wood pellets)
- Maintaining and enhancing forests as an attractive land use option.

- Reducing the probability of catastrophic fire, especially in previously managed fire-prone forests
- Increasing resilience and diversity in forests as we anticipate the effects of climate change
- Enhancing and maintaining biodiversity, water quality, water quantity, recreational and scenic values and other ecosystem services
- Reducing the probability of landslides on forest slopes and the resulting loss of soil carbon, especially as we anticipate greater and more frequent storm events.
- Controlling and limiting the introduction of invasive and potentially invasive species.
- Generating and maintaining high-quality jobs, especially in economically distressed areas.

During the design of a forest carbon project and prior to the sale of carbon offsets, any impacts to the above ecological, social and economic goals should be identified and mitigated (or adjustments should be made to the carbon credit calculations). Emerging standards such as the CCB (Climate, Community and Biodiversity) have guidelines and protocols to address some of the goals listed above. Some carbon standards, such as the Voluntary Carbon Standard, explicitly address leakage (shifting timber harvests elsewhere) by adjusting the number of credits a project creates for the risk of leakage. In order to make projects simple to design and administer, it is best if these policy goals are addressed in the selection of eligible projects, accepted protocols, and through project portfolio limits, rather than justification at the project level as this could prove very cumbersome.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Existing protocols like CCAR and VCS provide direction to Congress and federal agencies in the design of a system to verify offset projects. Verification represents a cost to project developers and landowners. While stringent verification is necessary to maintain the environmental integrity of the carbon reduction program, Congress and federal agencies should seek to mitigate this cost to facilitate landowner participation at varying scales. The government may certify verifiers to ensure they meet a standard set of verification guidelines. Verification should be conducted by independent third parties independent of the government that do not have a conflict of interest in approving the offset project.

To encourage the participation of small landowners, verifiers should be encouraged to develop group verification systems where project developers can aggregate projects and the verification addresses the aggregator's inventory and monitoring procedures rather than verifying each project. The intent is to reduce verification costs for small projects, but not to reduce the rigor of the forest carbon offset associated with small projects. Aggregators should have sufficient financial resources, carbon reserves, or insurance to assume the project failure risks in their portfolios and to deliver replacement tons where needed.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?

Please respond in 600 words or less.

These two options should not be considered as mutually exclusive and there is no reason why alternative options for compliance via project-based and standards-based accounting should not be available. Providing both options may allow a broader array or offset types and landowner participation that may not be easily accounted for using only one of these approaches.

A standards-based approach could mitigate costs to project developers and landowners by assuming stated carbon benefits of particular activities and eliminating the need for costly monitoring and verification of particular carbon pools while a project-based approach may allow landowners flexibility in designing offset projects. Agriculture and forestry projects, unlike industrial projects, will be highly varied, reflecting particular local and ecological conditions and allowing both standards- and project-based approaches to satisfy measurement requirements will provide flexibility and encourage innovative offset types.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Existing carbon-offset programs have been exploring mechanisms to deal with these issues, such as insurance policies and clear policies to deal with reversals. Forest carbon projects should assign clear obligation for reversals. Withdrawal of an offset project may be acceptable so long as the carbon storage associated with that project is fully compensated for by registration of another project with at least as much carbon storage or through the payment of an "exit fee" equivalent to the value of the carbon represented by that project.

Forest carbon offset sales should be accompanied by a conservation easement or similar instrument that requires stocking (carbon stores) to be maintained at a level at least as high as the offset sold. The easement is necessary even in the case of a strong contract between the buyer and the seller, because, in the absence of an easement, the seller can sell the land without conveying the contractual obligations, or the seller can become insolvent and unable to provide substitute carbon credits in the event of a fire or other release. In addition to conservation easements, there may be other instruments – performance bonds, insurance, standby letters of credit – which provide satisfactory assurances of performance over time.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

As an active participant in the Western Climate Initiative, Ecotrust believes that the pioneering work of regional and voluntary markets programs should be recognized and valued within any federal system. Grandfathering of existing offset projects or credits should include an evaluation of the offset quality criteria (real, surplus/additional, verifiable, enforceable, and permanent). Those projects or credits that do not meet these minimum qualifications should not be grandfathered into a federal program but may be allowed to be continued in a voluntary market (i.e., outside of the federal cap-and-trade program).

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

If a landowner develops a project, such as reforestation, to sequester and store carbon, and the landowner meets additionality requirements by establishing a baseline against which additional carbon benefits are measured, that project is likely to provide a variety of "co-benefits" in addition to carbon, such as water quality, wildlife habitat, forest products, etc. These are clearly significant environmental and social benefits beyond carbon.

Early and progressive action should be strongly encouraged. Compensating early action through eligible offsets raises additionality issues, so compensation is best addressed through auction revenues.

Landowners should receive credit for all of the co-benefits that their management activities provide. Well-designed forest management activities take into account an array of environmental factors and seek to provide a number of co-benefits. It is obvious that these co-benefits are valuable to society. Failing to allow market valuation or "stacking" of credits from these ecosystem services would continue the prevailing failure of the private market to address the significant social, economic, and environmental costs associated with unsustainable land management.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Offset providers should be held liable for failure to meet their contractual obligations. To partially address this issue, credits for offset activities should only be generated ex-post (i.e. after the emissions reduction or sequestration has been measured and verified). Utilizing ex-post crediting inhibits project owners from fraudulently claiming emissions reductions or sequestration. If credits are issued this way, there are a variety of approaches for risk management that may be implemented and several methods should made be available to manage these risks and may provide a first line of control over the potential for negative environmental results. Buffer pools and insurance policies to cover the stored carbon or its market value are two of the most discussed approaches in current protocols to manage the risk of reversals.

The risk of reversals owing to natural disturbances should be managed through appropriate buffer pools that hold carbon benefits in reserve, insurance policies, or other tools that may be established in contractual arrangements that stipulate the particular details of assigning liability based on risk. The minimum requirements for insurance should be clearly outlined in any protocol and the contractual arrangements for insurance should be left to private parties. Although biological sequestration projects have the potential for impermanence (or reversals) of stored carbon, the mere existence of risk should not disqualify these project types.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

Many landowners have properties that are too small to justify the expense of developing a carbon offset project. However, this obstacle could be overcome if there were mechanisms in place to aggregate forest carbon from multiple sites to take advantage of economies of scale. Providing legal structures that would allow for such cooperative agreements would certainly increase participation in forest carbon offset development. Developing innovative, on-line tools that help landowners better understand their land's potential to store carbon and its potential economic value would also be extremely helpful.

Knowledge is a critical barrier; a significant amount of educational outreach to explain best management practices for carbon sequestration and emissions reduction should be pursued. This includes educating landowners about the benefits and costs associated with these practices and should include an explanation of public financial assistance programs available for landowners, along with a clear explanation of the contractual obligations and

tax liabilities for landowner participation including land-use restrictions on current and future owners.

Cost of measuring some carbon pools (especially soil carbon) may be also prohibitive. The costs of measuring, monitoring, and verification should be considered and designed to enable the participation of small and micro-scale projects through appropriate aggregation or specially-designed approval programs. For example, the Kyoto Protocol's Clean Development Mechanism has a special pathway designed for micro-projects to cut down on verification and compliance costs and could be used as guidance.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation? *Please respond in 300 words or less.*

Current conservation and forestry programs do not provide sufficient guidance on strategies and actions to adapt to and mitigate climate change, systems for monitoring and measuring the climate change benefits of such strategies and actions, financial investment in federal and state agency capacity to effectively implement such programs, or financial incentives for landowners to participate in such programs. Congress needs to address these, beginning with investments in applied research and capacity to transfer information to landowners and communities. There is also a serious lack in structures that would allow for small landowners to overcome the barriers of project development cost.

If forestry carbon projects are expected to be competitive with timber values, the price of offset credits will likely need to be higher than the prevailing market prices. To further incentivize adoption of conservation projects with carbon benefits, a supplemental tax benefit or subsidy may encourage these activities. The USDA's Conservation Reserve Program is an example of such a program. Federal private lands technical assistance providers (NRCS, USFS, CRSEES, etc.) could provide modeling in relation to baseline and additionality services to privates, cutting costs and providing a layer of validation. Both an economic development service in relation to mitigation as well as an adaptation measure for improved forest management.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
See Additional comments				

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

RESPONSE TO QUESTIONNAIRE SUBMITTED BY EDISON ELECTRIC INSTITUTE

THOMAS R. KUHN
President

April 10, 2009

EDISON ELECTRIC INSTITUTE

The Honorable Collin C. Peterson
Chairman
Committee on Agriculture
U.S. House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

On behalf of the Edison Electric Institute's member companies, I appreciate the opportunity to respond to your questions about climate change legislation. This issue is one of the most critical challenges facing policymakers, with enormous consequences for energy consumers, our economy, and our environment. Because the agricultural community is very dependent on energy and products that are sensitive to energy prices, we recognize that the outcome on climate change legislation will have a tremendous impact on the agricultural sector of the economy.

EEI supports enactment of legislation that is successful in both reducing greenhouse gas (GHG) emissions and addressing the cost concerns of consumers. We support an 80-percent reduction below current GHG emissions levels by 2050. It also is critical that this legislation include effective consumer cost-containment mechanisms to help mitigate the sharp electricity price increases that will occur as our industry transitions to a low-carbon generation portfolio.

In order to reduce GHG emissions effectively and to protect the U.S. economy, near-term and medium-term timetables and targets must be aligned with the availability of technologies needed to reduce emissions. Following an appropriate technological pathway will help reduce the costs of cutting GHG emissions. However, under any scenario, the costs of major reductions in GHG emissions will be high. To help protect energy consumers and the economy, EEI supports a number of cost-containment mechanisms.

The most critical cost-containment measure is the allocation of allowances to protect consumers from huge electricity price spikes. EEI's member companies support allocation of allowances in the early years of a climate program, with a gradual transition to a full auction of allowances as more climate-friendly technologies become available and compliance costs are more stable. Under our allocation proposal, electricity

customers would be paying for the cost of reducing emissions to comply with the emissions cap, but they would not face the additional cost of paying for allowed GHG emissions under the cap as they would if allowances were auctioned.

EEI proposes allocating the vast majority of allowances granted to the power sector directly to local distribution companies that provide local retail electric service. The financial value of those allowances would then flow directly to all electricity consumers—residential, agricultural, commercial, and industrial—under the strict supervision of state public utility commissions, which closely regulate local distribution companies. This approach would allow utility regulators to mitigate the economic impacts of a climate program in a way that takes into account the costs incurred by all customers.

Our member companies believe the initial allocation to the electric power sector should be proportionate to its level of carbon dioxide emissions, which is currently 40 percent. Within the power sector, we recommend that the vast majority of allowances should be allocated to the local distribution companies, based on an even split between base-year emissions (including emissions associated with purchased power) and retail sales. Remaining allowances would go to merchant coal generators, which would receive allowances equal to 50 percent of their base-year emissions to help defray their compliance costs in meeting the cap.

EEI's member companies also support an effective price collar for allowances that are auctioned. A price collar will help to protect U.S. international competitiveness and limit economic harm to consumers, U.S. workers, and the economy, while accomplishing significant emissions reductions and encouraging technological development.

A price collar would include a firm price floor and a firm price ceiling for allowances. A floor would ensure that the price of allowances does not drop too low to discourage investment in cleaner technologies; a ceiling would ensure that the price does not rise so high that it causes economic harm. A price ceiling also is critical to limit price volatility and discourage market manipulation. We believe that a price collar should start narrow and gradually expand over time as technologies become available. A price collar should be simple to administer and formulaic so it is easy to determine the price for any point in time.

EEI's member companies also support being able to use measurable and verifiable offsets to meet the GHG emissions cap as another important cost-containment mechanism. Because GHG emissions are global, it is irrelevant where a pound of carbon dioxide emissions is eliminated. We believe offsets should be allowed to the maximum extent practical, subject to appropriate monitoring, measurement, appropriate third-party verification, and regulatory oversight. A regulated entity may find that offset activities related to energy efficiency, tree-planting programs, or overseas programs are the most cost-effective measures in reducing global carbon dioxide emissions. The flexibility to invest in these initiatives will help to reduce the financial impact of a climate change

program on consumers and the economy. The agricultural community also would benefit from a robust offset program as a source of income.

While effective cost-containment mechanisms and alignment of targets and timetables with the availability of climate-friendly technologies are two of the most critical issues that Congress must address in climate change legislation, they are not the only significant issues. To assist in the Committee's process of better understanding the many climate-related issues, I am enclosing the following documents, which I hope will be useful:

- "Understanding EEI's Global Climate Change Points of Agreement," which explains the climate change framework and principles adopted by EEI's member companies in January 2009.

- "Making the Case for Allowance Allocations Under a GHG Cap-and-Trade Program," which explains the allowance allocation proposal approved by EEI's member companies in January 2009.

- "Talking Points on Need for Widespread Use of Offsets for Greenhouse Gas Emissions Reductions." This piece outlines EEI's position on the use of offsets to help meet GHG emission reductions.

- "EEI Comments on Boucher-Dingell Discussion Draft of Climate Change Legislation, December 16, 2008." EEI's comments cover a wide range of issues that will be addressed in comprehensive climate legislation.

- "Written Testimony of Thomas R. Kuhn, President, Edison Electric Institute, Before the United States House of Representatives, Committee on Energy and Commerce, Subcommittee on Energy and Air Quality, Legislative Proposals to Reduce Greenhouse Gas Emissions: An Overview, June 19, 2008." EEI's testimony addressed the critical issues and technologies that the electric power sector faces in transitioning to a low-carbon generation portfolio.

We hope this information is helpful to you as you consider climate change legislation, and we look forward to working with you as legislation moves forward in the House.

Sincerely,

Thomas R. Kuhn

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
ELECTRIC POWER RESEARCH INSTITUTE
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name: Barbara Tyran; Director, Washington Relations

Organization(s) you represent: Electric Power Research Institute

Address:
[Redacted]

Email:
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 300 words or less.

N/A

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

- Agriculture and forestry activities are a significant source of greenhouse gas emissions and can provide low-cost opportunities for mitigation. Many implementation issues can be dealt with via contractual design and practice standards. However, with respect to coverage under a carbon reduction program there is no general answer for the agriculture and forestry sectors. Implementation issues are not uniform across both sectors for various mitigation and sequestration opportunities. In addition, there is a large variation in the difficulty in effectively measuring, monitoring, and verifying emissions and mitigation measures in each sector. Agricultural sector measures such as increasing soil carbon sequestration are more difficult to effectively bring into a covered program given the greater degree of uncertainty in measuring and verifying the amount of additional carbon. At this stage, given the differing levels of emissions response uncertainty, additional research is required to evaluate the implications of limiting the set of creditable options based.

  There are specific measures that could be covered under a carbon reduction program, for example forestry sector measures such as deforestation and afforestation. This is an approach taken by the New Zealand Government's Emissions Trading Scheme which covers owners of pre-1990 forest who deforest; the import, purchase, or manufacture of synthetic nitrogen fertilizer for agriculture (N_20 emissions); and ruminant animal livestock for meat and dairy farming (CH_4 emissions). As for designing the mechanism for achieving reduction in agriculture and forestry, market based mitigation incentives can provide flexibility to accommodate changing market forces, which are inevitable in the agriculture and forest commodity markets. Instead of prescribing reductions per sector, it is desirable to have trade in reductions across sectors so that the lowest cost mitigation is pursued.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

- The Electric Power Research Institute (EPRI) has been actively engaged in climate policy research for almost 20 years. Our role is not to advocate specific policies, but to examine the implications of alternative policy choices so that we can inform public debate and private

decision making. Two key perspectives guide our comments, the first being the critical importance of economic efficiency – achieving an environmental goal at least cost. Allowing emission reductions to be made when and where they are most economic along with inclusion of all greenhouse gases are fundamental tenets of economic efficiency. The second key perspective is the realization that current policy proposals are an early step in addressing the issue of climate change. The ultimate effectiveness of a climate policy will be determined by its ability to provide the technologies necessary for making the transition to a low greenhouse gas emitting economy and how it evolves over the coming decades into a coordinated, international effort.

Economic analyses suggest that a cap-and-trade system should have as broad coverage as possible for at least three reasons: 1) to achieve any specified near-term greenhouse gas emissions target at lowest cost, 2) to make stabilization of greenhouse gases feasible, and 3) to allow the longer-term fundamental transformation of the energy system that is required to stabilize concentrations of greenhouse gases in the atmosphere. The point of regulation is: 1) not important from the perspective of environmental effectiveness, 2) not particularly important from the standpoint of economic efficiency (as long as coverage is the same), 3) very important in determining administrative feasibility, complexity and cost, and 4) independent from the decision about permit allocation.

Allocation of allowances without cost: 1) is unlikely to impact significantly the cost of the policy, 2) can partially or wholly offset large redistributions of income created by the policy but will likely require a significant fraction of permits, and 3) should likely be revisited over time. While economic literature provides many insights into choices that affect cost-effectiveness, it provides little guidance about how costs should be allocated.

Economic analyses have shown that, whereas sizable emission reductions may entail substantial economic costs, the size of the costs can be reduced by measures designed to ensure economic efficiency. Specifically, providing flexibility as to "when", "where", and "what" gases are reduced can lower the costs of meeting stabilization goals.

Finally, we note that there is an important distinction between the three flexibility mechanisms and the question of "who" pays. The issues of when, where, and what pertain to cost-effectiveness. Science and economics can contribute considerably to this debate. The issue of who pays is a question of equity and a matter for the political process.

Response of the Electric Power Research Institute (EPRI) to the questions raised in the White Paper on the Design Elements of a Mandatory Market-Based Greenhouse Gas Regulatory System issued by Sen. Domenici and Sen. Bingaman: March 13, 2006

There is no existing EPRI research on allowance allocations for the agricultural and forestry sectors.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

- Economic theory and a wide range of applied studies demonstrate the cost-effectiveness of allowing emission reductions to be made where they are least expensive. Where a variety of independent trading systems are emerging, this can be accomplished by linking the systems. The cost savings from linking systems can be quite large and will likely vary over time. Note, however, that linking two (or more) trading programs would have distributional impacts on buyers/sellers in each of the programs as well as effects on the location of emission reductions; these effects may well be viewed in a negative light by some observers and participants.

  While linking systems can provide significant cost savings for achieving an emissions target, unrestricted linking means *de facto* acceptance of the various provisions of the "other" trading program. Thus, for example, if one of the linked programs has a "safety valve" or ties limits on the use of offsets to the prevailing permit price, linking the programs could be equivalent to extending the "safety valve" and the offset provision to the other program(s) as well.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please 'explain.
   Please respond in 300 words or less.

   N/A

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
   Please respond in 300 words or less.

   N/A

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

   Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and trade program also be permitted to develop under similar options as for energy-based commodities?
   Please respond in 600 words or less.

   N/A

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

N/A

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

- EPRI analysis has shown that a full portfolio of advanced technologies would enable substantially lower electricity sector emissions – by 2030, on the order of 45% compared to business-as-usual projections by the Energy Information Administration.
Furthermore, many of these technologies haven't yet reached these advanced levels of performance and deployment. Sustained, focused research, development, and demonstrations (RD&D) will be needed over the next 20-25 years to realize the full portfolio of advanced technology capabilities.

  EPRI's economic analyses indicate that investments in RD&D can significantly reduce the costs of future climate policy through earlier availability of a wider array of advanced technology options. Wholesale electricity production costs will increase much less with a full portfolio of advanced technologies. A very important part of this technology benefit is the eventual availability of relatively "decarbonized" electricity that will facilitate emissions reductions in other economic sectors, such as transportation.

  Differences in the time to full technology availability and the risk of unforeseen RD&D barriers reinforces the importance of concurrent, aggressive R&D and full-scale demonstrations to minimize the time before the full portfolio is available….Sustained RD&D, started now, can help to lower the economic impact of creating this low carbon future.

  Verbal Testimony of Mr. Revis W. James, Director, Energy Technology Assessment Center, Electric Power Research Institute, Hearing of the Subcommittee on Conservation, Credit, Energy and Research, Committee on Agriculture, United States House of Representatives: July 30, 2008

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

N/A

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

- Public lands emissions and sequestration are particularly important to consider in the context of national commitments to international agreements, where net emissions from public land will be included. There is a need to evaluate the potential implications for the private sector, with

linkages via commodity markets, public land access for private production activities, and the GHG market. Mitigation activities on public lands could also have potential adaptation benefits. For instance, forests are vulnerable to increased disturbance frequency and intensity due to climate change (e.g., fire and pest disturbances). Changes in public lands management could increase forest resilience to disturbance as well as yield mitigation benefits. New analysis is required if public lands are to be potentially used as tree or bioenergy farms, which would potentially conflict with other public land management objectives. Furthermore, inclusion of public land mitigation within a GHG market would seem to be inconsistent with current public land management, which is not driven by market forces.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

N/A

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

N/A
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Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

N/A

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

- The concern is that without a constraint on the number of offsets issued, there could be a problem with maintaining the integrity of the overall emissions target. If offsets are

unconstrained, there would be a heavy pressure to find additional reductions that may not be additional to "business as usual" actions. An appreciable amount of offsets from truly non-additional actions could bring into question the worthiness of other offsets and potentially of the whole trading system. Such actions are those which have already been planned and the emissions reductions are usually referred to as "anyway tons". However, constraints application as currently practiced is arbitrary for addressing the issues motivating the constraints. If constraints are applied to increase the likelihood of tangible emissions reductions, then more direct approaches should be evaluated, such as limiting the options that are eligible. Also, it is important to recognize that constraints create a separate market for offsets. If constraints are used, then they should be applied over time as cumulative constraints, which will increase their tradability with allowances, and therefore the value of offsets.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

N/A

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

N/A

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

N/A

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

N/A

20) Should Congress establish a standards-based approach with pre-calculated values or a project based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

N/A

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

N/A

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

N/A

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

N/A

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

N/A

25) How should activities that may have been paid for in part by assistance from Federal or state' government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

N/A

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

N/A

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

N/A

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

- Private entities in the agriculture and forestry sectors face many of the same obstacles that are present in other sectors, for example, policy and regulatory uncertainty, need for more and better focused research and development, and lack of harmonized government policies. Commodity and GHG market uncertainty are also issues. Transaction costs and coordination

across emitters/land owners are challenges that are not fully understood. Contractual design could address issues like permanence, and baselines could be addressed by using region specific practice based estimation. Emissions leakage is a harder issue, but it is also a problem for other sectors as fuel and production prices change.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/ implementation?
Please respond in 300 words or less.

N/A

Part III: Carbon Reduction Program Additional Thoughts

Please see the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

N/A
Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
ELECTRIC POWER SUPPLY
ASSOCIATION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name: Conrad Lass, Vice President, Legislative Affairs; and Cherie Harris, Director, Legislative Affairs

Organization(s) you represent: The **Electric Power Supply Association (EPSA)** is the national trade association that represents competitive power suppliers, including generators and marketers. The competitive sector operates a diverse portfolio of technologies that represents 40 percent of the installed electric generating capacity in the United States, and much of the new electric power resources currently under development in the country. EPSA members include both independent power producers not affiliated with a utility-owning company as well as competitive generation affiliates of holding companies whose subsidiaries include a regulated electricity distribution utility. Competition in the electric power industry promotes increased efficiency and technological innovation – both of which are critical to effective GHG reduction strategies. Competitive power suppliers are directly responsible for the development of efficient combined cycle natural gas-fired combustion turbines and combined heat and power plants, the more effective operation of nuclear and coal facilities, and the construction and operation of a wide range of renewable energy technologies (e.g., biomass, geothermal, hydro, landfill gas, solar, waste energy, and wind). Each of these fuel sources has an important role to play in meeting future electricity needs while achieving the nation's environmental goals.

Address:
[Redacted]

Email:
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Part I: Carbon Reduction Program Design

1) **Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?**
Please respond in 600 words or less.

- EPSA members support federal, mandatory, economy-wide, market-based, cap and trade legislation to address greenhouse gas emissions. Climate legislation should reduce the rate of increase in greenhouse gas emissions, stabilize emissions, and then reduce emissions over time to promptly address global warming consistent with the development and deployment of low- and no-carbon technologies, including carbon capture and storage. Ultimately, the goal should be to reduce worldwide emissions to sustainable levels by mid-century. A market-based approach to address greenhouse gases can and should be designed to be environmentally effective, encourage new industry entrants and foster innovative technologies, without unduly penalizing current facilities that are needed to ensure a reliable and competitively priced supply of electricity. GHG policies should also encourage and support innovation and the commercialization of low cost, low carbon, and carbon-free technologies that can support U.S. competitiveness in a global economy, including renewables, nuclear, carbon sequestration, clean coal, and gasification using a variety of fuel sources. Technologies and fuels should be permitted to compete on an economic basis to generate electricity while achieving the nation's environmental goals. Policies should also reflect the importance of both existing and new generation to reliably supply the nation's electricity needs. Additionally, the federal legislation should result in a single, uniform, national structure which harmonizes with existing state programs. Further, the U.S. program should be capable of being integrated into a coherent international program, ideally on a global scale.

2) **Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?**
Please respond in 300 words or less.

- EPSA supports an economy-wide program to reduce carbon emissions. Preventing deforestation and capturing methane from animal and agricultural sources can result in significant benefits with respect to reducing GHG emissions. Some have proposed that a program should be designed with an eye towards achieving reductions outside of the capped sectors through verifiable international and domestic offset credits. Furthermore, some advocate that "early action" credits should be associated with a Federal program that recognizes well-documented recent domestic or international efforts to reduce GHG emissions taken in advance of mandatory programs.

3) **If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?**
Please respond in 600 words or less.

- The legislation's GHG allowance mechanisms must be fair, equitable and non-discriminatory, including in the treatment of new and existing generation. Allowances to electricity generating companies, including competitive suppliers, should be neither over-allocated nor under-allocated. There should be a limited transition period during which a portion of allowances are allocated for free and a portion are auctioned in order to help fund the innovative technologies necessary to reduce emissions, while maintaining reliability and protecting low-income consumers. At the end of the transition period, all allowances would be auctioned. The length of the transition period should take into consideration the availability and cost of technologies to generate electricity with lower emissions, among other relevant factors. The legislation could provide a "look back" mechanism to shorten or lengthen the transition period using these factors. However, the allowance mechanism should not become a barrier to competition by giving an artificial advantage to utility-built rate base generation over competitive generation. Specifically, to the extent that Congress allocates allowances to regulated local distribution companies (LDCs) the following conditions should be implemented:
    - The LDC should be required to sell 100 percent of their allocated allowances within a specified time period, which should be consistent with designated compliance periods, and do so for fair market value. This will provide liquidity in the marketplace and help to ensure a true carbon market exits. This would also maximize the value for consumers as intended.
    - A regional or localized venue (auction pool) to sell these allowances would help to reflect fair market value. A true market is not likely to exist if LDCs are the entities selling the allowances or running the auction.
        - If, however, the LDC is given the authority to run the auction, they should not be permitted to provide preferential treatment to their own generation subsidiaries that compete with those of competitive wholesale power suppliers who also need fair access to allowances to operate.
        - In order to prevent preferential affiliate dealings, the LDC employees who receive and sell allowances should be subject to standards of conduct procedures that restrict access between affiliates and protect against undue preference and discrimination. This is already done to prevent abuse between employees who handle transmission transactions and those within the same company who handle wholesale power sales by the utility's affiliates.
        - There should be sufficient oversight by State Public Utility Commissions (PUCs) and other control boards to ensure compliance with the requirements of the program.
    - The proceeds from the sales of the allowances must not be used to enrich or provide a competitive advantage to the LDC-owned generation or to interfere with the function of competitive retail markets.
    - The program should identify specific allowed purposes for the use of all the allowance value. Specifically:
        - Guidelines should be established by Congress directing the use of allowance value and requiring that LDCs develop plans for and provide regular and transparent reports on the use of allowance value, with sufficient oversight by state PUCs.
        - Any revenue from the sale of allocations should be used entirely for consumer benefit without distorting market signals or rewarding increased energy consumption. For example, funds could be credited to end-use consumers in the form of a discount to the overall monthly bill or used by LDCs to advance energy efficiency and demand reduction programs.

4) **Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?**

Please respond in 600 words or less.

- To be truly effective, climate change must be addressed comprehensively and internationally. In the United States, the optimal approach would be a consistent, uniform policy that harmonizes with global efforts. Additionally, it is critical that any action taken in the United States maintains the global competitiveness of American industry and our national economy. Although regional and state approaches may help influence a federal strategy, they are not as effective at addressing the issue as a single uniform national policy would be. Consequently, EPSA favors a federal policy to govern GHG reductions applicable to all states and regions. In the absence of a uniform policy, states and regions that have carbon management programs in place are likely to experience "leakage" whereby emissions reductions could be negated because the electricity generated could flow or "leak" to other states or markets without carbon controls. A critical element of any successful market-based approach is to ensure a large number of participants, with the ability to participate over a broad geographic scope and across industry sectors. Such breadth of participation creates the market liquidity needed to enhance efficiency gains and innovation across sectors, thus reducing the cost of controlling GHG emissions for consumers and our economy as a whole. However, policymakers may have to make adjustments to ensure that no one sector bears a disproportionate burden in reducing emissions. In general, broader and more uniform policies will result in better options for industry and lower costs to consumers.

5) **If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.**

Please respond in 300 words or less.

- Given current laws and regulations that govern our nation's energy and environmental policies, EPSA envisions that: (1) the design and structure of a cap-and-trade program would be regulated by the Environmental Protection Agency (EPA), (2) the Commodity Futures Trading Commission (CFTC) would oversee markets for the trading of carbon emissions, and (3) the Department of Energy (DOE) would continue in its capacity of funding and carrying out various R&D initiatives relating to CCS and other low- and no-carbon technologies.

6) **If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.**

Please respond in 300 words or less.

- EPSA envisions that the Commodity Futures Trading Commission (CFTC) would be the agency in charge of regulating a derivatives or futures carbon market.

7) **Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants. Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?**

Please respond in 600 words or less.

- EPSA appreciates your efforts to address these important and complex issues. Efforts to improve transparency of markets and increase staff and resources at the CFTC are meaningful reform goals. However, we would encourage Congress to resist including provisions in legislation that could reduce liquidity and efficiency in energy and commodity markets. For example, attempts to define "legitimate" hedge trading could actually result in a situation where it becomes increasingly difficult, or at least more expensive, to hedge volatile fuel costs which, in turn, may drive up costs to consumers. Fuel costs represent the single largest variable cost for power generation and thus are a major driver in the wholesale and retail prices for electricity. EPSA members manage this fuel cost risk by entering into hedging transactions with various counterparties, including financial institutions. The worst possible result would be to pass legislation that not only fails to significantly address the nation's underlying energy challenges, but also threatens to make them worse. EPSA encourages policymakers to carefully construct a bill that would improve overall market functions without risking unintended negative consequences.

8) **Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.**
Please respond in 600 words or less.

- The nation's electricity supply is provided by different types of entities (e.g., competitive power suppliers, vertically-integrated utilities, rural cooperatives, and federal, state and local public power agencies) operating under different regulatory structures (e.g., at wholesale, some are in RTOs/ISOs and some are not; some states have retail competition while others do not; and the details differ from state to state). Electricity suppliers use a variety of different fuels including coal, natural gas, nuclear, and renewable energy sources, with region-by-region, state-by-state, and company-by-company variations in fuel mix. Thus, the economic impact of reducing greenhouse gas emissions varies accordingly. Generally speaking, enactment of a carbon reduction program will lead to modest increases in electricity prices and energy intensive goods. Therefore, a national GHG policy should be designed and implemented in a manner that allows for the development and deployment of low- and no-carbon technology to minimize economic dislocations while achieving a path towards sustainable levels of GHG emissions. It should also contain the flexibility to preserve reliability and fuel diversity as drastic regulatory changes could degrade local reliability and result in dramatic increases in consumer costs. GHG emissions can be reduced while ensuring affordable energy and electric reliability, but the key is for policymakers to take into consideration the availability of economically viable technologies. Additionally, electric restructuring in many states has created an electricity market that includes both competitive and rate-regulated electric power companies. If, as is expected, GHG programs lead to substantial new investment and costs, it is critical for policymakers to realize that competitive companies have the best incentive to implement cost-effective solutions, because recovery is not guaranteed in a competitive market.

9) **How might revenue generated under a carbon reduction program be best used to offset any negative impacts?**
Please respond in 300 words or less.

- A portion of auction revenues should be used to reduce the economic impact of the legislation on low-income consumers. For example, funds could be credited to end-use consumers in the form of a discount to their overall monthly bill or used to advance energy efficiency and demand reduction programs. In general, revenues generated from any allowance auctions should be used primarily to address global

warming, such as through support for private sector research, development, demonstration, and commercialization of energy technologies, including power supply-related technologies and energy efficiency. Such investments will help reduce the costs to the overall economy of transiting to a low-carbon energy portfolio, which will indirectly reap benefits for consumers. Additionally, to further minimize the cost of new investment in all technologies across the nation, we strongly recommend that *all investment* face a competitive test, where cost overruns and other risks are borne by investors rather than customers. Under such a competitive test, new, cleaner power generation for the customers of rate-regulated companies would be procured either through bilateral negotiation between the rate-regulated utility and competitive power suppliers (where the price and other terms are established in advance) or as the result of an independently administered competitive solicitation open to the widest range of potential suppliers.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

- As previously noted, there should be a limited transition period during which a portion of allowances are allocated for free and a portion are auctioned. During the transition period, federal climate legislation should include cost containment measures to help protect the economy (e.g. businesses) and low income consumers, with such measures phased out over time as sufficient low-and-no carbon technologies become commercially available and economically viable. Such measures could include the use of verifiable international and domestic offsets, acceptable banking and borrowing provisions, and multi-year compliance periods.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

- Although there are certain geologic barriers that make some regions of the country less desirable for large scale carbon capture and storage projects, developing and deploying commercially feasible CCS technologies are critical elements in achieving a low-carbon future. Given the vast amount of public lands in the U.S., they could play a pivotal role in sequestering CO2. This could be achieved through new and existing enhanced oil recovery projects, as well sequestering and storing CO2 into saline aquifers that may be located on public lands.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

- Carbon prices should be determined by market forces in order to effectively inform both supply-side (industry) and demand-side (end-user) measures that can successfully facilitate a transition to a low-carbon economy. Market signals will prompt and enable investment in new technologies (e.g. carbon capture and sequestration) and new generation capabilities (e.g. improved solar technology, new nuclear facilities) that are funded at lower levels today. Market signals will also provide consumers an incentive to use energy more efficiently and adjust their demand for energy in response to changing market prices. However, as previously stated, during the transition period, federal climate legislation should include cost containment measures to help protect the economy and low income consumers, with such measures phased out over time as sufficient low- and no carbon technologies become commercially available and economically viable.

Such measures could include the use of verifiable international and domestic offsets, acceptable banking and borrowing provisions, and multi-year compliance periods.

10) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

- A key lesson learned from the EU ETS is that allowances to electricity generating companies -- including utilities and competitive wholesale suppliers -- should be neither over-allocated nor under-allocated. As stated above, a GHG allowance program must be fair, equitable and non-discriminatory, including in the treatment of new and existing generation. The allowance mechanism should not become a barrier to competition by giving an artificial advantage to certain entities, including utility-built rate base generation over competitive generation.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

Although EPSA does not have a formal position on all of the questions below, related to domestic and international offsets, we do believe that including such measures as verifiable international and domestic offsets, acceptable banking and borrowing provisions, and multi-year compliance periods will help mitigate potential costs, associated with a cap-and-trade program, to the economy and consumers.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

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Please respond in 300 words or less.

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Please respond in 300 words or less.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

- It is vital that an accurate and measurable baseline from which reductions will be made is established in order to properly evaluate progress toward emissions goals. Early technical innovation and voluntary reductions of GHG should be encouraged as GHG regulations are considered and phased in. This would include, for example, the use of GHG offset projects and carbon capture and storage. Federal programs should recognize well-documented recent domestic or international efforts to reduce GHG emissions taken in advance of mandatory programs. In addition, subsequent changes to GHG policies should provide a safe-harbor for environmentally beneficial investments made in accordance with then existing policy.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already

undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

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Please respond in 300 words or less.

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Please respond in 300 words or less.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

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Please respond in 300 words or less.

Part III: Carbon Reduction Program Additional Thoughts
Please use the next 1000 words to provide additional comments on subjects which may not be covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
STEPHEN A. EMERSON
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Stephen A. Emerson

Organization(s) you represent

Individual, registered forester in MS (# 1,306) and OK (77).

Address
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

While I am not certain if this is the best approach, it Cap & Trade is implemented it should include all existing agriculture and forest operations.
Farming and Forestry bring experience and infrastructure that will make measurable gains in bio-energy production.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Opportunity to incorporate collection and use of bio-mass into bio-fuels using resources such as land, experience and infrastructure are achievable with existing technology and can be significantly increased with improved technology.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Start out at no cost (allocated) and then transition to a market. Forcing a market in a the start may create excess speculation.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

State and Regional Carbon programs could become confusion with integrated with a National Program.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

I would recommend that it be put under the department of agriculture. The basis for this must remain based in sound science.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

Derivatives are gambling, They should be under the IRS and taxed as a luxury.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

Not a good idea. If allowed they should be strictly regulated, and all financial instruments clearly labeled!

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

If Agriculture and Forestry are provided the opportunity to benefit from the Cap & Trade (benefit form managing carbon storing and use), they should be able to compete in Cap & Trade and maintain their productivity while helping to manage carbon emission levels.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Transition from fossil fuels to bio-fuels for energy source could help to make them more carbon natural, if allowed to get credit for the transition to bio-fuel.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

Yes. This can be done by providing time to adapt to new technology and for value of carbon trade markets to develop rationally. Also, government support of technology development can help to achieve improvement much faster. Tax credits for improvements are also a good incentive.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

They do need to be included. Forest health is one important aspect. Large areas of public lands are not well managed and have been allowed to go into decline (age related). Forest Health issues are worse than fifty years ago, and fuel loads are at unsafe levels. Allowing for the use of bio-mass from public lands will provide for incentives for the use of this material and the improvement of forest stand conditions on public lands.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Cap & Trade needs to start with limits on carbon prices.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

I am not well read on the European Emission Trading System.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

Agreed upon standard would be the best approach. And the most difficult!

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

We should start where we are at now, (not where we want to be), and set goals to make improvements as we transition to improving emissions. The use of bio-fuels should be one part of this transition.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Some industries will be more difficult than others. Congress should provide a program that starts with the carbon emission levels that are current. Future reduction targets should be developed in partnership with each energy group.
The market can be transitioned into play to proved for alternatives to achieving targets, (buy credits to maintain) or invest in technology improvements to achieve targets.
This does not need to be over complicated, as this will just make it harder.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Total tons per year.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Tons per year. Measure results against targets.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Put in under the USDA, it needs to be science based.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Field measurable approach will encourage the greatest future improvement. Setting a fixed value at the start will not encourage ongoing improvements.

21) What should be the relationship between offsets and allowances?

Please respond in 600 words or less.

Endless debate in the near future. The result should be to support improvement over time and not to stifle down stream improvements.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Should have a science based life. Also should be able to handle natural events such as wildfire that may cause large losses.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

The Chicago Climate Exchange could be merged in. However, it should not set the rules for offsets.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Stack should be allowed. Current efforts should be included. Not allowing broad participation will limit the effectiveness of offsets.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Federal cost share dollars should be deducted. The public has paid these cost up front, and the credit should go to those making the payment (public), or at least the part they paid.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Carbon sequestration should be measurable. If the performance is not measurable, they the payments should not follow.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

USDA should administrate. Any agency with a dog in the hunt should not be involved.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Demonstrated benefit from making additional investments.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

It would be great if we could transition from public money being used, to value generated in the market funding forestry and conservation through private investment.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Forest Reserves	Excellent	Excellent	Medium	High
Product storage (example, lumber in home)	Excellent	Excellent	Medium	High
Bio-fuel (replace fossil fuel)	Moderate	Moderate	High	High
Production Forest	Excellent	Excellent	Moderate	High

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Fuel crops	Good	Good	Medium	High
Crop Residue use	Good	Good	Medium	medium

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
ENVIRONMENTAL AND ENERGY
STUDY INSTITUTE
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Carol Werner

Organization(s) you represent

Environmental and Energy Study Institute

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Executive Director

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

The many critical issues raised in this thoughtful questionaire illustrate the tremendous complexity of designing and implementing an effective and efficient cap and trade system to reduce greenhouse gas emissions. They provide, perhaps, the best rationale for pursuing alternative approaches such as an upstream carbon tax, cap and dividend, or cap and auction.

The most urgent priority is to set a firm, certain, steadily increasing price on greenhouse gas emissions upon which industry, commerce, agriculture and consumers will be able to reliably base long-term investment, production, business and purchasing decisions. The U.S. needs a policy framework that will effectively redirect the entire economy toward an energy efficient, renewable energy, carbon negative, sustainable future. Ideally, this policy would redirect and unleash the power and creativity of the market place to develop the most efficient and cost-effective technologies, products, and services to achieve those ends. Although the government has an essential role to play in supporting research, development, and demonstration of new technologies, assuring a level playing field for a competitive market place is the best way to advance the rapid development and diffusion of the most climate-friendly technologies, products and services. Experience shows that the government should not be in the business of picking technological winners and losers.

Building broad public acceptance will also be key to policy success. The public needs to understand and support the urgency, importance, costs and benefits of acting now. Policymakers need to be able to easily and clearly articulate the policy that is being proposed, and the public needs to be able to understand it. The public needs to trust that the policy will accomplish the stated goals effectively, transparently, and at least cost. Fairness and equity demand that the needs of impacted communities be addressed and that the impact on low-income households should be mitigated.

Neither a cap and trade nor a carbon tax policy (or other approach) will be sufficient by itself to achieve the rapid, deep reductions in emissions that climate scientists say are needed to avert dangerous climate change. Each will require additional, complementary policies to successfully bring about the changes that will be needed at regional, national, and international levels to assure a safe, healthy climate and a sustainable, productive economy for future generations. Likely, a hybrid approach will be needed over time.

An upstream carbon tax may be the most effective way to advance these multiple goals at the outset. Offsetting the carbon tax with reductions in payroll or income taxes and/or adjustments to programs serving poor, low- and middle-income households can address the

issues of equity and cost distribution. A portion of the revenue could be invested in related critical initiatives. The carbon tax could be accompanied by a declining cap on emissions, monitored periodically, to assure that emissions goals are met. Also key will be creating a national regulatory environment that prioritizes the rapid development of small scale, distributed and community-based, renewable energy production (including the sustainable development of biomass resources), grid connectivity, and renewable transmission corridors and the subsequent decommissioning of older polluting power plants. Providing limited, carefully regulated, and monitored tax credits for offsetting investments in biological carbon sequestration and emissions reductions in agriculture and forestry may be helpful. Developing mechanisms to capture and charge the carbon cost of land use change in local, state and federal land use development decisions (e.g. development impact fees) should be explored.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

Please respond in 300 words or less.

Agriculture, forestry and land use conversion contribute significantly to the emission of greenhouse gases, and they can and should play an important role in the solution. These sectors offer tremendous promise for providing both renewable energy alternatives to replace fossil energy and opportunities to sequester vast amounts of carbon biologically.

An upstream carbon tax would cover these sectors with positive, transformative results for the rural economy and environmental quality. The value of renewable forest- and agriculture-based biomass energy production (tax preferenced) and other rural renewable energy production would increase. Production would shift away from methods and products that rely on fossil fuel inputs toward more energy efficient, bio-based methods, inputs, and products. To avoid higher fuel costs, producers will shift to renewable fuels, and production will likely shift to serve more regional and local markets. The potential impact of higher food prices for consumers could be mitigated by balancing adjustments to the tax code and other income distribution policies. Higher transportation fuel costs should help discourage urban sprawl and will encourage less carbon-intense land use development patterns. A limited, carefully regulated system of transferable carbon tax credits might be introduced to encourage offsetting investments in agricultural and forestry projects that reduce or sequester emissions (e.g. methane capture facilities).

A cap and trade program would have similar impacts on these sectors over time, though the effect would be less immediate, certain and transparent. A cap and trade program should be economy-wide, including the agriculture and forestry sectors. However, pursuing emissions reductions in the agriculture and forestry sectors will require a different policy approach than for regulated sectors, given that emissions are from small, widely distributed non-point sources. Incentive-based approaches (e.g. transferable credits) would work best for farmers, ranchers, and timber owners who already have very thin profit margins year-to-year.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

The climate crisis is urgent. Climate scientists warn that significant reductions must be made sooner, rather than later. Therefore, we believe emission allowances for major emitters should be 100 percent auctioned - to accelerate the rate of change. A 100 percent auction would also avoid the pitfall of certain covered industries receiving windfall profits.

Allowances for the agriculture and forestry sectors should be allocated at no cost. However, the number of allowances should be limited.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

A carbon tax would complement and accelerate existing state and regional programs.

A national cap and trade program would be much more difficult to harmonize, but harmonization would be essential for a national and international carbon market to work effectively and efficiently and for ease of policy implementation. Key challenges to overcome would include questions such as: Would a stronger federal policy preempt weaker state or regional policies? Would states or regions be allowed to exceed a weaker federal program? How will the already established private voluntary carbon trading market be incorporated?

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

The EPA should probably be the lead agency, but EPA should collaborate closely with other federal agencies such as DOE, USDA, Transportation, Interior, and HHS. EPA does not have sufficient in-house expertise to address all of the angles and anticipate all of the potential unintended consequences across the economy and federal policy.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role

as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

One of the greatest political weaknesses of the cap and trade approach in this historic moment is that it would rely on many of the same financial institutions and mechanisms that created the worst global economic crisis in decades. These institutions and their regulators have a long way to go to restore public trust. Because of the unique challenges in commoditizing carbon emissions, establishing a carbon market will add significant additional complexity on top of already complex market mechanisms that few people anywhere understand. Moving forward, both the financial institutions and their regulators are going to have to do much better to earn public trust and investor confidence. The new market will need much more transparency and careful oversight and regulation.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

Given the speculation-driven volatility of the energy and grain commodities markets in 2007 and 2008, it seems apparent that these markets need more transparency, significantly improved regulation and oversight, and careful consideration concerning who should participate.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

In our view, the harmful impacts of inaction to prevent extreme climate change would be far greater for all regions and populations than the costs of action - especially early action. On balance, a carbon reduction program will provide net economic benefits for rural America as investment and jobs shift to developing rural renewable energy resources. With the right policies, the economic value of conserving and restoring wetlands, prairies and forests for biological sequestration will increase. Over time, food will be produced, processed and transported over shorter distances closer to local markets. Rail transport will increasingly replace long-haul truck transport. The welfare of poor and low-income

households will be at greatest risk, so policies will need to be designed to address this concern.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

In the short term, energy prices may gradually and modestly increase, and these costs will be reflected in all consumer products. However, improving energy efficiency can mitigate this significantly, and the costs of renewable energy are declining rapidly. With further technological innovation and social adaptation, the cost per unit of renewable energy will likely continue to decline, and as a society we will learn to produce much more using much less energy. This contrasts quite favorably with rising cost trends for fossil fuels and nuclear energy.

Because the imbedded energy costs of meeting basic human needs are roughly the same for everyone, higher energy costs will have a disproportionate impact on poor and low-income households as a percentage of income. Thus, it will be important to design mitigating policies to assure that climate protection policies do not lead to greater poverty. Adjusting payroll or income taxes, sending tax rebate checks, or expanding the Earned Income Tax Credit will reach many, but not all poor and low-income households. Other poor and low-income assistance programs may need to be used (e.g. electronic transfer benefit systems) to assure that energy assistance gets to everyone who needs it most. Further, allocations will need to be made on a per capita basis.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

Regulated entities should not receive assistance, but their employees should receive economic security and transition assistance as needed.

Small businesses should receive information and technical assistance and incentives to help them adapt to a more energy efficient, renewable energy economy.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Public lands can and should play a vital role both in carbon sequestration and renewable energy production. These resources should be developed and managed within the context of restoring and sustaining the health of the local ecosystems and advancing other public values - in addition to their carbon values.

In the event that a carbon offsets market is established, perhaps a new revenue stream could be created for public land management agencies by expanding their missions to include renewable energy projects and enhanced carbon sequestration activities. Care would need to be taken to assure that such activities were consistent with overall ecosystem management plans.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

The financial markets do not have a very good track record for advancing the public good at this point. Carbon price volatility creates uncertainty about the future, increases risk to investors, and makes it difficult for businesses and consumers to make sound long-term economic decisions. Providing off-ramps, opportunities for delay, policy waivers, and price caps add further to that uncertainty. These are some of the complexities that a cap and trade system would introduce.

Better for Congress to set a certain, gradually increasing price - as with a carbon tax system - and monitor the success of the policy over time in reducing emissions, adjusting as necessary.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

1) Complete a rigorous greenhouse gas inventory so as to avoid giving out too many allowances at the start.
2) Auction 100 percent of the allowances to avoid profiteering by covered entities.
3) Carefully verify and monitor offsets

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

Among these alternatives, in a national cap and trade program, a voluntary offset program would be most effective for projects to reduce emissions and promote bio-sequestration in the agriculture and forestry sectors. However, as detailed below, we have some concerns about the use of offsets.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

Yes, they should be limited to some small percentage of the overall cap, to reflect the inherent uncertainty of biological sequestration (and other offset mechanisms) that could potentially reduce the success of the entire program, especially in the face of global climate change and other large-scale environmental factors that reduce the effectiveness of biological sequestration

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Offset projects should be judged strictly based on objective performance criteria, with preference given to proposals that outline exactly what steps and practices will be implemented to achieve verifiable carbon emissions. Proposals should be supported with sound scientific justification and include rigorous monitoring provisions. Projects that will endure or adapted to the rigors of a changing climate should be given priority (e.g. wildfire, drought, pestilence, disease, invasive species, etc.).

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Offsets pose a significant challenge for policy implementation and enforcement. Can the amount of offsetting carbon be accurately measured? Will the offset be permanent? What kind of hedging or insurance should there be to assure the long term public interest? What if the effects of climate change destroy the value of the carbon offset in the future? What if preserving large tracts of forest leads to an acceleration of carbon-releasing land use change on adjacent land (leakage)? Would offset projects have been undertaken regardless of the offsets market (additionality)? Will an offsets market provide opportunities for covered entities to game the system and avoid real emissions reductions?

These questions need to addressed satisfactorily in order to gain public confidence and assure that emissions reductions/carbon sequestration is real and verifiable. The offsets market cannot simply become a cheap means for capped entities to avoid making any real progress in reducing emissions.

18) What should be the criteria for assessing offset projects?

Please respond in 300 words or less.

See Previous Question

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Best leave this to EPA, USDA, DOI, DOE, and NOAA, but any such system needs to include strict monitoring and enforcement provisions.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

It seems it would be too difficult to use a national standards-based approach. Offsets projects will have tremendous variability across diverse industries, ecosystems and regions. A project-based approach makes more sense.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Having a clear definition of what is meant by permanence will be important, as well as determining what utilities and other purchasers of offsets will be required to do when an offset 'expires'. In the case of carbon sequestration in forests and shrublands, permanence cannot ever be assured - wildfires, draught, insect infestations, sea level rise, ice damage, and other disturbances WILL happen - it is only a matter of when and how frequently. 5 years? 100 years? 1000 years?

In this light, some offsets projects are superior to others. For example, capturing methane emissions from livestock production, landfills, and sewage treatment plants is a much more secure and permanent investment with quantifiable benefits to the climate.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

These would need to be re-assessed on a case-by-case basis. The projects that meet the federal criteria would need to be recertified for use in the national system.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Early actors should be rewarded whenever doing so would not reduce the effectiveness or verifiability of the carbon reduction program. When thinking of biological sequestration, it becomes particularly difficult to define 'early actor' since any landowner could potentially claim credit for existing carbon stores in fields and forests.

Sequestering carbon and reducing emissions is an important, urgent national policy goal, but it cannot be the only goal and should not crowd out other important environmental priorities. Like any producer of multiple products, landowners that are able to successively provide multiple environmental services (clean water, carbon storage, biodiversity conservation) should be able to derive revenue from multiple environmental markets. This is no different than oil refiners producing (and selling) propane, gasoline, and other oil derivatives from the same basic resource, oil.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Participation in carbon markets and carbon reduction programs should not be affected by participation in other conservation and technical assistance programs, especially since existing programs have largely been established to meet other ecosystem values and services (clean water, soil preservation, biodiversity, etc.) Carbon management is only one of multiple policy priorities that deal with land use and management, and not replace or act as a surrogate for other measures of overall ecosystem integrity.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Holding individual offset project managers responsible for long-term offset performance could dissuade farmers and forest landowners from seeking to participate in carbon markets. On the other hand, holding capped entities responsible for performance of individual purchased offsets could dissuade utilities from buying offsets.

Instead, a hedging strategy could be used in an offsets market to insure against long-term uncertainty. This might be in the form of some ratio. For example, five tons of forestry or agriculture carbon offset might be required in exchange for one ton of smokestack carbon emissions.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

This responsibility should be delegated to relevant interagency working groups to develop and implement jointly.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Lack of technical information/assistance, too much complexity, lack sufficient risk management tools, insufficient capital, inherent resistance to change, skepticism of government programs, too much bureaucratic red tape, and perceived (or real) conflicts between carbon reduction activities and other objectives (including agricultural production, timber production, etc.).

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

No. Existing conservation and forestry programs were established to provide multiple services and meet multiple objectives, including open space preservation, soil protection, habitat improvements, forest stewardship, etc. Although many of these (e.g. CRP) have probably indirectly contributed to terrestrial carbon storage, none of these programs focus solely or primarily on that goal. In fact, some of these programs (e.g. wetland reserve) could actually result in increased greenhouse gas emissions or reduced carbon storage.

Congress needs to be considering comprehensive adaptation strategies. There is tremendous climate uncertainty ahead which will profoundly affect agriculture and forestry. Congress needs to be thinking now about how the nation must adapt to assure sustainable production of food, fiber, fuel, and ecosystem functions and services.

Congress should put a clear, certain, long-term price on greenhouse gas emissions and dramatically expand research, development and demonstration programs focused on incorporating land management into carbon reduction strategies.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

These are excellent and thoughtful questions. The Agriculture Committee is providing an essential service to Congress by asking these critical questions at this time. Thank you for asking EESI for input and comments.

Climate change is a very complex and difficult issue. Figuring out collectively what we as a nation can and should do about it is even more so. In that light, we urge Congress to adopt simplicity as a guiding principle as it deliberates climate legislation. The nation needs a policy that 1) will reduce greenhouse gas emissions quickly, deeply, and reliably; 2) everyone can understand; 3) has broad public support and trust; 4) is economically efficient and socially just; 5) can be implemented at least cost to the taxpayer and effectively enforced; and 6) will stimulate the private sector and consumers to reorganize and produce the results that we as a society need. The well being of future generations hangs in the balance. This is no small order.

We at EESI have come to the conclusion a cap and trade program falls short in a number of ways and that a carbon tax system comes closer. Congress and the Administration seem to be leaning in the other direction. Whichever way Congress decides, we at EESI remain at your service to offer counsel and advice on the difficult choices ahead. We wish you well in your deliberations.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
ENVIRONMENTAL DEFENSE FUND
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Brendan FitzSimons

Organization(s) you represent

Environmental Defense Fund

Address
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

I am a Policy Specialist in Environmental Defense Fund's National Climate Campaign

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?

Please respond in 600 words or less.

EDF advocates a cap-and-trade program as the most effective approach to fight global climate change. The *cap* limits GHG emissions and will decline over time; the *trade* lowers compliance costs by letting the private sector, rather than the government, determine how to meet the cap.

Accumulating science shows that the impacts of global warming are occurring sooner than anticipated. If the risks of serious adverse impacts of GHG emissions are to be minimized, prompt and aggressive emission reductions are needed. That's why EDF supports establishing mandatory, national economy-wide emission reduction targets.

A chief advantage of cap and trade is that it lowers the overall costs of the program. The cap sets the overall goal, but trading lets individual businesses determine the cheapest and best ways to get there. Lower costs are not only important in their own right; they also mean that we can afford to make deeper cuts under a cap and trade program than with conventional approaches. Cap and trade also keeps administrative costs down by lessening the informational burden on regulators.

Cap and trade programs can build in a wide range of flexibility and cost-containment measures. Under cap and trade, every regulated firm would need to turn in enough allowances to cover its emissions under the cap every year. Firms can manage their compliance costs by:

- Investing in new lower-carbon technology or implementing less-carbon intensive operational processes to reduce their GHG emissions.
- Purchasing allowances from other facilities that have exceeded their emission reduction targets.
- Using "banked" emission credits that firms earned by exceeding their emission reduction targets in earlier years. This helps optimize the timing and pace of emissions reductions relative to real-world business conditions, while maintaining the overall environmental integrity of the system.
- Using high-quality offsets that are environmentally additional, verifiable, measurable and enforceable. These offsets are created by activities that sequester or reduce carbon from sources that are not subject to the cap.

Cap and trade is a tested approach. The landmark 1990 Clean Air Act Amendments created an emissions trading system for sulfur dioxide (SO2) to curb acid rain. The program achieved reductions in SO2 emissions and other air pollution more quickly and at a lower cost than had been projected. Since the inception of the program, the ability to trade allowances nationwide across

affected units and through time is estimated to have reduced compliance costs by more than $20 billion, a cost reduction of about 57 percent from the assumed command-and-control alternative.

A cap on GHG gas emissions can spur U.S. innovation. When a cap was applied to sulfur dioxide (SO2) emissions to curb acid rain, the power sector and its suppliers came up with a range of processes and technological innovations to meet the new limits, ranging from learning how to burn low-sulfur coal in boilers designed for high-sulfur coal to designing a method for turning the waste from a "scrubber" into gypsum, which could be sold as a byproduct. By putting a price on pollution, a cap and trade system incentivizes firms to reduce their costs through technological innovation, spurring the development of the low-carbon technologies the U.S. economy needs to succeed in the future.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

Please respond in 300 words or less.

EDF recommends a market-based approach that allows GHG emitters to purchase high-quality offsets from landowners that undertake activities that sequester or reduce carbon from the agricultural and forestry sectors and sources that are not subject to the cap.

The agricultural and forestry sectors have the potential to store or emit vast amounts of carbon. As forests grow, they sequester carbon in wood, leaves, roots, and soils. This carbon is released when forests are harvested, burned, or cleared for agricultural purposes. Croplands and grasslands can impact CO2 emissions in a similar way. Clearing and plowing land release CO2 by exposing soils to air and sunlight. Practices such as conservation tillage, grassland restoration, and the use of cover crops can enhance carbon storage in agricultural soils. Precision farming techniques that reduce fertilizer applications, installation of methane digesters, and other agricultural practices can also reduce emissions of non CO2 gases which are many more times more potent than CO2 in terms of their greenhouse impacts.

The Environmental Protection Agency estimates U.S. forest/agricultural lands sequester 246 million metric tons of carbon annually, taking up 13% of U.S. GHG emissions. With the appropriate incentives, this could be increased by 50% (see The Congressional Budget Office. 2007. *The Potential for Carbon Sequestration in the United States.* Pub. No. 2931, CBO The Congress of the United States, http://www.cbo.gov/ftpdocs/86xx/doc8624/09-12-CarbonSequestration.pdf). Globally, 14.2 million hectares of tropical forest are deforested annually, contributing to about 20% of human-caused CO2 emissions.

Quality offsets that are environmentally additional, verifiable, measurable and enforceable can ensure a smooth transition to an economically responsible and environmentally sustainable energy future.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the

distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

EDF recommends during the first decades of a cap and trade system that a portion of the allowances be distributed to capped entities and economic sectors particularly disadvantaged by the impact of a cap on GHG emissions and that the free distribution of allowances should be phased out over time. These disadvantaged entities and sectors include:

- End-use energy consumers, including residential, consumer, industrial electricity, natural gas, and transportation fuel consumers. The purpose of directing the value to end-use energy consumers is to avoid disruptive price shocks that could accompany the initial phase of implementing a cap and trade system. The distribution of allowances to end-users should be based on the relative impact of energy prices and price increases on households and commercial/industrial consumer budgets. Because cost-of-service Local Distribution Companies (LDCs) are regulated, they will be required to pass through the entire value of allocated allowance to their end-use consumers, facilitating the transition for consumers and businesses. Consequently, EDF recommends allocating a significant portion of emission allowance value, to be phased out, to LDCs to dampen the price impact on consumers by a combination of adjusting rates and reducing demand through programs designed to improve energy efficiency and promote zero- or low-emitting energy technologies.
- Energy intensive industries with trade-exposed commodity products (which include but are not limited to chemicals, oil refining, aluminum and other non-ferrous materials, iron and steel, cement, non-fuel minerals, pulp and paper, glass, ceramics, and rubber) will be particularly challenged by implementing a cap and trade system in the U.S. because they will face competition from countries that have not committed to an internationally recognized GHG-emission-reduction program. These allocations could be based on net incremental costs (e.g., direct compliance costs, and direct and embedded allowance costs such as in energy pricing) due to climate policy borne by the affected facilities. These allocations should be tied to any GHG-related competitive imbalance and reduced or eliminated when the GHG-related competitive imbalance is reduced or disappears.
- Competitive power generators and other non-utility large stationary source. These emitters face significant compliance costs while new low-carbon technology is developing that they cannot pass on to their consumers. Thus, they should receive an allocation of allowances based on their net incremental costs that can clearly be attributed to climate policy. These allowances should be phased out based on a reasonable schedule for the expected deployment of low- and no carbon stationary technologies.
- Low-income consumers and worker transition and training. Since the impacts of a climate program will have a disproportionate impact on low-income consumers, allowance value should be used to provide rebates to low-income consumers based on the relative impact of energy prices on their household budgets that would not be addressed by allocations to LDCs. Sufficient allowance value should be directed to worker transition an training to provide

opportunities for all Americans to participate in and take advantage of the transition to a new energy economy.

Additionally, we recommend that a portion of the allowances help with:

- Providing capital to support investment, development, demonstration and deployment of new (not yet commercially mature) low- and zero-GHG-emitting technologies.
- Addressing human and ecological needs for adaption to unavoidable climate change impacts for affected communities (e.g., impacts on public health, water resources, and infrastructure) and fish and wildlife habitats, at the federal, state, tribal, and local levels.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

States have provided important leadership in enacting cap and trade programs. Given the briskly evolving climate science, this leadership will continue to be important. We understand the desire by regulated entities to avoid a patch-work of programs and believe that the federal program could require state programs to be smoothly implemented with a federal cap and trade program to minimize burdens on covered sources.

Specifically, we recommend allowing for state cap and trade programs to be entirely harmonized with the federal allowance system. This can be done by enabling states to maintain or adopt more protective limitations on emissions while implementing the state-mandated reductions through the federal allowance system. The states' reductions could be carried out by requiring covered sources to demonstrate compliance with the state-based obligations through a more rigorous federal allowance ratio.

Under this structure, for example, a state with a cap that is 10 percent more protective than the federal cap in 2020 would require covered sources to demonstrate compliance with the state cap by securing federal allowances at a ratio of 1.1 to 1. The covered source would thereby demonstrate compliance with the federal cap by producing federal allowances at the required 1:1 ratio and securing an additional increment of federal allowances to demonstrate compliance with the state cap.

In this manner, a covered source would be relying on entirely fungible allowances for demonstrating compliance with both federal and state law. The parallel state and federal cap and trade programs would not give rise to conflicting and incompatible allowances but rather fungible and harmonious allowances.

Further, the benefits of the state's more protective cap and trade program would be secured. By removing additional federal allowances, the state policy would in fact be reducing overall global warming emissions from the atmosphere. This harmonious "interlocking" approach is how EPA designed Clean Air Interstate Rule relative to Title IV.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

EDF believes that the ultimate authority for any cap and trade program should reside solely with the EPA. However, many other agencies and departments have valuable expertise that can help create an efficient and effective program. These agencies should be brought in as necessary whenever their expertise would be beneficial to the environmental goals of the program. For example, it would make sense for USDA to play an important role in helping to develop offset protocols or working with farmers to implement offset projects. Financial regulators in the SEC or CFTC might be able to provide expertise on how to design and monitor carbon trading markets. These are just two of many examples where agencies can work together in designing or overseeing particular aspects of carbon markets.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

EDF believes that the overall administration of any cap and trade program should reside solely with the EPA. However, many other agencies and departments have valuable expertise that can help create an efficient and effective program. These agencies should be brought in as necessary whenever their expertise would be beneficial to the environmental goals of the program. For example, it would make sense for USDA to play an important role when it comes to developing offset protocols or working with farmers to implement offset projects. Financial regulators in the SEC or CFTC might be able to provide expertise on how to design and monitor carbon trading markets. These are just two of many examples where agencies can be helpful in designing or overseeing particular aspects of carbon markets.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

EDF believes that because the carbon market is fundamentally different than other commodities markets:

- First, emissions trading should be viewed as a cost-effective way to facilitate emissions reductions. It is not designed to facilitate commerce like trading in other commodities such as cotton or corn. This environmental purpose must remain foremost in consideration of any market design choice at all times.
- Second, the market exists to achieve the public good of reducing emissions, and therefore the public has a vested interest in maximizing transparency and fairness in the market. Trading activities and practices that obscure the public's understanding of the market should not be permitted.
- Third, the system should be designed in such a way as to give the regulator the strongest possible footing from which to track the market and enforce the rules. That includes making sure all market activity is visible at all times to the regulator, that the procedures for investigating and prosecuting bad actors are robust, and that penalties for wrongdoing are appropriately severe. Fourth, because regulated entities are required by law to participate in the carbon market, trading systems and products should help regulated emitters meet their compliance obligations while protecting consumers.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

Enactment of a well-designed carbon reduction program will have a strongly ***positive*** impact on regions and populations whose welfare is of special interest to the agriculture community. For example:

- **Rural residents will benefit:**
    - **From additional energy-production opportunities.** A carbon reduction program will provide a powerful incentive to expand production of renewable energy sources. Many rural areas have high potential to provide renewable energy (wind, biomass, solar, etc.). Some renewables, most notably wind power and biomass production, are fully compatible with continued agricultural land use.
    - **From minimizing the increased incidence of extreme weather events.** As noted by the federal government's Climate Change Science Program in a 2008 report titled *Weather and Climate Extremes in a Changing Climate* (see www.climatescience.gov/Library/sap/sap3-3/final-report/sap3-3-final-all.pdf):

        "In the future, with continued global warming, heat waves and heavy downpours are very likely to further increase in frequency and intensity. Substantial areas of North America are likely to have more frequent droughts of greater severity. Hurricane wind speeds, rainfall intensity, and storm surge levels are likely to increase. The strongest cold season storms are likely to become more frequent, with stronger winds and more extreme wave heights.

- **From minimizing other adverse effects of climate change.** State-specific studies on the costs of inaction on climate – many of which will particularly affect rural residents – were recently completed by the University of Maryland for Colorado, Georgia, Illinois, Kansas, Michigan, Nevada, New Jersey, North Carolina, North Dakota, Ohio, Pennsylvania, and Tennessee (see www.cier.umd.edu/climateadaptation/ index.html) and for Florida by Tufts University (see http://ase.tufts.edu/gdae/Pubs/rp/FloridaClimate.html).

- **Populations served by USDA nutrition programs will benefit**
  - **From minimizing the increased incidence of extreme weather and pollution events**. As painfully illustrated by Hurricane Katrina, the lower-income populations (i.e., the populations served by USDA nutrition programs) are those most severely affected by extreme weather events. The health effects associated with climate change will also disproportionately affect these groups. For example, as a 2004 report for the Congressional Black Caucus Foundation noted, "It is clear that African Americans will disproportionately bear the substantial public health burden caused by climate change. Health effects will include the degradation of air quality, deaths from heat waves and extreme weather events, and the spread of infectious diseases." *African Americans and Climate Change: An Unequal Burden* (see http://www.earthscape.org/p1/ES16083/afam.pdf)
- **Agricultural producers and forest landowners will benefit** in ways generally analogous to those described for rural residents above (as is expected, since agricultural areas are generally rural). In addition, as more fully discussed elsewhere in this document, they will benefit from significant opportunities to sell carbon offsets. For example, a recent analysis by the University of Florida concluded that Florida's farmers and foresters could earn more than $340 million – every year – by reducing greenhouse gas emissions and selling emission credits under a federal cap and trade program.
  - Agricultural producers and forest landowners will also benefit because a carbon reduction program will help minimize the adverse effects of climate change:
    - Increased incidence severe heat which negatively impacts crop yields
    - Forage quality in pasture and rangeland also tends to decline as atmospheric carbon increases because of the effects on plant nitrogen and protein content, thus reducing the land's ability to nourish livestock.
    - Severe stresses on water supplies as a result of extended droughts
    - Increased incidence of other extreme-weather events
- **Input, transportation, and processing sectors will benefit** because a carbon reduction program will create new markets for low-carbon fuels, fibers, and other products that the agricultural and forestry sectors are well-positioned to fill.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

See response to question 3 for EDF's recommendations on how emission allowance value should be distributed..

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

See response to question 3 for EDF's recommendations on transitional assistance for businesses affected by a carbon reduction program..

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

Public lands can play an important role in efforts to reduce atmospheric GHGs though EDF would not support having public lands participate in carbon offset markets for several reasons.

First, as the Committee is aware, public forest lands — particularly those owned by the US Forest Service and BLM — face a number of challenges resulting from decades of fire suppression, increasing fuel loads, and climate change. Many of these lands need to be thinned in order to improve forest health and avoid catastrophic fires, and the associated GHG emissions. As a result, we can expect carbon storage on many lands to be reduced in the short-term. If the USFS or BLM participated in carbon markets (either as sellers or insurance providers), they would have to selectively choose those lands that increased in carbon storage and this would raise legitimate questions about whether carbon gains on those lands were real.

A second reason for caution is that public lands are already governed by a web of mandates and regulations, which would make it difficult for federal agencies to both participate in the market and comply with all other legal requirements.

Lastly, allowing public lands into carbon markets would create competition with private landowners.

It is important to note that there are ample ways for public land agencies to participate in efforts to reduce GHGs. For one, those agencies can manage their lands to reduce GHGs (e.g., from catastrophic fires) and sequester more carbon over time. Second, public land agencies can provide demonstrations and research for how private landowners can increase carbon storage on their property and accomplish other goals such as livestock and timber management. Third, public agencies can play a role in helping ecosystems adapt to the impacts of climate change..

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

EDF believes that carbon prices should not be decoupled from the fundamental market forces of supply and demand. Carbon markets that are honest, fair, credible, transparent, and accountable should determine the price of carbon. That's why the regulatory agency (or agencies) that are charged with carbon market oversight must be granted the authority and resources to develop and enforce carbon market rules.

Nonetheless, EDF recognizes that ensuring a smooth and orderly transition to a low-carbon economy will require making sure that allowance prices are not too volatile or excessively high for sustained periods as well as not so low as to discourage long-term capital investments in low-carbon technologies.

To ensure sufficient investment in developing and deploying low-carbon technologies, EDF believes that the reserve price for the auction of allowances should be set at $10 per ton at the outset of the program. This price could escalate over time at a rate greater than inflation and flatten out around 2025, provided that the price level and overall need for this mechanism is reviewed over time as the carbon market matures and new technology is deployed. This review should determine whether the minimum starting price for auctions should be adjusted, stay the same, or be phased out.

To protect against short-term price volatility and excessively high carbon prices while maintaining the integrity of the cap on GHG emissions, EDF recommends the following measures aimed at increasing compliance flexibility for regulated entities:

- Providing ample high-quality offsets that are environmentally additional, verifiable, measurable and enforceable.
- Unlimited banking of offsets and allowances for firms that have compliance obligations.
- Effective multi-year compliance periods.

Even with ample offsets, there will still be the potential for extreme volatility and spikes in allowance prices. EDF recommends the establishment of a strategic offsets reserve pool to avoid undue economic harm from excessively high allowance prices.

The strategic reserve pool should include: a) program-based and other governmentally certified offsets, including but not limited to forest carbon tons derived from offsets due to avoided tropical deforestation. Forest carbon offsets must be real, additional and verifiable and enforceable with adequate monitoring and liability for reversals; and b) allowances borrowed from future compliance periods at a system-wide level.

The offsets and/or allowances in the strategic reserve pool could be released into the market when allowance prices reach a specific threshold price. The reserve pool auction threshold price should be set at a level that prevents undue

economic harm from excessively high allowance prices (e.g., increase in the price of natural gas due to fuel switching) and encourages technology transformation. The system to release offsets and allowances into the market should be transparent and predictable, and designed in a manner that minimizes interference with normal market processes and prevents manipulation of the allowance price.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

The EU ETS's main achievement has been to cap carbon emissions. This has spurred major investments in renewable energy and other innovations to reduce GHG emissions. While the program didn't fully get underway until January 2008, a preliminary analysis suggests that the EU ETS decreased emissions by 3% in 2008 relative to 2007 (See http://www.newcarbonfinance.com/download.php?n=20090216_PR_2008Emissions.pdf&f=fileName&t=NCF_downloads). Lessons from the EU ETS include:

1. The cap on GHG emissions needs to based on sound science and hard data. In the pilot phase of the program, 2005-2007, many EU member nations set their caps based on projections of "business as usual" that were provided by the regulated firms. Not surprisingly, the overall cap in the trial phase turned out to be overly generous. The new EPA inventory of US GHG emissions should help avert this problem by basing a US cap on real data.
2. The program should utilize a comprehensive registry and emissions and allowance tracking system, including vintage years and serial numbers, just as the U.S. did with the sulfur dioxide acid rain trading program under the Clean Air Act Amendments of 1990.
3. There needs to be an absolute cap on GHG emissions, not one based on intensity targets or a market-undermining safety valve. Effective mechanisms to ensure compliance and accountability, including effective penalties for non-compliance, are needed to ensure the integrity of the cap..
4. Full trading and banking are crucial to help companies manage costs. Although the EU ETS allowed banking, it did so only within each phase. To be truly effective, banking should apply over much longer time horizons. The EU ETS also excluded verified emissions reductions and sequestration increases from farms and forests, depriving the EU of a crucial means of engaging the agriculture and forest sectors.
5. Consistent, long-term policy certainty is crucial so that companies can make prudent investment decisions. The short-term nature of the EU ETS commitment periods (2005-2007 in the pilot phase, 2008-2012 in the first full commitment period), has hampered the system's effectiveness because it does not give industry the predictability needed for decadal-scale capital investment decisions.

Currently, the Kyoto Protocol's Clean Development Mechanism (CDM) allows industrialized nations to use, for purposes of meeting their emissions targets, credits earned by reducing emissions and increasing sequestration in forestry and agriculture in developing countries. While both agriculture and forestry projects have been developed in a number of countries, only a very few forestry projects have been developed, in part because of the cumbersome and restrictive rules for forestry crediting under the Kyoto

Protocol's implementing rules, and in part because the EU-ETS does not allow forestry credits to be tendered for compliance.

Continuing development and refinement of technical standards in measuring reductions in GHG emissions and carbon sequestration, such as the "Duke Standard" (see http://www.nicholas.duke.edu/institute/ghgoffsetsguide/), is helping to facilitate the expansion of international agricultural and forestry offset programs. For example, in California, rules are being developed for forest and agriculture offsets for California's cap and trade program, including not only offsets generated within California and in other US states, but also offsets from rainforest nations.

At the April 2009 climate treaty talks in Bonn Germany, dozens of nations urged the UN Framework Convention on Climate Change (UNFCCC), to which the United States is a Party, to create a mechanism that would give nations incentives - including carbon market incentives - to reduce emissions from deforestation and boost restoration of forests, and to make this a central element of any agreement reached at the climate treaty talks slated to occur in Copenhagen, Denmark, in December 2009.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

EDF strongly recommends that agriculture and forestry be allowed to participate as sellers in an offset market. We believe that properly accounted, credible carbon offsets can improve a program to cap greenhouse gas emissions by providing a double-benefit of enhanced environmental protection in those sectors and critical cost management to regulated entities in the carbon market. We define an offset as a tradable credit awarded for emissions reductions in sectors that are not regulated under an emissions cap. Broadly speaking, there are two different categories of carbon offsets projects from agriculture and forestry: carbon sequestration projects (such as conservation tillage and forestry projects) and direct carbon emissions reductions projects (such as methane digesters, rice straw/water management and nitrogen management).

Offsets are a means for enhancing the economic efficiency of climate policy. They can reduce the cost of compliance and broaden the carbon market by enlisting more actors in the hunt for low-carbon alternatives.

It is critically important to note that offsets are only valuable if they meet high standards of integrity in terms of representing a verifiable net reduction or sequestration of GHGs. Climate legislation must therefore ensure that the use of

offsets (the "offset market") is governed by rules that guarantee an atmospheric benefit.

Some have recommended the use of a "set-aside" of allowances or allowance value to be used to reward past "carbon friendly" farming and forestry practices. If Congress chooses to use reward early actors, EDF believes that any allowances awarded need to be accounted for under the national emissions cap—in other words, we would encourage the Committee to ensure that rewards for past performance do not result in a loosening of the emissions cap.

America's agricultural sector offers many economically attractive opportunities for GHG emissions offsets. The United States has both the land area and the climate to provide substantial, near-term emissions reductions and carbon sequestration through climate-friendly land use practices. Voluntary involvement in a cap and trade market enables growers and producers to earn financial rewards directly, and on their own terms. We believe that this arrangement encourages maximum environmental benefits, and the maximum financial reward for our nation's farmers and foresters.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

Economic modeling and experience has shown that more stringent emission targets tend to result in higher allowance prices. Since EDF is recommending stringent emission targets, we also recommend generous limits on the use of offsets to help moderate compliance costs. That's why we recommend that the Congress:

- Set an overall upper level limit on the use of offsets for compliance in any year of limits for domestic and international offsets within the range of 2-3 billion metric tons.
- Establish a strategic reserve pool that includes: a) program-based and other governmentally certified offsets, including but not limited to forest carbon tons derived from offsets due to avoided tropical deforestation. Forest carbon offsets must be real, additional and verifiable and enforceable with adequate monitoring and as applicable, discounting and/or insurance program; and b) allowances borrowed from future compliance periods at a system-wide level. Reserve pool offsets would be released by into the market when the allowance prices reach a threshold price..

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

The market should determine who buys offsets and at what price. Those willing to pay the most for offsets will be those who need to pay the most for reducing emissions through other options. Ensuring that offsets are allocated via the market to those with the strongest demand will ensure that offsets provide their greatest benefit in terms of increasing flexibility and lowering compliance costs. This will also ensure that offsets provide the greatest benefits and incentives for innovation in the uncapped sectors.

[On the issue of the quantity of offsets ("how much"), please see our answer to question 15.]

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

The criteria for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets should be guided by the best available science. That's why EDF recommends the establishment of an independent scientific advisory board to provide advice on the creation of an offsets program as well as on-going advice to ensure that the latest advances in science are incorporated into the offsets program. The scientific advisory board should underpin a framework that enshrines key principles on offsets into law, without trying to lock in technical details that might set up a situation in which the statue rapidly becomes outdated as the science improves.

The EPA, with advice from the scientific advisory board, should establish and administer an offsets program. The EPA would consult with the scientific advisory board to develop guidance on implementing a number of technical aspects of the program, including quantification, verification, monitoring, and other ways to ensure the environmental integrity of the offsets program. The EPA would oversee the issuance of credits and the maintenance of records for all projects within the emissions inventory. The USDA would work in collaboration with the EPA in developing rules on offsets activities as well as providing technical assistance to landowners undertaking offset activities.

The key principles in the framework for measuring and accounting for the legitimacy of offsets under the program are:
Quantification- Credits should be awarded only for offset activities that represent measureable, verifiable reductions in GHG emissions that take into account "additionality" and "leakage" as established by the EPA based on the science advisory committee's recommendations:

- Activities should not be considered additional if they are required under Federal, State, or local law.
- Additionality should take in to account relevant common practice, among other factors per the guidance of the science advisory committee.
- Additionality of projects in agriculture and forestry sectors may, to the extent practicable, be determined by a comparison with existing technologies and practices within the ecologically and economically most comparable land area or industry sector.
- To the extent practicable, measurement of additionality in agriculture and forestry should be empirically based, using relevant data to measure the increment of emission reductions and sequestration that is additional.
- The EPA should establish baselines that account for reductions in carbon storage or increases in emissions from project lands or facilities prior to project initiation, thus affecting the baseline so as to result in increased credits. This ensures that landowners and project developers do not have an

incentive to undertake activities prior to project initiation that have a negative impact on GHG emissions.

- In determining leakage, the EPA should follow the leakage assessment methods that take into account the science advisory committee's recommendations in assessing the net increase in GHG-emitting activities outside the boundaries of the project that result from activities that are provided credits under the provisions of the law.

Verification- All projects should be verified, either by an independent, third-party verifier accredited according to rules for accreditation developed by the EPA, or at the agency level. In addition, the EPA should develop rules for verification that: ensure a level of empirical measurement consistent with the recommendations of the science advisory committee to quantify the project characteristics and greenhouse gas emissions reduced, avoided, or sequestered by a project; and account for additionality, leakage, and any uncertainty in measurement and other factors.

Monitoring- The EPA should establish a process to audit projects, credits, and third-party verifiers. If a project experiences a loss of benefits for which credits were awarded, contracted atmospheric benefits that are unrealized must be replaced by another legally valid source.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Addressed in response to question 17.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Addressed in response to questions 17 and 20.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

We believe that it is critical for Congress to avoid enshrining in law methodologies that science dictates will almost certainly change over time. The diversity of offset types, and the rapid pace of scientific and methodological advances virtually guarantees that whatever system Congress elects to adopt this year will require amendment in a few years' time.

Instead, EDF recommends tying the rules and regulations to independent scientific guidance, which will not only inform the process but also allow it to evolve and improve with advances in science. For additional details, please see our answer to question 17.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

EDF believes that offsets should be fungible with allocations in that an entity with compliance obligations could submit offset credits to fulfill its obligation..

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Rather than requiring "permanence" of any particular activity or unit of carbon on the landscape, an offsets program needs to ensure the permanence of the regulated entities' liability for satisfying the compliance obligations under the climate policy. In the case of offsets, it is critical for the program to clearly specify that liability for the costs of making up the lost carbon if a reversal occurs resides with either the buyers or sellers of offsets (and not the public at large). This will ensure that the cost of offsets reflects the true costs of achieving the associated atmospheric benefits. The most important factors with respect to the permanence/duration of offsets are: 1) clearly specified contractual terms for the duration of each offset project, 2) on-going monitoring to detect any reversals of sequestration/reductions over this period, 3) clearly assigned liability in the case of any reversals, and 4) insurance requirements to provide protection against reversal risks.

Offset contracts between a producer and buyer should specify the time frame for the credit-generating activity. Flexibility to structure temporary contractual arrangements (e.g. carbon leasing) is critical to help ensure a program that works for both buyers and sellers. Once a contract's term is over, the regulated entity that used the offset credit will then have the responsibility to either renew a contract with the same offset producer or find an alternative means of compliance. The only restrictions on the duration of offset contracts should derive from the science of each offset activity. For example, afforestation projects may require a longer time frame to build up carbon stocks that can be reliably quantified in comparison to other activities.

Contracts between offset buyers or sellers must clearly specify liability for any reversals. Regardless of whether default liability falls to buyers or sellers of offsets, it is important for the program to allow flexibility in how parties can reassign liability when structuring their contractual agreements. The administrator will also need to establish monitoring and auditing procedures to detect any reversals. Finally, prudent policy would require the administrator to establish minimum insurance requirements, varying with the risk profiles of different project types and conditions, and flexible options for meeting these requirements so as to ensure that reversal risks are adequately protected against..

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

We believe that there is a role for early reduction credits to help address the urgent need to reduce GHG emissions and that this should be encouraged with the following conditions: The reductions must be real, verifiable net GHG emission reductions in advance of the first binding date of the cap.

That said, Congress faces a potentially dizzying array of claims for early reduction credit from an enormous range of sources employing vastly different methods to account for credits claimed. The task of sorting out which projects have resulted in real net emissions reductions over time is best performed by an agency or inter-agency process and is not a reasonable expectation for Congress. However, Congress should make some critical, high-level decisions to guide procedures for awarding early action credits:

- Any credits for early action should be awarded in the form of allowances (or revenues from the sale of allowances) taken from the total pool available under the emissions cap. In other words, credit for early action cannot, in the end, represent emissions that may be emitted in excess of the mandated cap. Credit given to one party must be deducted from the total number of tons available under a cap, not added to it. This requirement is necessary for the environmental integrity of the program. It also serves as an indirect check on the total number of tons awarded for early action.
- Congress should require that any credit awarded for early action represent actual benefits to the atmosphere. Intensity or rate-based reductions, or other relative measures of performance, do not necessarily result in total emission reductions and should not be eligible. Project-based reductions cannot be credited without complete accounting following principles similar to those for offsets. In short, early action credit should be awarded only for actions that yield a net atmospheric benefit.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

There are two types of early actors that may deserve some special treatment under a carbon offsets program.

First, there are those landowners who have undertaken activities (e.g., conservation tillage, management of mature forests) that have resulted in significant carbon stores on their lands. Many of these landowners may be unable to significantly increase carbon stores on their property because their soils, grasslands, or forests are near saturation. For these landowners, it may be appropriate to consider some allocation of emissions allowances to reward them for their on-going stewardship, if they agree to maintain carbon stores on their lands.

A second type of landowner that may deserve some special treatment are those who initiated carbon sequestration activities well before the beginning of the initiation of a national cap and trade program. For these landowners, legislation will have to make some judgments about which landowners get allowances. Allowances should only be awarded using the same or similar carbon accounting methodologies as agreed to in cap and trade legislation and the associated

implementing regulations. Legislation will also have to specify a date before which allowances won't be awarded.

With respect to stackability, allowing landowners to sell other environmental service credits and carbon credits from the same piece of land is fine so long as no environmental services are being sold twice.

Please see also the response to question 23.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Offsets can be an important incentive for reducing GHG emissions from working lands and can potentially be a valuable source of income for producers. In order for the offset market to create real environmental benefits, it must be administered in a way that assures that the services being purchased have not already been purchased by another entity. The rules for many ecosystem services markets already preclude the purchase of credits that may have already been partially funded by the taxpayer, through state or federal incentive payments or cost sharing. In almost all cases it is highly likely that the cost share or technical assistance payments only financed the creation of a portion of the credits that may be generated by an operation, and that a large percentage of the potential credit is being generated through ongoing labor and investment on the part of the land manager. The portion of a credit that has not been financed by a state or Federal program should be eligible for receiving credit and payment under an offset program.

In those cases where the funded activities were implemented to address other conservation concerns, such as wildlife habitat or water quality, and the activities also sequester carbon or reduce GHG emissions the land manager should be permitted to sell carbon credits, so long as no benefits are being paid for twice, whether with public or private funds.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

An offset project may sequester/reduce less than expected due to: 1) Non-performance (the producer does not do what was agreed to), 2) Accident/natural disaster, and 3) Protocol error (the science for quantifying the benefits was faulty). Liability for 1 and 2 should be the responsibility of private parties and clearly specified in the contract between an offset producer and buyer. This might also require managing fire or other reversal risks. The assignment of liability for reversals should fall either to the producer or buyer and will best be determined by the parties themselves through a private contract.

To protect parties and the environment against excessive risks, the administrator should set minimum insurance requirements, varying by project conditions (as with mandatory auto insurance). There should be flexible insurance options such as credit buffers, pooling, and/or private insurance. Costs of insuring reversals are part of the cost of offsets and should be reflected in offset prices to provide the correct signals to steer the market towards the least-cost options within the covered and non-covered sectors.

The program should evolve with scientific improvements, but offset projects designed around certain rules should be grandfathered for a limited period against later rule changes to provide market stability. Nevertheless, the administrator should be able to look back and protect environmental integrity if new science/data determine that previously issued credits exceeded the sequestration/reduction amounts achieved. To this end, we recommend that offset projects be required to contribute a share of credits to a dedicated "contingency fund" for the purpose of making up any detected shortfalls that might later be detected in the overall program's benefits. This differs from liability for 1 and 2 to be handled privately based on each contract. If the contingency fund is insufficient, additional costs should be spread across the market rather than borne by a particular offset program. Please also see more discussion in answer to question 21..

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

Please see our response to question 20.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

One significant obstacle faced by producers is the lack of sufficient market or other incentives to drive the widespread adoption of practices and approaches that are effective in reducing GHG emissions and/or sequestering carbon. Another is the lack of information on the part of producers as to what types of practices and approaches will be most successful in reducing GHG emissions and/or sequestering carbon. There is a significant need for resources to support demonstration projects on the ground that will develop and test cost-effective, user-friendly tools to measure, monitor and verify reductions in GHG emissions and/or rates of carbon sequestration, so that producers will have the tools they need to be able to participate in an offset market when it develops..

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

The agricultural and forestry sectors have the potential to store significant amounts of carbon and to significantly reduce emissions of methane and nitrous oxide, which are potent greenhouse gases. Current agricultural policies, including USDA conservation programs, do not provide sufficient incentives to achieve the necessary reductions. The resources for conservation programs are insufficient; these programs are currently oversubscribed and are needed to help producers address a broad range of environmental challenges associated with agricultural production. USDA conservation programs could be helpful, however, in supporting projects involving multiple producers in the development and testing of tools to measure reductions in GHG emissions or increases in carbon sequestration associated with particular practices, technologies or management systems. Such an approach could be very helpful in facilitating -- in the initial stages -- producer and landowner participation in an offsets market. Once such a market is up and running, and farmers have the tools they need in order to measure and verify results, the goal should be for USDA to step away and let the market provide payments for reductions of GHG emissions and/or carbon sequestration. Congress should work with USDA to ensure that conservation programs support demonstration projects as described above. USDA must not simply pay for practices that claim -- but do not include a plan or method for quantifying -- climate-related benefits..

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

EDF recommends that Congress instruct EPA to develop appropriate methodologies for determining lifecycle carbon intensities of various transportation fuels on an equivalent basis. EPA should develop this methodology in a manner that strives for both national and international alignment, including for those methodologies related to the treatment of land use changes that can be reasonably attributed to the production and use of transportation fuels.

In addition, EPA should expeditiously develop a process for gathering data and determining the actual lifecycle GHG performance of the transportation fuel pool. These are the critical first steps for developing and implementing a transportation fuel GHG performance standard and ultimately for evaluating compliance with such a standard.

Based on this work, EPA should develop and promulgate a challenging, yet technologically and economically achievable GHG performance standard for the transportation fuel pool. This standard should be implemented as soon as practicable after the methodology work is completed. Specifically, as part of this assessment, EPA should consider the degree to which existing programs and market conditions are or are not sufficient to substantially reduce the lifecycle carbon intensity of the transportation fuel pool.

Emissions caused by land use change are a significant source of global greenhouse gases, and domestic fuel policy can significantly affect those emissions. Consequently, it is essential that cap-and-trade legislation create incentives for protecting forests and reducing emissions from deforestation and other land use changes. Carbon markets can deliver these incentives through programs that compensate countries and communities for Reducing Emissions from Deforestation and Degradation in Developing Countries (REDD). We would be happy to discuss with the Committee policy options for delivering, in national cap-and-trade legislation, incentives for REDD..

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE SUBMITTED BY ENVIRONMENTAL WORKING GROUP

Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Kari Hamerschlag, Senior Analyst

Organization(s) you represent

Environmental Working Group

Address

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Senior Analyst

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?

Please respond in 600 words or less.

EWG believes that Congress should adopt a hybrid approach that uses mix of cap and trade, taxes, fees, agricultural offsets, low carbon fuel standard, incentives for energy conservation and greenhouse gas (GHG) emissions reductions, performance standards and early action. This approach would likely result in more effective and efficient reductions of GHGs than sole reliance on one policy instrument.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

Please respond in 300 words or less.

Yes, agriculture should be included in any carbon reduction program. The threat of global warming is imminent and potentially catastrophic; as a nation we can no longer ignore any sector that can help us turn the tide. Agriculture is a significant source of GHG emissions that also has the potential to help us reduce our GHG footprint through a wide range of carbon sequestration practices.

All sectors, including agriculture, must do their part to reduce their global warming impact. According to EPA, in 2005, methane and nitrous oxide emissions from all livestock operations generated 162 MMTCO2Eq, or roughly 30% of all emissions from agriculture. The total emissions from this sector would be significantly higher if you include the emissions generated from the production of animal feed (e.g. nitrous oxide from fertilizer application), transportation of animals, and the emissions created by the production and use of farm inputs (fertilizer, pesticides, water pumping, diesel).

There is no justification for treating the largest sources of this GHG pollution, Concentrated Animal Feeding Operations (CAFOs), any differently from other energy intensive industries. We therefore strongly support including the emissions generated by Concentrated Animal Feeding Operations (CAFOs) that meet or exceed the minimum GHG emission threshold established by Congress be required to curb emissions under a cap and trade program. Emissions from both enteric fermentation, as well as manure management should be included in all cap and GHG reporting programs.

Other sources of GHG emissions in the agriculture sector may be more difficult to place under a cap since they are generated on hundreds of thousands of farms scattered across the country. Complementary policies, performance standards, offsets, and set aside allowances for agriculture must be put in place to ensure that agriculture does its part to reduce its emissions, and, as important, take action needed to prepare for and adapt to climate change. Expanded technical assistance and support will be critical in order to ensure that producers gain access to technologies and practices that will help them increase their energy efficiency, reduce their GHG emissions, and adapt to climate change.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?

We support President Obama's proposal for 100% auction of emission allowances. The right for companies to pollute our precious atmosphere should not be given away for free. If we provide allowances for free to companies that are emitting pollution, we are giving an unfair economic benefit to the companies that are responsible for our warming planet. We also do not support grandfathering allowances since this would generate huge windfalls and transfers of wealth. Most studies indicate that firms will raise their prices to reflect the market value of these allowances, passing that cost onto consumers even if the allowances were received for free. There will be a much higher public benefit if the revenue generated from these allowances is invested in strategic ways that help our country transition to a low carbon economy.

The revenue generated through the auction of allowances should be distributed to: a) help reduce the cost of the program for low income groups; b) invest in technologies and job training that will help us cut emissions in key sectors, with a priority for investing in energy conservation and renewable energy sources that do not cause environmental harm or adverse human health impacts; c) provide incentives for early action in uncapped sectors that offer great opportunity for reducing greenhouse gas emissions, and d) support transition assistance and adaptation programs for disproportionately impacted communities and economic sectors. It is unfair to distribute the revenue generated from allowances equally throughout the country since certain regions and groups will be far more impacted than others.

Given the significant promise that agriculture holds for removing carbon dioxide from the atmosphere, EWG supports setting aside a substantial portion of the revenue from the auction of allowances to encourage emission reduction, sequestration, and adaptation activities in this sector. A specific percentage of these agricultural allowances should be directed towards projects that lead to reductions in direct and indirect GHG emissions from agriculture (e.g. improved fertilizer management programs, transition to organic agriculture, reduction of energy intensive inputs). The remaining allowances should be used to support research, technical assistance and agriculture management practices, systems and activities that are considered to create scientifically and technically credible carbon sequestration benefits. Practices that demonstrate the maximum number of environmental, health, economic, adaptation and other co-benefits should be prioritized for support. Using allowance revenue from within the cap in the short term is a good way to create early incentives for beneficial activities without risking the environmental integrity of the emissions cap. We strongly support investing a portion of the allowance revenue into targeted research, measurement and monitoring technologies that will enable the implementation of credible agricultural offsets to help entities under the cap achieve their compliance requirements.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

There are a variety of ways that state and regional programs could be integrated into national efforts. The approach used should ensure the maximum reduction of GHG emissions in a time frame that allows us to meet our GHG reduction goals.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

Given EPA's role and expertise in successfully implementing the Clean Air Act and overseeing the Northeast Sox and NOx trading program, and other related programs, this agency is well suited to manage the program, with input and close coordination with the USDA and other agencies. Resources should be made available to support this new function.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

Whichever agency is chosen to regulate these markets, the regulation of these markets and their investments should be vigorous, transparent and should include robust citizen enforcement mechanisms.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

While increased energy costs associated with a carbon reduction program may initially increase the costs incurred by agricultural producers, the costs to agriculture of doing nothing will be far greater, through diminished water supplies, extreme weather events and the loss of productive cropland, In the coming years, producers will face higher regional temperatures and great variability in terms of weather patterns and precipitation. By adopting energy saving conservation practices, farmers can better adapt to the serious impacts that a changing climate will have on their production and the environment, while also reducing their impact on climate change. For example, the use of composting, crop rotation, mulching, as well as conservation tillage and more efficient water use can reduce energy inputs, sequester carbon, reduce nitrous oxide emissions, protect water quality and water supplies, and achieve greater yields and improved yield stability in variable weather, especially when implemented in an integrated fashion These practices can also create greater resilience to drought through better water infiltration and retention.

In addition, a well-designed and effective greenhouse gas emission reduction program will provide a powerful incentive for producers to reduce their use of energy intensive inputs (e.g. fertilizers and pesticides, water pumping, diesel) and implement more energy saving approaches to farming (e.g. composting, water conservation, integrated pest management, organic farming, conservation tillage), transitioning to technologies and practices which in the longer run could yield important cost savings for farmers. Organic agriculture, for example, uses far less energy than conventional farming. A Soil Association Study in the UK found that per ton of produce, organic farming is 26% more efficient. Other studies have shown even higher efficiencies. By shifting to these more energy efficient practices, farmers may also be able to gain access to new markets that reward farmers for better stewardship practices. They will also be able to take advantage of increased compensation in the emerging offsets market.

Besides the specific benefits to farmers, there are numerous public and environmental benefits, including more reliable and cleaner water supplies, improved air quality with less wind erosion, increased soil biodiversity, less soil erosion and sedimentation in rivers, and less water pollution from pesticides and fertilizer nutrients, that benefit agriculture and society at large.

If implementation of a greenhouse gas reduction program raises food prices, a portion of the revenue generated through auction of allowances should be used minimize the effect of increased food prices, particularly on low-income populations. Thus, we strongly believe that a portion of allowance revenues should be used to protect vulnerable populations, as we recommended earlier.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

As noted above, revenue should be invested in programs that help farmers adapt to climate change and transition to more energy efficient and less carbon equivalent intensive operations (including the use of fewer high energy inputs) so that costs to farmers are minimized. Funds should be prioritized for practices that will both help farmers reduce their climate change impacts, reduce their energy use, improve their ability to adapt to the changing weather patterns caused by climate change, and reduce the threat posed by climate change to soil, water, and wildlife. A key focus should be to help farmers reduce their use of nitrogen fertilizer, the production of which accounts for the highest percentage of total (indirect) energy use in the agricultural sector. In addition, revenue can be used to help farmers invest in on farm energy production that will generate important additional revenue streams, such as the wind energy projects that USDA Secretary Vilsack promoted in Iowa.

Since current technical assistance and cooperative extension programs are insufficient to provided the needed level of support to farmers, substantial investment in additional technical assistance (green jobs for crop advisors!) and extensive partnerships with organizations that already have this expertise will be needed in order to provide farmers the support and training they will need to make these adjustments.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

No. We support transition assistance and adaptation programs for disproportionately impacted communities and economic sectors.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

EWG supports an integrated approach to addressing agriculture's role in carbon reduction that includes, caps, set aside of allowance revenues, compliance offsets, performance standards, incentives to transition to less energy and GHG intensive practices and technologies, and other complementary policies.

As stated above, we support a cap for large Concentrated Animal Feeding Operations that are emitting significant GHGs from both enteric fermentation and manure management. According to EPA, in 2005, methane and nitrous oxide emissions from all livestock operations generated 162 MMTCO2Eq, or roughly 30% of all emissions from agriculture As the largest source of methane, it is critical that GHGs produced from enteric fermentation be included in any cap and in any reporting program.

In addition, we believe that a substantial portion of allowance reveneue should be set aside for research, technical assistance, technology development and implementation of GHG reduction and sequestration practices as outlined above. Setting aside a portion of allowance revenue for agriculture is imperative in order to ensure that agriculture both does its part to reduce its carbon footprint, and that agriculture's potential as a carbon sink is fully harnessed as our country struggles to reduce our GHGs.

A portion of the set aside allowances should be used to increase funding for USDA conservation and focused on helping producers take action on their operations to protect soil, water, and wildlife resources from the increased threat of degradation caused by climate change. Allowances should also be invested in research, technical assistance, protocol development, and the institutional development that will be needed to create an effective and transparent offset market.

As a complementary policy, Congress should enact climate protection performance standards for the agricultural sector. These standards—which should also help farmers be more resilient in the face of highly erratic weather patterns—should be part of expanded conservation compliance requirements tied to receipt of benefits from all commodity, risk management, and conservation programs, and apply to all acres in the operations of those producers participating in commodity, risk management, or conservation programs.

We also support the use of agricultural offsets to assist capped sectors meet their compliance obligations, but only if and when the scientific, technical and institutional challenges to ensuring such offsets are real, permanent, quantifiable, verifiable, and enforceable are overcome.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

Capped sources should be permitted to meet a small percentage of their emission reduction requirements through purchase of offsets from uncapped sources. While there is general agreement that offsets must be real, additional, verifiable, permanent and enforceable, there are still many uncertainties associated with the offset market. There is also a question of the transactional costs required to ensure that this certainty exists. While we strongly support a research, development and strong oversight program that is designed to reduce this uncertainty, we believe that there is far greater certainty for reducing GHGs from emissions reductions and trading among entities under the cap.

We are also concerned about the localized environmental health impacts, and the potential co-benefits that would be lost, if polluting industries are able to purchase unlimited offsets from uncapped sectors or trading of credits under the cap instead of installing the new technology to clean up their pollution. This could unfairly hurt low-income communities who are often located in neighborhoods near heavily polluting industries. In addition, allowing capped sectors to meet a significant percentage of their compliance obligations by purchasing offsets from uncapped sectors will reduce pressure on industry for adopting new innovative technologies that will help accelerate our transition to a low carbon economy.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Priority for offsets should go for projects that meet scientifically credible protocols for emission reductions AND also generate substantial co-benefits in low income communities and/or maximize additional, social, economic, public health and environmental benefits. Research that defines the extent to which such projects generate co-benefits should be part of protocol development in the agricultural sector. Available offsets should then be prioritized in project categories with the highest and most certain emission reduction/carbon sequestration potential and the greatest number of co-benefits.

In terms of co-benefits, priority should be given to those carbon reduction practices with no or very little risk of reversibility and that also help farming communities reduce their energy dependence and help adapt to the impacts of climate change. In the ag sector, particular emphasis should be given to projects designed to reduction nitrous oxide emissions and/or methane reduction/capture).

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

EWG strongly supports the criteria set forth in California's 2006 Global Warming Solutions Act (AB 32) that specifies that emission reductions must be "real, permanent, quantifiable, verifiable, and enforceable." In addition, we strongly support transparency in the design and implementation of the protocols developed to determine if such projects meet these criteria. Offset projects should have to meet the test of each of these criteria, as well as additionality, through a rigorous independent review panel. Offsets must be verified and monitored by authorized and disinterested third parties. A regulatory mechanism should be established to ensure that emission reductions are maintained and to provide for regular oversight of third party compliance entities.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

In addition to the principles outlined above criteria for assessing offset projects in the agriculture sector should include consideration of co-benefits and environmental safeguards.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Congress should authorize the EPA to design a comprehensive system for developing new and/or approving existing protocols and for verifying offset projects. In addition to the principles of offsets specified above, the system should be based on the following principles: 1) All approved protocols must be developed in an open, public, consultative, and transparent process; 2) agricultural protocols should be adjusted to reflect differences in climate, soils and other relevant factors, although EPA should not recognize multiple protocols for the same project types in the same region; 3) protocol verification must be carried out by an independent third party organization that has been certified by the EPA; and 4) offset projects should have minimum environmental standards and safeguards.

EPA should set up a diverse stakeholder advisory committee to guide EPA's decision making on its offset development framework. Subcommittees could be established in different subsectors (e.g. ag and forestry) to review existing or proposed protocols.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Given the practical difficulty and potentially high transaction costs associated with field level

measurement for each offset project, there may be compelling efficiency arguments for establishing a standards-based approach, with pre-calculated values. Congress should assign EPA the task of developing the best approach for each particular type or source of offset in consultation with relevant agencies and public stakeholders. Congress should not specify in statute the required methodological approach or list of practices that should qualify as offsets. However, Congress should provide guidance as to the goals that these programs are to achieve.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Establishing a system that achieves the highest degree of certainty for permanent offsets will be critical for achieving integrity in the offsets program. The protocols developed to implement an offset program should give the highest priority to those practices and systems with the lowest risk of reversibility and the market for offset credits should discount the value of such offset credits based on the risk of reversibility. Moreover, the penalties for failing to fully implement the emission reduction practices and systems must be high enough to create meaningful incentives to keep those practices and systems in place over the long term. All agriculture protocols must require the assessment of risk for reversal, a monitoring system to detect and estimate unexpected reversals. Options to provide actuarially-sound private sector insurance or similar products to help manage the risk of reversibility should be given serious consideration.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Congress should only recognize existing projects, credits and protocols established by other programs if they meet the rigorous standards described in question #19

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Additionality is a very difficult issue that should be addressed by the EPA in the development of the offset program' rules and regulations in consultation with relevant agencies and public stakeholders.

If the farmer is generating environmental benefits beyond carbon sequestration or emissions reduction, there is no reason these benefits should not be allowed to count in other private markets for environmental services. To the contrary, having additional market opportunities for these farmers may be an important and necessary complementary incentive to make it more economically viable for the

farmers to undertake these practices. In some cases it may be that the carbon market alone is insufficient to incentivize new practices, but with additional incentives from other private environmental services markets, there is more economic rational for implementing the practice. Allowing the practice of "stacking" is also a way to incentivize those particular carbon friendly practices that also generate additional co-benefits.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Activities that have been, or are currently being paid for through federal or state conservation programs should not be eligible for offset credits or payments for early action. These activities should be considered part of the "business as usual" case and therefore to fail the text of additionality.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Producers must be held liable if the project does not generate the intended result because of failure by the producer to fully implement the required systems and practices. Similarly if a producer takes later action that undermines the prior benefits that had been achieved, he or she should be held liable. If failure to generate the intended result is caused by events beyond the producer's control, the producer should not be held liable as long as the producer takes whatever action is needed to correct the situation speedily. If a natural disaster or other uncontrolled event substantially reduces the producer's ability to reduce future greenhouse gas emissions or to sequester carbon, then the amount of future offset credits must be adjusted accordingly. In any case, serious consideration should be given to the development of actuarially-sound private sector insurance or other products to manage the risk of failure of an offset project to generate the required reductions in emissions or increase in carbon sequestration.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Congress must not detail the protocols and procedures for the offset program in legislation, but should provide distinct goals that these programs must achieve to qualify for offsets. Congress should direct EPA, in coordination with the Secretaries of Agriculture and Energy and other relevant agencies to issue regulations that establish comprehensive measurement and verification methods and requirements. EPA should also be charged with implementation of the offset program. Congress should direct USDA to work in coordination with EPA and other relevant agencies to develop protocol standards for biological sequestration and methane and nitrous oxide emissions.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

Ag producers and landowners face many obstacles. Chief among them is the need for more information, clear guidance, and technical support for implementing land management practices and renewable energy projects that have the greatest impact on reducing emissions and sequestering carbon while also delivering important benefits for soil, water, and wildlife. Our nation's current cooperative extension and technical assistance infrastructure is fraying and is inadequate for providing the information and technical support agricultural producers need. Over the years, NRCS has taken on a wider array of programs to address an ever increasing number of resource concerns. At the same time, technical support and extension to ensure quality implementation—particularly for advanced land management practices- has decreased in recent years. We need to make sure that our technical assistance network, composed of NRCS technical staff, crop advisors, extension personnel and others, is expanded and that professional staff have the skill set needed to provide the necessary technical assistance. While financial incentives are important, there are many low cost carbon friendly practices that could be implemented with minimal financial resources, if adequate technical assistance was available.

US agriculture policy is perhaps an even bigger obstacle for reducing ag's GHG emissions and fully harnessing ag's potential as a carbon sink. Major reforms are needed in our commodity, energy and risk management programs in order to incentivize carbon friendly practices and the creation of diverse, alternative, regenerative farming systems that will help protect and adapt to our changing climate. By guaranteeing profit from and reducing the risk of producing a limited number of commodity crops, these subsidy programs are encouraging farmers to maximize production of a limited number of energy intensive crops, with significant negative impacts on the climate and the environment. These annual row crops typically expose the soil for most of the year, leaving the fields vulnerable to major run off in the event of heavy rains and floods (which are likely to get worse with climate change). They also require high fertilizer use, a major contributor to nitrous oxide emissions. The lack of diversity of crops, and the poor nutrient management practices lead to erosion and runoff with major downstream impacts including drinking water contamination, floods, declining fish and wildlife populations, and a growing "dead zone" in the Gulf of Mexico. One USDA study (http://www.ers.usda.gov/AmberWaves/June07/PDF/AW_June07.pdf) found that 80% of cropland acres in the country with high or very high nitrogen runoff potential are on farms that receive commodity program payments that subsidize production of corn, wheat, soybeans, cotton, and rice, primarily. The high rate of nitrogen loss through runoff is a good indicator of excessive nitrogen application, which in turn leads to higher than necessary nitrous oxide emissions.

Incentives for carbon friendly practices and diverse resilient farming systems can not be left solely to the conservation programs. All federally subsidized programs should include minimum performance standards and technical assistance to help producers implement practices and develop more diverse farming systems that sequester carbon, reduce nitrous oxide emissions, and adapt with greater resiliency to the dramatic and volatile weather patterns that will become more frequent in the future. These standards should be part of expanded conservation compliance requirements tied to receipt of benefits from all commodity, risk management, and conservation programs, and apply to all acres in the operations of those producers participating in commodity, risk management, or conservation programs.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

Unfortunately, funding levels for existing conservation programs are insufficient for providing the kinds of incentives needed to encourage a significant increase in practices and farming systems that can help mitigate climate change impacts. Indeed, Congress has repeatedly failed to fund conservation programs at the levels promised in farm bills. Because of lack of funds, these programs are missing key opportunities for helping farmers implement practices and alternative farming systems that will help them be more resilient, while also reducing their carbon footprint and increasing their carbon sequestration potential. A major expansion of funding for farm conservation programs is needed in order to enable them to increase financial and technical assistance support to farmers for implementation of climate mitigation practices. At a minimum, Congress must fully fund existing conservation programs at the levels promised in the 2008 Farm Bill.

Greater funding for conservation programs is urgently needed to help farmers to adopt farming systems that are more resilient and resistant to the effects of global warming. Farmers will, and many already are, experiencing more frequent and severe droughts and storms. The more volatile climate global warming is producing threatens agricultural production and worsens already severed problems of soil degradation, water and air pollution, water shortages, and declining wildlife habitat. It is imperative that we take action now to help farmers create resilient and resistant farming systems before the threats to production and the environment grow even more severe.

Stronger conservation programs, if properly designed and implemented, can address the production and environmental risks of climate change while simultaneously contribute to reducing agricultural greenhouse gas emissions and sequestering carbon.

In an era of scarce resources, funding conservation programs that are providing greater public benefits by protecting, soil, water, wildlife, and our climate should be given priority over funding farm subsidy programs that deliver large benefits to a small number of large growers, with minimum public benefits. For example, in the first four years of the 2002 Farm Bill, $47 billion in taxpayer's dollars went just one-third of the nation's farmers who grow subsidized crops and just $7.8 billion went to conservation programs.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
LESLIE EVERETT
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Leslie Everett

Organization(s) you represent

University of Minnesota Water Resources Center

Address
[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Agonomist and Program Coordinator

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

The most efficient approach is a carbon tax. It requires the least government administration if applied at the principal sources of fossil fuel extraction and distribution.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

If a carbon tax is applied, then those sectors are automatically included. Under cap-and-trade, elements of the ag and forestry sectors analogous to other industrial sectors should be included, for example, ag and forestry product processing plants.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Wherever a cap-and-trade program applies, the emission allowances should have a significant price and use a price structure that is consistent across industries. Otherwise, political deal making will eliminate its effectiveness.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

This needs to be an agency with significant independence from special interest political influence, or the program will fail.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

This question needs to be answered for the whole of the U.S., not just those people that happen to be associated with the agricultural community or Farm Bill programs. Rather than making exceptions from the program for specific communities, welfare concerns should be addressed by offset payments funded from proceeds of the carbon tax or credit sales.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Proceeds from a carbon tax or sale of carbon credits can be offset by a combination of tax reductions in other areas and direct payments for low-income people negatively impacted by the carbon tax or carbon credit program.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

No, because transitional assistance often becomes permanent assistance (e.g. commodity direct payments). It is better to phase in the carbon reduction program than provide transition assistance to politically designated parties.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Public lands should be managed in such a way that they do not increase carbon emissions, and public facilities should be actively reducing carbon emissions.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Lower limits on carbon prices should be established to ensure active reductions in total emissions.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

We need to be more effective at reducing carbon emissions than the EU has been. No free credits should be distributed.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

Science-based performance standards are essential in any program. There are carbon credits being traded now that do not have a strong foundation in science and are thus a waste of funds with no real permanent carbon emission reductions

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

The only criteria used should withstand long-term peer-reviewed science.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

The only criteria used should withstand long-term peer-reviewed science

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Long-term peer-reviewed science.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Standards-based approach based on rigorous science. The measurement and accounting system for individual project measurements would be too expensive.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?

Please respond in 300 words or less.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Only those credits with rigorous science standards behind them and permanency in duration should be allowed.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

This should be answered only in relation to long term outcomes with regard to total carbon emission reductions. If Congress wishes to provide for other environmental markets, that is fine, however, the carbon emissions reduction program should not be compromised.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Set the carbon prices first, then adjust assistance programs. Don't try the reverse, because trying to adjust carbon credit prices to assistance given would be way too complex. There will be too much complexity in the carbon market even without trying to adjust prices for other factors like technical or cost-share programs.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Yes, we are paying for outcomes, not "nice tries". Participating in a carbon market carries the same risk as any other production activity, so should be covered by insurance, not by forgiveness. The latter leads quickly to an ineffective carbon market.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

The outline should be in legislation and the details in rules. There is no way that the complexity of these credits can be spelled out in legislation. This should be in EPA or a new agency, not USDA or some other sector-oriented agency.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

The biggest obstacle will be imposing a very complex program. Science-based and as simple as possible should be the principles.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

Clearly no, current programs are not designed for permanent carbon emissions reductions. The largest farm program expenditures by far, the commodity support programs, strongly incentivize annual row-crop production and associated carbon emissions. The ethanol mandates, an indirect farm program, are not based on total carbon emission reductions, so they encourage more corn production and do not achieve significant emission reductions. The ethanol mandates need to be shifted to a carbon emissions/reductions basis, which would rapidly shift the ethanol feedstock to perennial species. None of the conservation programs, except for those with permanent easements (WRP) provide permanent carbon sequestration, since a return to row-crop production will lead to loss of sequestered carbon. Even CRP has limited sequestration potential if shallow-rooted species like brome-grass are the primary cover.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

The standard should be real carbon emissions reductions, which means that low-carbon fuel standards and life-cycle analyses are essential in any program related to biofuels. Carbon sequestration credits should only be allowed for permanent sequestration, since there is no mechanism for recovering payments if the sequestration ceases. That would mean permanent easements on land where sequestration is paid. The U.S. can no longer afford subsidies for practices that do not achieve stated goals.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
EVOLUTION MARKETS, INC.
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name: **Evan A. Ard**

Organization(s) you represent: **Evolution Markets Inc.**

Address:
[Redacted]

Email:
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

I am Director of Marketing and Communications for Evolution Markets. In this capacity I coordinate public policy outreach for the company relative to the environmental markets in which we participate.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why? *Please respond in 600 words or less.*

Congress should choose to address the environmental and economic challenges of climate change through the market-based approach of cap and trade.

Cap and trade is the best means to meet specific environmental objectives at the lowest possible cost to the economy.

The "cap" mandates specific emissions reductions among covered sources. As long as the cap is set at a low enough level to effectively address climate change, Congress can ensure its climate goals will be met. A carbon tax, however, does not directly mandate emission reductions and therefore may not achieve the ultimate goal of climate legislation: reduce global concentrations of greenhouse gases and reducing the threat of global warming.

The "trade" portion of a cap and trade program provides a market-based tool for reducing the impact a carbon reduction program would have on the economy. To be sure, setting carbon caps will impact the US economy. In fact, this is by design. By establishing a cost for carbon, Congress will enable price signals in the economy that capture the environmental externalities of carbon intensive industries. This is likely to change consumer, business, and government behavior, therefore acting as a proxy for efficiency.

However, the ultimate cost to the economy would be less under cap and trade, as sources would have the ability to seek the lowest cost sources of reductions through trading. For example, a utility in one portion of the country may have a marginal cost of carbon abatement of $30/ton, but a utility in another portion of the country may have a cost of $15/ton. Cap and trade seeks economic efficiencies by permitting the utility with the lowest cost of abatement to reduce more than they are required and sell the excess allowances in the market, perhaps for $20/ton. This utility achieves a profit of $5/ton of carbon reduced and the buying utility lowers its costs of abatement by $10/ton.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

The agriculture and forestry sectors should not be covered under the cap of a carbon reduction program. Rather, these sectors should be eligible to participate in a carbon offsets program.

The agriculture and forestry sectors do not contribute as many carbon emissions as stationary sources (i.e. power plants, industrial sources) or mobile sources (i.e. cars), however, they do contribute a significant amount of carbon to the atmosphere. Simple, and often low-cost, practices can be adopted to reduce carbon emissions from these sectors, making them ideal for projects that reduce carbon emissions.

Under a cap and trade program with offsets, the agriculture and forestry sectors can attract investment from entities seeking carbon offsets. Therefore, we recommend legislation include high-quality and clearly additional agriculture and forestry carbon reduction credits under its qualifying carbon offset project types.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Evolution Markets believes that a robust, transparent, and liquid carbon market is essential to meeting climate change goals. The manner in which allowances are distributed to the market can have a major impact on liquidity.

We have seen the benefit of a 100%, long-term allocation of allowances directly to effected sources in the US Acid Rain Program. These covered sources are given a rolling 30-year allocation of allowances at no cost. This has motivated the sources to seek the lowest cost of abatement, overcomply with their mandated reduction targets, and sell excess allowances in the market. As a result, the US SO2 program has been overcomplied virtually since the beginning of the program.

Furthermore with several years of emissions allowances in their accounts, many sources have leveraged their allocation to invest in abatement efforts. For example, sources can sell forward allowances they hold for cash that is reinvested in pollution control technology. This investment results in emissions reductions, often in excess of the allowances they sold.

A program that auctions 100% of allowances, however, does not afford this economic flexibility to covered sources. They have no economic incentive to overcomply, and they cannot engage in strategic investments that leverage their allowance allocation. In fact, sources will simply buy what they need.

There is a strong public policy case to be made for auctioning of some portion of allowances, and Evolution Markets supports this – given the percentage of auctioned allowances is not excessive. An allowance auction can provide useful price signals in a nascent market. Auctions can also generate useful revenue to invest in carbon reduction initiatives in sectors that are not covered under a cap and trade program, such as energy efficiency, residential reductions, or investment in the transportation sector.

Evolution Markets does not have a position on the allocation of allowances among covered sources.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Evolution Markets has not analyzed the issues raised by linking a federal cap and trade program with regional US cap and trade programs.

However, we believe it is highly advantageous for the US to link its cap and trade program to similar international cap and trade programs. Climate change is a global problem and requires a global solution. The broader the scope of the US program, the lower the cost of meeting its environmental objectives.

The US should link its carbon trading program to programs of similar breadth, including the EU Emissions Trading Scheme. Also, the US should link its carbon offsets program to

international carbon offset programs, such as the Clean Development and Joint Development Mechanisms established under the Kyoto Protocol. These established carbon credit programs are robust, produce high-quality offsets, and are designed to tap the lowest cost sources of carbon emission reductions – those in the developing economies.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

A US cap and trade program will require regulatory oversight from an experienced and well-funded government agency. Evolution Markets recommends regulation should be split among the oversight of compliance obligations and oversight of the carbon trading markets.

For the former, we believe the EPA has sufficient expertise with cap and trade programs under the Clean Air Act to regulate compliance, allocation, and the offset market. Adding the carbon market to the Agency's responsibilities will require a significant amount of resources, and we strongly recommend the Agency receives the funding adequately to meet the program's objectives.

Regulation of trading of carbon futures and derivatives created under a cap and trade program should fall under the purview of the CFTC.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a capand-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

Carbon futures and derivatives trading under a carbon cap and trade program should not be fundamentally different from futures and derivatives created in other markets. Therefore, the CFTC is well qualified to regulate these products should they arise in a carbon market.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured
instruments on regulated, transparent futures markets accessible to anybody and anyone; b)

flexible instruments on lightly regulated, transparent derivative markets accessible to only major market
participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.
Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

Evolution Markets is supportive of legislation that calls for increased transparency and reporting in the carbon markets, as well as additional regulatory authority to police carbon markets for transactional irregularities.

However, provisions requiring all carbon offset and allowance trades to be cleared and transacted on a designated exchange platform will ultimately result in significantly fewer clean energy and carbon reducing projects being developed, and impair the ability of small- and medium-sized companies to participate in the market for compliance. Many carbon offset transactions and structured allowance trades are non-standard and therefore cannot meet the fungibility test necessary for listing as a contract on a commodity futures exchange.

Furthermore, most carbon offset project developers and many regulated entities are small/mid-sized companies that do not have the ability or inclination to participate on exchanges as this would require them to post Initial Margin and Variation Margin, thereby tying up scarce capital resources.

Legislation should preserve an over-the-counter market in which all participants, including exchanges (designated and exempt), electronic trading platforms, brokers, and traders, are required to report trades on a daily or real time basis (as appropriate) to a designated regulatory entity with the authority to police the market for transactional irregularities.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

Evolution Markets is not in a position to assess impacts of carbon

program upon certain industries, regions, or economic sectors.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

The best use of revenues derived from a carbon cap and trade program is to invest proceeds in programs and technologies that contribute to additional carbon reductions in sectors not covered under the cap.

For instance, revenue could be invested in the deployment of existing energy efficiency technologies and programs across the US economy, They could also be invested in renewable energy technologies or to improve the efficiency of the US transportation sector.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

Evolution Markets does not have a position on transitional assistance for US businesses.

11) What role should public lands play in helping to sequester carbon and/or reduce GHG emissions?

Please respond in 300 words or less.

Evolution Markets has not had sufficient experience in carbon offset projects on public lands to weigh in on this issue.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less

Carbon prices should be determined exclusively by market forces, and should not be subject to price limitations or other direct cost

containment measures.

Financial markets operate most efficiently when there is an environment of certainty and an absence of excessive government control. The institution of price caps or price floors introduces a measure of artificial and arbitrary market control that will inhibit the ability of markets to act in their proper capacity as a tool to meet climate change objectives.

Given the freedom to operate without undue government control and the uncertainty this brings, markets will find the proper equilibrium relative to prevailing supply and demand factors.

If cost containment is a public policy goal, there are effective, market-based means to achieve it. For instance, a robust and broadly based carbon offset market can serve to lower the overall cost of compliance under a cap and trade program. Providing effected sources the ability to fund carbon reduction activities by other sources – and at a cost lower than their own cost of abatement – can reduce the overall cost of the program.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underWay or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry? *Please respond in 600 words or less.*

To be sure, there were problems with the EU Scheme. For instance, Phase One of the program (2005-2007) was overallocated due to lack of solid emissions data and lack of political will to set tough emissions targets for effected sources.

In addition, some utilities benefited from selling power at higher prices with carbon factored in and from selling excess allowances. This was called a windfall for power producers, and did not benefit ratepayers.

Phase One, however, was intended as a test phase, and the EU learned its lessons. Allocation was based on real emissions data for the next phase (2008-2012). Allocation was considerably tougher – a 20% reduction from Phase One. In addition, allowances will be auctioned. First just a small portion, but the percentage quickly ramps up.

An important lesson from Europe is that the allocation system alone has resulted in carbon reductions. The EU cap and trade program is leading to real reductions in overall carbon emissions in Europe. Even in the first phase more than 100 million tons of carbon were reduced. (Ellerman Study, MIT) Clearly, reductions can be even greater with better emissions data and a stricter allocation.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

Currently the agriculture and forestry sector participates in the voluntary carbon offset market. Entities can invest in activities to reduce greenhouse gas emissions through specific activities in the agriculture and forestry sector that meet "additionality" standards for environmental integrity. Under this existing market structure, methodologies for carbon reductions from these practices are approved by independent, third-party standards organizations. Additional third-parties are chosen to verify reductions from individual projects, resulting in the creation of issued carbon credits.

This project-by-project approach to carbon offsets largely results in high-quality emissions reductions, but also suffers from inefficiencies and is prone to supply bottlenecks at resource constrained standards organizations.

Therefore, Evolution Markets supports a transition from a project-based credit market to one based on sectoral or performance-based standards. If effectively administered and focused on environmental integrity, performance-based standards can result in a high-quality, cost-effective supply of carbon offsets.

Evolution Markets supports the establishment of performance-based standards for the agriculture and forestry sector, as long as these standards meet best practices for environmental

additionality.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

The government should not limit the quantity of offsets issued annually. If an offset program establishes appropriately stringent oversight, validation and verification standards to ensure that the offsets are from real emission reductions, there is no environmentally-based reason to limit offsets. The availability of plentiful and inexpensive offsets will simply allow effected sources to achieve its emissions goals more cost effectively.

Carbon offsets should be seen as a mechanism to ease the transition from a carbon intensive economy to a low carbon economy. Offsets aid in keeping costs of compliance low as private industry and the government invest in the development of technologies that reduce our consumption of fossil fuels and make our economy more efficient.

As such, it makes economic and environmental sense to reduce the availability of offsets over time as the overall emission cap declines. In addition, the availability of inexpensive offsets will decline and high-emitting sources will be driven to reduce their own emissions notwithstanding the offset market. The offset market will allow the US to achieve its climate objectives in an economically sustainable way and will allow some of the more cutting-edge, and still very expensive, technologies to mature and become less expensive.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

We believe offsets should be available in the open market for purchase by the highest bidder. There is no need to prioritize the distribution of available offsets. The market will determine who "gets" the offsets and at what price.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

There have been multiple national and international registries established over the past ten years that have thoroughly analyzed this issue. For instance, the Clean Development Mechanism under the Kyoto Protocol has established workable methodologies for the validation and verification of offset projects covering a wide range of carbon reduction activities. In the US, there are numerous voluntary carbon offset standards that have developed similar criteria for approving and quantifying the reductions from carbon reducing projects.

To the largest extent possible, Congress should permit the appointed regulatory authority to accept existing criteria that it feels meets appropriate quality standards. Additional methodologies can be created by the regulatory authority in concert with market stakeholders.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less

The criteria for assessing offset projects should firmly be based on the principles of "additionality" and verification.

The goal of offset projects should be to encourage investment in the highest-quality and most cost-effective means to reduce carbon emissions. As such, Congress should consider mandate that qualifying offsets be truly additional, meaning:

- The carbon reduction activities are not otherwise mandated under another regulatory program. For example, if you are mandated to cap emissions from a landfill, you should not be able to create carbon credits for this activity even though this is a result from the activity.
- The carbon reductions activities should be over and above "business as usual" for the sector. For instance, if certain farming practices are widely adopted by the sector and these activities also reduce carbon emissions, credit should not be given. The goal of offset projects is to encourage new practices.

The carbon offset market has attempted in the past to also base project availability on an additional standard of financial additionality. This standard holds that were it not for the revenue derived from the sale of resulting carbon credits, the activity would not have been undertaken. Evolution Markets experience in the carbon credit market over the last six years is that this standard is untenable and virtually impossible to apply in practice. We do not recommend financial additionality be part of a system for assessing offset projects.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Setting verification standards for offset projects is complicated and involves several variables involving climate science, economics, and a direct knowledge of individual offset sectors. It would be difficult for Congress to establish such standards. The system should be designed by a panel of scientists, EPA, and US Department of Agriculture administrators, based on stakeholder input and using – to the greatest extent possible – existing offset standards established by international bodies or independent, third-party standards organizations.

20) Should Congress establish a standards-based approach with pre-calculated values or a projectbased approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

(Please see our answer to question #13 relative to establishing sector-based standards for eligible offset projects.)

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

The relationship between offsets and allowances should reflect the perceived integrity of the offset program. Assuming that the designated regulatory authority has approved an offset project and verified the emission reductions resulting from the project, it should issue offsets reflecting those emission reductions. Thus,

an offset should be fungible with allowances for compliance purposes. If an offset reflects an environmentally sound and verified reduction in GHG emissions, then the offset should be treated the same as an allowance.

22) Describe the most important factors in establishing the permanence and duration of offsets under
the program, including contract length and flexibility?
Please respond in 300 words or less.

When establishing durational offset requirements, the program should consider the particular pools in which carbon is stored. This will require differentiation between raw terrestrial carbon (i.e. carbon stored vegetation and soil) and product-based carbon, and also between aboveground and belowground pools of raw terrestrial carbon.

The differentiation between raw terrestrial carbon and product-base carbon is important. For instance, in forestry, a majority of the carbon captured by trees will commonly be transferred to a product-based form for long-term storage. At this point, the permanence of the plantation or forestland on which the trees grew is of little importance. Even if new trees are not replanted on the harvested site, the carbon captured by the site will continue to be stored in the manufactured wood products. Thus, in this situation, the program likely should consider the durational storage capabilities of the wood product with less emphasis on the future management of the land.

When considering the durational requirements of raw terrestrial carbon, the program should consider where carbon is being stored within the landscape. Land management practices will affect the amount of carbon stored belowground, in organic and mineral form, and aboveground, in vegetation. Generally, carbon stored in the soil will be stored for much longer periods of time. Mineralized or affixed soil carbon, in particular, may even be stored for geological time periods. Aboveground carbon, however, will only be stored until the vegetation, or the wood product created from that vegetation, decomposes and returns to the atmosphere.

In addition, regulators must pay particular attention to the large potential for reversal of carbon sequestration from below-ground storage of carbon. Carbon offsets created through no-till or low-till practices can be easily be reversed through a return to traditional tillage practices.

For all these reasons, program designers must determine which pools of carbon will be eligible for creating offsets. Only after this determination is made will program designers be able to develop legitimate durational requirements for particular types of offset projects.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)? *Please respond in 600 words or less.*

There have been numerous projects undertaken in the past 10 years to reduce GHG emissions based on both the voluntary carbon market and on the expectation that there would be national legislation that would establish a cap-and- trade program into which early reduction offsets could be sold. Congress should recognize and award such behavior by crediting emission reductions that have been rigorously validated and verified by recognized GHG registries such as The American Carbon Registry, the California Climate Action Registry, the Voluntary Carbon Standard, and The Climate Trust.

Congress should mandate that the appropriate regulatory agency should evaluate existing carbon standards programs for their environmental integrity and accept credits derived under these programs.

While Evolution Markets believes offset credits should be eligible from projects in place before the enactment of legislation by Congress, it does not believe in the banking of offsets. Offsets from pre-existing projects should be available for inclusion under the federal program from the date of enactment forward. Offsets generated in years prior to the enactment of climate legislation should not be included.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be

treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

We believe the demonstration of additionality should be required of all offset projects, whether existing or new. For existing projects, additionality should be demonstrated at the time of creation, not at the time of implementation of a federal cap-and-trade program.

Stackability should not be allowed between concurrent carbon reduction programs. For instance, one project receiving offset credits under the Clean Development Mechanism should also be able to qualify as a federal offset credits, but the credits cannot be used for compliance under both programs. This prospect of double counting should be avoided to ensure environmental integrity.

Projects producing carbon credits should not be excluded from benefiting from any additional environmental protections they affords – as long as these environmental benefits are not overlapping. Projects should be allowed to stack offset credits with non-carbon based environmental incentive programs, so long as additionality can be shown for each offset credit created.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Offset projects created, in part, through the use of governmental financial assistance should still be eligible for offset credits, so long as additionality can be demonstrated.

An important principle of carbon offset programs is to encourage investment in activities to reduce greenhouse gas emissions that might not have otherwise been undertaken. The government often provides economic assistance to the private sector to achieve similar goals, but this should not exclude projects benefiting from carbon offset revenue and government assistance from qualifying for use under a cap and trade program.

It is just these types of uneconomic projects we should attempt to support with an offset program, and therefore there should be no distinction relative to projects receiving federal or state assistance. This premise conforms with our previous statement that financial additionality should not be used as a criteria for assessing carbon offsets.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

A project developer should only be able to earn offset credits for carbon actually captured and stored. As with any land management activity (i.e. farming and forestry), results are never certain. Any other result would challenge the integrity of the cap-and-trade program.

Under these situations, however, the risk of non-delivery must be addressed by the contracting parties in a carbon offset transaction. Contracts between counterparties for carbon offset transactions effectively address delivery risks through delivery and payment terms and mitigate measures specific to offset types. For instance, forestry transactions often include "buffers" or "reserves" that set aside additional acreage should natural causes impair carbon credit generation. Additional risks of non-delivery beyond these set asides are the risk of the buyer or seller, depending on the terms of the contract.

Project developers and the purchasers of offsets also are able to hedge the risk of loss through currently available market mechanisms such as derivatives. An active carbon derivatives market already exists in Europe and is likely to develop quickly in the US should we adopt a cap and trade program.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Congress should not design the system. The system should be designed by a panel of scientists, EPA, and USDA administrators. To the greatest extent possible, the system should consider the adoption of existing carbon offset protocols, procedures, and market mechanisms.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Evolution Markets is not qualified to identify obstacles faced by agriculture producers and landowners to implement practices and technologies.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Existing conservation and forestry programs do not provide sufficient incentives to encourage implementation of practices to mitigate climate change impacts.

Permitting the use of forestry-derived carbon offsets to be used under the federal cap and trade program would create an important economic incentive to invest in sustainable forestry practices that reduce carbon emissions and sequester greater amounts of carbon.

Even still, the economics of many types of forestry projects are not properly aligned with the carbon market. Forestry projects are often long-term investments that result in the generation of carbon credits after an extended initial period. Aligning the long-term obligations of covered entities with the long-term nature of forestry projects is important. Furthermore, including forestry projects from countries outside the US where land costs are less, abatement opportunities are plentiful, and the climate can create offsets at a lower cost is essential.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
FARM FAMILY ALLIANCE[SM]

Family Farm ALLIANCE[SM]

[Redacted]

April 9, 2009

The Honorable Collin C. Peterson, Chairman
The Honorable Frank D. Lucas, Ranking Member
U.S. House of Representatives
Committee on Agriculture
1301 Longworth House Office Building
Washington, DC 20515

Dear Chairman Peterson and Ranking Member Lucas:

Thank you for your efforts to gather information and facilitate discussion on the role of agriculture and forestry in the climate change debate. On behalf of the Family Farm Alliance (Alliance), I respectfully request that this letter and attached report be included in the record associated with the Committee's recent request to provide input on carbon reduction programs.

The Alliance is a grassroots organization of family farmers, ranchers, irrigation districts and allied industries in 16 Western states. The Alliance is focused on one mission: To ensure the availability of reliable, affordable irrigation water supplies to Western farmers and ranchers. We are also committed to the fundamental proposition that Western irrigated agriculture must be preserved and protected for a host of economic, sociological, environmental and national security reasons – many of which are often overlooked in the context of other policy decisions.

It appears that the Committee's questionnaire focuses primarily on the important topic of carbon sequestration, cap-and-trade, and other carbon reduction proposals. We applaud the Committee for outreaching to the public and agricultural parties in particular for input on this topic. However, because the Alliance's focus is Western irrigation issues, most of the matters covered by the Committee's questionnaire are outside our area of expertise. Therefore we will leave the questionnaire to organizations more knowledgeable about the issues involved.

The Alliance would like to respond to the Committee's request for input on climate issues by providing specific suggestions for federal policies intended to minimize or avert the expected impacts of climate change on Western irrigated agriculture, which are likely to be of national significance.

Alliance Involvement with Climate Change Issues

The Alliance board of directors in February 2007 made climate change a priority issue for the Alliance to engage in, and later that year, we released a climate change report, titled *"Water*

Supply in a Changing Climate: The Perspective of Family Farmers and Ranchers in the Irrigated West". That report (attached) was prepared by a climate change subcommittee, members of our Advisory Committee, and water resources experts from around the West. Our report shows that climate change could further strain fresh water supplies in the American West. We must begin to plan for that now, and not wait until we are forced to make decisions during a crisis.

Alliance President Patrick O'Toole, a rancher from Wyoming, in June 2007 was invited to testify on this matter before the U.S. Senate Committee on Energy and Natural Resources. In the past year, our organization has been invited to speak on topic at meetings sponsored by the California Agricultural Irrigation Association, Water Education Foundation, National Water Resources Association, Idaho Council on Industry and the Environment, Nevada Water Resources Association, and the Mid-Pacific Water Users.

Later in 2007, Mr. O'Toole also testified before the Senate Energy and Natural Resources Committee on the SECURE Water Act, sponsored by Chairman Bingaman. The bill - recently enacted in the Omnibus Public Land Act (P.L. 111-11, Title IX, Subtitle F) - includes water science initiatives; water efficiency programs; and an attempt to better understand and adapt to the water-related impacts of global climate change. Many of these provisions are very close to recommendations provided by the Alliance in its testimony before Senator Bingaman's committee in June 2007.

In July 2008, I testified before the Senate Select Committee on Energy Independence and Global Warming, which conducted a hearing titled "Global Warming Effects on Extreme Weather." At that time, I emphasized that, while much of the debate surrounding what to do about climate change has centered on mitigation for greenhouse gas emissions, the Alliance believes that climate change policies for irrigated agriculture in the future need to address adaptive approaches that prepare for the worst case scenarios predicted for Western watersheds.

Recommended Strategies to Address Potential Impacts

Western water supplies are already inadequate to the demands of agriculture, urban growth and environmental enhancement. Climate change, we're told, will further reduce those supplies.

So how will we meet the ever-increasing demand for water in the West in an era when there will be an ever-decreasing supply? Improved conservation and efficiency by urban and agricultural water users is certainly part of the solution, but only part.

1. Implement a Balanced Suite of Conservation and Supply Enhancement Actions

We believe that it is possible to meet the needs of cities and the environment in a changing climate without sacrificing Western irrigated agriculture. To achieve that goal, we must expand

the water supply in the West. There must be more water stored and available to farms and cities. Maintaining the status quo simply isn't sustainable in the face of unstoppable population growth, diminishing snow pack, increased water consumption to support domestic energy, and increased environmental demands.

It strains credibility to believe that conservation alone will supply enough water for the tens of millions of new residents expected to arrive in Western cities during the coming decades. Farmers and ranchers understand that conserved water cannot realistically be applied to instream uses, as it will more likely be put to beneficial use by the next downstream appropriator or held in carryover storage for the following irrigation season.

Many water projects are ready and waiting to be developed in the West[1]. While conservation and recycling programs have done a tremendous job of meeting new growth, still, only a small amount of new water has been developed in the past 30 years. We cannot continue to "conserve just a little more" forever. It's time to start developing and implementing the water infrastructure needed to cope with a changing climate, meet the needs of a burgeoning population, and support a healthy agricultural base in the West.

2. Streamline the Regulatory Process to Facilitate Development of New Infrastructure

Modern, integrated water storage and distribution systems can provide tremendous physical and economic flexibility to address climate transformation and population growth. However, this flexibility is limited by legal, regulatory, or other institutional constraints, which can take longer to address than actually constructing the physical infrastructure[2].

The often slow and cumbersome federal regulatory process is a major obstacle to realization of projects and actions that could enhance Western water supplies. The Family Farm Alliance wants to work with Congress, federal agencies and other interested parties to build a consensus for improving the regulatory process.

3. Prioritize Research Needs

Our country has tremendous, but limited, resources available to fix our problems, so we must prioritize. One priority research items should be a comprehensive validation of West-wide changes in climate change-driven streamflow. This should be followed by quantification of the amount of additional reservoir storage, conservation targets, etc required to re-regulate this change in hydrology. This would quickly illustrate to policy makers the need to start modernizing our water infrastructure. This assessment should be accompanied by a

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[1] WESTERN WATER SUPPLY ENHANCEMENT DATABASE, Family Farm Alliance, 2005.

[2] CLIMATE WARMING AND WATER MANAGEMENT ADAPTATION FOR CALIFORNIA, Stacy K. Tanaka et al, Department of Civil and Environmental Engineering, Department of Agricultural and Resource Economics, University of California, Davis 95616

comprehensive study of the collective impacts of agricultural land and water changes in western states over the last 10 years, as well as predicted trends. A study of this sort may provide the type of hard findings that may help wake up policy makers on the "big picture" ramifications of this issue.

The potential water impacts associated with use of alternative fuels must also be studied. Throughout the West, we are seeing proposals to build plants to make ethanol, another "answer" that may (or may not) lower greenhouse gas emissions. An April 2007 *Sacramento Bee* editorial provides a reality check on how much water it would take to grow all the corn required to meet California's goal of producing a billion gallons of ethanol a year. According to the *Bee*'s calculations, that's about 2.5 trillion gallons of water for 1 billion gallons of ethanol, which is more than all the water from the Sacramento-San Joaquin Delta that now goes to Southern California and valley farms. Because there is only so much water for agriculture in California and other Western states, this means that some other existing crops will not be grown, thus furthering our dependence on imported food sources.

Another growing demand that will be placed on Western water resources is driven by power requirements. The total water consumed by electric utilities accounts for 20 percent of all the nonfarm water consumed in the United States. By 2030, utilities could account for up to 60 percent of the nonfarm water, to meet the water needs required for cooling and pollutant scrubbing. This new demand will likely have the most serious impacts in fast-growing regions of the U.S., such as the Southwest. Even without warming climate conditions, continued growth in these regions will put the squeeze on both water and power use. When you throw in climate change considerations, the projections look worse.

Conclusion

Climate change could further strain fresh water supplies in the American West. We must begin to plan for that now, and not wait until we are forced to make decisions during a crisis. Relying on agriculture to be a "shock absorber" to soften or eliminate the impending water shortage is not planning. It is a choice to put our heads in the sand and hope for the best. It is a decision that could worsen the overall impact of climate change on our nation's economy and security.

Millions of acres of barren land have been transformed into the most efficient and productive agricultural system in the world. About 5 percent of the land area of the West is irrigated, and the Bureau of Reclamation provides water to about one-fifth of that acreage. All of this has been done for a total federal investment of $11 billion. A 1998 study found that the economy of the United States receives a greater than 100% return each year on this investment[3].

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[3] That report and associated data was produced by Darryll Olsen, Ph.D. of the Pacific Northwest Project in Kennewick, Washington and Houshmand Ziari, Ph.D. of IRZ Consulting in Hermiston Oregon. The report was prepared for the Family Farm Alliance.

Now is not the time to retreat from our investment. Now is the time to enact sound policies that encourage continued investment in irrigated agriculture. Allowing water-short cities to absorb farmers' water supplies will significantly diminish domestic food production at exactly the same time global warming is predicted to severely adverse impact food production worldwide.

Europeans aggressively protect their farms and food production capability because they still remember the hungry years during and after World War II when they relied on other nations, America in particular, to feed them. The time has come – indeed, it's long overdue – for the United States to similarly adopt an overriding national goal of remaining self-sufficient in food production. Policy decisions on a wide range of issues ranging from taxation to the management of natural resources should then be evaluated to be sure they are consistent with that goal. It's hard to imagine a simpler or more important step to safeguard the American public.

Thank you for consideration of these comments. The Family Farm Alliance looks forward to working with the Committee to develop realistic and constructive solutions to the challenges of climate change in the Western United States.

If you have any questions about this letter, I encourage you or your staff to contact me at [Redacted] .

Sincerely,

Dan Keppen
Executive Director

Water Supply in a Changing Climate

The Perspective of Family Farmers and Ranchers in the Irrigated West

a report prepared by the family farm alliance • august 2007

Family Farm ALLIANCE℠

Protecting and enhancing
Western irrigated agriculture

Water Supply in a Changing Climate

The Perspective of Family Farmers and Ranchers in the Irrigated West

a report prepared by the Family Farm Alliance

Channel restoration project completed by Ladder Ranch along Battle Creek, Wyoming.

Family Farm ALLIANCE SM

Protecting and enhancing
Western irrigated agriculture

EXECUTIVE SUMMARY

The Family Farm Alliance is a grassroots organization of family farmers, ranchers, irrigation districts and allied industries in 16 Western states. The Alliance is focused on one mission: To ensure the availability of reliable, affordable irrigation water supplies to Western farmers and ranchers. We are also committed to the fundamental proposition that Western irrigated agriculture must be preserved and protected for a host of economic, sociological, environmental and national security reasons – many of which are often overlooked in the context of other policy decisions.

Climate change in the Western United States is not only tremendously important to the Alliance, it also is immediately relevant to farmers, ranchers and small communities all over the West. We are increasingly hearing reports that predict dire long-term hydrologic forecasts for the West. Despite the highly variable and uncertain nature inherent with climate change predictions, it can safely be concluded that, in the West, there will be less water stored in our biggest reservoir... the snow pack. More water in the form of rainfall and runoff will come at farmers and ranchers sooner in the season, when it may not be useful and may even present a threat.

Irrigators and agricultural consultants have identified several impacts to crops and livestock– both good and bad - that climate change may generate in the coming decades. Overall, hydrologic impacts in the form of the "triple threat": 1) increased evaporation of snowpack and surface water; 2) increased crop evapotranspiration and consumptive use; and 3) decreased groundwater recharge and surface runoff – will mean less water to work with and higher water needs.

Western water supplies are already inadequate to meet the demands of agriculture, future energy needs, urban growth and environmental enhancement. Global climate change, we're told, will further reduce those supplies. Working with farmers has made us incredibly sensitive to the big picture ramifications facing the future of Western agriculture, and the critical role reliable water supplies play in that big picture. We must immediately begin to address the critical challenges we face. A practical, prioritized approach to addressing these challenges is possible:

The fruits of the harvest, Umatilla Basin Project, Oregon, 1914. Source USBR

1. **The federal government must work in partnership with the states and local water managers to *prioritize research needs and quantify projected West-wide hydrologic impacts*;**
2. **State and local water management agencies should take the lead to *implement a balanced suite of conservation and supply enhancement actions*;**
3. **The federal government must *streamline the regulatory process to facilitate development of new infrastructure* by state and local water agencies;**
4. **Congress and the Administration should *make self-sufficiency in food production a national priority*; and**
5. **At all levels of government and in our communities, we must *find ways to protect farmland.***

Millions of acres of barren Western lands have been transformed into the most efficient and productive agricultural system in the world. Now is not the time to retreat from our investment. Now is the time to enact sound policies that encourage continued investment in irrigated agriculture. Allowing water-short cities to absorb farmers' water supplies will significantly diminish domestic food production at exactly the

same time global warming is predicted to severely adverse impact food production worldwide.

The U.S. recently became a net importer of food, and the safety of that food is becoming increasingly suspect. President Bush has given a new Cabinet-level committee just 60 days to develop plans to guarantee the safety of food and products imported into the U.S.[1] As food production moves off shore, a large part of our security is moving with it.

Climate change could further strain fresh water supplies in the American West. We must begin to plan for that now, and not wait until we are forced to make decisions during a crisis. Relying on agriculture to be a "shock absorber" to soften or eliminate the impending water shortage is not planning. It is a choice to put our heads in the sand and hope for the best. It is a decision that could worsen the overall impact of climate change on our nation's economy and security.

[1]*The Interagency Working Group on Import Safety was established and met for the first time in July 2007.*

BACKGROUND ON THE FAMILY FARM ALLIANCE

The Family Farm Alliance is a grassroots organization of family farmers, ranchers, irrigation districts and allied industries in 16 Western states. The Alliance is focused on one mission: To ensure the availability of reliable, affordable irrigation water supplies to Western farmers and ranchers. We are also committed to the fundamental proposition that Western irrigated agriculture must be preserved and protected for a host of economic, sociological, environmental and national security reasons – many of which are often overlooked in the context of other policy decisions.

Alliance Involvement with Climate Change Issues

The Family Farm Alliance Board of Directors at its 19th Annual Meeting in Las Vegas in February 2007 established a subcommittee to develop a white paper that addresses the important issue of climate change, its possible impact on Western water supplies and irrigated agriculture, recommendations on how to plan and provide stewardship for this change. The board of directors felt that this issue could once again demonstrate the Alliance's realistic approach to problem solving.

The members of the subcommittee assigned to this task were pulled from the Alliance's Advisory Committee, and include Gary Esslinger (Elephant Butte Irrigation District, New Mexico), Jamie Mills (Newlands Water Protective Association, Nevada), Dick Moss (Provost & Pritchard, California), Bob Stackhouse (Central Valley Project Water Association, California), Jeff Sutton (Tehama-Colusa Canal Authority, California). Alliance President Patrick O'Toole (Ladder Ranch, Wyoming), Executive Director Dan Keppen (Oregon), Counsel Gary Sawyers (California) and Joe Raeder (Washington, D.C.) contributed to this effort. We also appreciate the input provided by Colorado Water Resources Research Institute at Colorado State University, the Wyoming Water Association, and the Wyoming Water Development Commission.

CLIMATE CHANGE IMPACTS TO AGRICULTURE: OUR CONCERNS

Potential Climate Change Scenarios

In the past six months, the public has been inundated with a flood of new studies that focus on projected climate change impacts to Western water resources. Predictions and conclusions reached about the impacts climate change will have on future water resources availability are as varied as the Western landscape. However, we are increasingly hearing reports that predict dire long-term hydrologic forecasts for the West. One such analysis by Richard Seager at Columbia University in New York suggests the region is in the early stages of a profound shift in climate that may last for decades. The models used in that study predict prolonged drought conditions in the western U.S., with rainfall reducing by about 1.4 inches each year until 2150. Seager's work suggests that drying of arid lands in the southwestern United States and northern Mexico will have

important consequences for water resources, regional development and cross border relations and migration. According to the models, the drying should already be underway and, over the length of time it takes to plan significant changes in water resource engineering and allocation (years to a few decades), will become well established.

Several other studies further focus on specific regions or watersheds and are briefly discussed below.

Yuma Water Users Assocation installed extensive improvements including automated water tracking systems, measurement stations, and key canal structures. Source: U.S. Dept. of Interior website

Arizona

Experts in Arizona say that climate change is occurring and will likely have more impacts in the future to water resources. A climatic water budget runoff model has been developed for the Salt and Verde River basins of central Arizona (Balling, 2007), which used the outputs of six global climate models to estimate runoff in the future under assorted "scenarios" developed by the Intergovernmental Panel on Climate Change (IPCC). Due to projected warmer temperatures by the year 2050, projected changes in runoff for the two basins suggest that the runoff from the Salt and Verde will have approximately an 85% chance of being less in the future due largely to warming in the study area. This could have significant impacts for these two basins, which have six dams, a variable hydrology, and a total storage capacity of 2.3 million acre-feet (as compared to the 50.2 million acre-feet "live" capacity of Lakes Powell and Mead on the Colorado River).

California

A report released by the State of California (California Climate Change Center, 2006) predicts that climate change will result in a drastic drop in the state's drinking and farm water supplies, as well as more frequent winter flooding. The report suggests that warmer temperatures will raise the snow level in California mountains, producing a smaller snowpack and more winter runoff. This means more floodwaters to manage in winter, followed by less snowmelt to store behind dams for cities, agriculture, and fish. By the year 2050, the statewide snowpack would shrink by 5 million acre-feet, more than the total capacity of Lake Shasta, the state's largest reservoir.

In an "average" winter, the slowly melting snow from the Sierra Mountains gets captured downstream by Central Valley reservoirs. By 2050, however, the State study predicts that average snowpack is likely to diminish by more than a third, and more precipitation will fall as rain rather than as snow, making it harder for the reservoirs to capture for the long summer the same amount of water. The dwindling snowpack could reduce deliveries of Sierra supplies to Central Valley farmers and cities by 10%.

According to another recent study developed by the University of California (Tanaka et al, 2007), agricultural water users in the Central Valley are the most vulnerable to climate warming. For the driest climate warming scenario assessed, the predicted hydrology would reduce agricultural water deliveries in the Central Valley by about a third. For that dry scenario, financial losses to the agricultural community would "likely result in an uncompensated structural change in the agricultural sector".

Colorado River Basin

A February 2007 report by a National Research Council (NRC) committee says agriculture is the likeliest target for shifting use to urban needs in the fast growing West. But it cautions that "the availability of agricultural water is finite." It adds that rising population and water demands "will inevitably result in increasingly costly, controversial and unavoidable trade-off choices" in managing a shrinking resource.

In the NRC study, tree-ring based reconstructions of the Colorado River's flow over hundreds of years show that average annual flows vary more than previously assumed and that extended droughts are not uncommon. Future droughts may be longer and more severe because of a regional warming trend that shows no signs of dissipating, the report adds. It also states that a preponderance of evidence suggests that rising temperatures will reduce the river's flow and water supplies.

Coping with water shortages is becoming more difficult because of rapid population growth. Technology and conservation will not solve the limited water supply problem in the long run, the report warns. For many years, understanding of the river's flow was based primarily on records from stream gages. But the tree-ring data demonstrates that the river occasionally shifts into decades-long periods in which average flows are lower, or higher, than the 15 million acre-feet average of the gauged record. In particular, tree-ring reconstructions show that the years 1905-1920 were exceptionally wet, which is significant because the Colorado River Compact governing allocation of water between upper and lower basin states was signed in 1922 when it was assumed that annual average river flow was closer to 16.4 million acre-feet. Tree-ring data also indicate that extended droughts are a recurrent feature of the basin's climate.

The committee also looked at how a steadily rising population and related increases in water demand will affect Colorado River water management. The population across the western United States has grown rapidly. Despite some successful water conservation efforts, urban water use in the region has increased significantly along with the expanding population. Increasing urban water demands are often met through sales, leases, or transfers of water rights from farm users. Although a significant portion of available water in the West is devoted to agriculture, this allocation is finite, the committee warned. Water transfer agreements will be limited in their ability to satisfy growing, long-term demand. Such agreements may also cause problems for third parties, such as downstream farmers or ecosystems. Technology and conservation measures are useful and necessary for stretching existing water supplies, the committee acknowledged, but any gains in water supply will be eventually absorbed by the growing population.

Hoover Dam, on the Colorado River. Source: USBR.

The NRC Colorado River report recommended that another study be undertaken of water use patterns and demands, population projections and possible effects of transferring water from agriculture to urban areas. The latter recommendation is one the Family Farm Alliance asked a U.S. Department of Agriculture advisory committee to implement (Family Farm Alliance, 2006).

Pacific Northwest

The IPCC recently released a report (Intergovernmental Panel on Climate Change, World Meteorological Organization, 2007) that predicts climate-change related impacts to water resources in the Pacific Northwest. Similar to predictions made in other parts of the West, dwindling moun-

tain snowpack is expected to make summer water scarce especially east of the Cascades, where agriculture is a strong component of rural communities.

Snowpack in the Cascade Range holds two-thirds of the region's stored water. As it melts during the dry summer months, it fills rivers, generates hydropower, and helps meet the water needs of irrigation, fish,

Ladder Ranch, Wyoming

recreation and growing urban areas. But, as noted earlier, Cascade snowpack has diminished in the past fifty years and is expected to further shrink. Projected warmer winter temperatures will cause snowpack to melt earlier in the spring, which could exacerbate both spring-time flooding and late-summer drought conditions. This prediction does not bode well for irrigation-dependent eastern portions of Oregon and Washington.

"We expect more contention over water resources much like what we have seen in the Klamath Basin," Mark Abbott, co-chair of Governor Kulongoski's Climate Change Integration Group, recently told the Oregonian newspaper (Hill, 2007).

Utah

A 2003 study directed by Congress and led by Utah State University professor Frederick Wagner lays out a variety of possibilities if temperatures increase from nearly 4 to 6 degrees Fahrenheit by 2100. The potential scenarios range from increased precipitation (with decreased snowpack and greater downstream flood risks) to decreased precipitation (desertification and a decline in water resources). In all scenarios, water management changes would be required, and the worst-case scenario would likely trigger water transfers from agriculture to urban areas, which would contribute to a sharp decline of farming and ranching. A particularly vulnerable area is the heavily populated Wasatch Front, where the nearby Great Salt Lake could rise, causing extensive flooding.

The impacts in all of these scenarios are exacerbated by a backdrop of a dramatic explosion in growth and development in recent decades. Across the Colorado River Basin, which includes parts of Utah, 85 percent of the water consumed by households, industry and farms comes from snowmelt. As in other parts of the Mountain West, the biggest factor in terms of warming temperatures will be the timing of the snowmelt and the amount of variability between rain and snow.

Water resources experts in Utah also realize that new surface water storage projects may be necessary to capture more snowmelt or more water from other sources (Schmidt, 2006). The Southern Nevada Water Authority – which has essentially used up its share of Colorado River water - is already planning to take groundwater out of aquifers near and under the Utah-Nevada state line and pipe it to Las Vegas. Ranchers in this area are fighting this proposal.

Summary of Anticipated Impacts

Summary of Potential Hydrologic Impacts

The Western Governors' Association (WGA) recently testified in support of a bill that would reorient and fully fund the U.S. Global Change Research Program to make it more user-driven. The WGA testimony (Bittleman, 2007) mirrors many of the common themes and findings developed in the reports identified above. WGA found that we can expect to see the following general effects and impacts caused by warming future temperatures in the Western U.S.:

- *Smaller snow packs and earlier snowmelt* will affect reservoir storage and demand for water and impact productivity and value of hydroelectric generation;
- *More rain than snow* is likely, with uncertain projected impacts to overall precipitation amounts in specific areas;
- *Extreme flood events* could be more common and larger; and
- *Droughts and higher temperatures* would be more intense, frequent and last longer, which would increase stream and reservoir evaporation, diminish surface water supplies, and stress groundwater supplies and water quality.

Despite the highly variable and uncertain nature inherent with climate change predictions, it can safely be concluded that, in the West, there will be less water stored in our biggest reservoir. . . the snow pack. More water in the form of rainfall and runoff will come at farmers and ranchers sooner in the season, when it may not be useful and may even present a threat.

Potential Impacts to Crops and Livestock

Irrigators and agricultural consultants have identified several impacts to crops and livestock– both good and bad - that climate change may generate in the coming decades.

Overall, hydrologic impacts in the form of the "triple threat": 1) increased evaporation of snowpack and surface water; 2) increased crop evapotranspiration and consumptive use; and 3) decreased groundwater recharge and surface runoff – will mean less water to work with and higher water needs. However, other more specific impacts include:

Irrigated crops turn carbon dioxide into oxygen

Negative Impacts to Crops

- The potential for increased heat stress to crops during pollination and maturation – which will impact both crop yield and quality;
- Increased weed competition and spread of invasive species;
- Increased insect and disease over-wintering;
- Increased soil salinity and related water quality impacts;
- Increased night temperatures, which can increase respiration and reduce yields;
- Concern about loss of pollinators (honeybees); and
- Potential loss of soil carbon.

Negative Impacts to Livestock

- Increased range and pasture competition from weedy and invasive species;
- Potential for increased summer heat stress due to prolonged number of days where temperatures exceed 90°F;
- Change in native range forage quantity and quality; and
- Loss of irrigated lower value crops (hay and grain). Water shortage or continued conversion of these crop lands towards support of ethanol or biodiesel will further reduce feeding industry competitiveness.

There are also possible benefits to crops and livestock resulting from predicted climate changes. For example, increased CO_2 levels have been shown to increase crop growth in laboratory and greenhouse settings. At this time, however, the impact in actual field situations is unclear. Also, in northern parts of the country, the increased number of frost-free days and increased "heat units" would benefit growers. Similarly, milder winters may improve the wintertime rate of weight gain and survival rates for calving and lambing operations.

WHAT WESTERN IRRIGATORS HAVE DONE

While a great deal of scientific inquiry and public discourse has been focused on climate change and its possible consequences for the planet's future, Western irrigators and irrigation districts are concerned about the problems threatening their water supplies today – drought and urban population growth. Even without climate change, these factors present an immediate crisis for agricultural water users in the West. If the effects of climate change are anything like those outlined in the research summarized previously, Western irrigated agriculture could be largely eliminated. This is of extreme concern to farmers and ranchers and their communities. It ought to be of great concern to our nation as a whole because climate change may result in a disruption of food production worldwide. If that is what is in store for us, then clearly this country cannot afford to lose the food production capacity of Western irrigated agriculture.

The ongoing, initial response of irrigators and water agencies to current water supply challenges can provide some insight into the possible measures that might be taken to cope with long-term water supply reductions resulting from climate change.

Water Conservation Improvements

Farmers and ranchers are remarkably resourceful business people, who employ creative strategies to survive prolonged drought periods. Throughout the West, creative measures have been taken to develop and efficiently manage water resources for irrigation:

- In the San Joaquin Valley of California, state-of-the-art drip irrigation systems water some of the most productive farmland in the world. Drip irrigation has also been recently installed on thousands of acres of California's Imperial Valley
- Further north, in the Sacramento Valley, producers and local governments are working to develop a regional water management program that will help address not only water quantity challenges, but also water quality and environmental issues. Those same growers 15 years ago were key players in a state-managed drought water bank that temporarily transferred local water to southern California to meet other statewide needs.
- In Idaho, water users are working with state and federal agencies and the Nez Perce Tribe to settle longstanding disputes and create more certain water supplies.
- Along the Columbia River, irrigators are developing water exchange programs to increase supply reliability while improving salmon habitat.
- In the Klamath Basin of Oregon and California, the federal government is spending millions of dollars to temporarily compensate producers for re-allocating

water for environmental demands. Stored water is being shifted from its initial intent - crop production - to a perceived need; to create artificial lake levels and artificial river flows in a naturally occurring cycle.

Farm Practice Improvements

Western farmers and ranchers are already taking actions to reduce greenhouse gases and other possible contributors to climate change. Some of these actions are undertaken consciously with this objective in mind; others have been implemented as part of the broad portfolio of actions that successful farmers have to take to stay profitable in today's fierce economic and regulatory climate. In virtually every Western state, there are examples of activities that agricultural producers are taking that have the overall effect of reducing carbon dioxide emissions, which many policy makers and media spokespersons believe are a primary contributor to global warming. These actions include:

- Use of cleaner and more efficient diesel engines;
- Reduction of energy needs on farms;
- Use of biodiesel;
- Low-till practices;
- Creation of methane plants to maximize dairy production and reduce waste and methane emissions to the atmosphere;
- Involvement in conservation programs (Conservation Reserve Program and other programs provided by the Farm Bill conservation title), which provide incentives to set aside thousands of acres of farmland for wildlife habitat; and
- Selling carbon credits to industries for approved management actions.

Probably most obvious - and most importantly - crops turn carbon dioxide into oxygen. Further, new research suggests that irrigation has kept croplands cool, essentially countering rising temperatures caused by greenhouse gas emissions over the last half century (Kueppers et al, 2007). That impact may be compounded by the predicted decreases in water available for agriculture in the future due to climate change. This, in turn, would cause more reductions in water supply, which would further restrict irrigation.

Drip irrigation system on wine grapes in Westlands Water District (California)

Success of Conservation Projects in Meeting Previous Challenges

Conservation efforts have been effective, but it overstrains credibility to believe that conservation alone will supply enough water for the tens of millions of new residents expected to arrive in Western cities during the coming decades. Also, conservation does not work in many cases, especially where the desire is to increase in-stream flow. Water that is conserved tends to be used by the next junior downstream appropriator and the flow remains the same.

The above examples demonstrate the creative measures that have been taken to develop and efficiently manage water resources for irrigation. These examples represent just a handful of the creative water management programs that Western irrigators are working on. Efforts to conserve water in urban areas have also been impressive, particularly in the Southwest.

Consider the commendable and dramatic conservation measures imposed by the Southern Nevada Water Authority (Authority)

in the urban areas around Las Vegas:

- In 2005, community residents and businesses converted more than 15 million square feet of turf, resulting in savings of more than 846 million gallons of water. The progress in 2005 brought the Water Smart Landscapes program total since 1999 to 67.8 million square feet, with a savings of more than 3.7 billion gallons of water. This helped the community achieve water savings of about 29.5 percent—surpassing the 25 percent goal five years ahead of the planned 2010 deadline.

Wyoming wetlands created via partnership with private landowners and U.S. Dept. of Agriculture. Western irrigators are involved in conservation programs, which provide incentives to set aside thousands of acres of land for wildlife habitat.

- New restrictions were imposed on landscaping;
- Use of recycled water was stepped up dramatically;
- Casino-hotels along the Las Vegas Strip have made significant investments in water features, capturing and treating grey water and using recycled water; and
- A stiff four-tier rate structure was imposed, as were high connection charges.

With conservation measures in place, southern Nevada reduced water use by 65,000 acre-feet in two years. However, despite these aggressive conservation actions, the Authority is moving with equal determination to develop new water supplies in other parts of the region, since probabilities of shortages on the Colorado River are likely going to increase over time. As noted earlier, the Authority is already planning to take groundwater out of aquifers under the Utah-Nevada state line and pipe it to Las Vegas.

So, this particular example – which describes some of the most innovative and aggressive conservation measures undertaken in the West – suggests that even the highest level of conservation is insufficient to keep up with new demands caused by new residents moving to Las Vegas. We envision similar situations to arise in other parts of the West as a result of climate change and ever-increasing population growth.

Impacts of Previous Challenges to Meet Diminished Water Supplies

The West is the most rapidly growing part of the United States. Yet, water supplies there are essentially static. In some areas, urban demand for water – and land – is straining agriculture and rural communities to the breaking point. New environmental water demands imposed by regulatory agencies or courts also first look to agriculture (Family Farm Alliance 2006). This is happening in every state, but farmers and ranchers point to some striking examples:

- A report released in April by Environment Colorado found that, from 1987-2002, Colorado lost an average of 460 acres per day of agricultural land. The report predicts 3.1 million more acres will be lost to development by 2022.
- Arizona's Salt River Project (SRP) is the "poster child" for transfers of agricultural water to urban areas. In a few years, the SRP will cease to provide water to agriculture in order to meet new demands exerted by development.
- In Las Vegas, Nevada, over 70,000 new residents are moving in every year, and Southern Nevada Water Authority is looking to rural areas to satisfy its growing thirst.

- A restoration agreement developed for the Platte River could potentially dry up hundreds of thousands of acres of farmland in Nebraska and Wyoming, in order to reallocate water to meet the perceived needs of ESA-listed fish and wildlife.
- According to the American Farmland Trust, the California Department of Conservation documented more than 1 million acres of farmland in the state that were converted between 1988 & 1998. Last year, California's population officially topped 37 million, and the California Department of Finance predicts that the state's population will reach 59.5 million by the year 2050 (State of California, 2007).

Farmers, ranchers and rural communities cannot solve the water supply problem created by the Western population boom. Nor can they be expected to sacrifice their livelihoods for the "greater good" of golf courses, strip malls and housing developments.

Farmland is disappearing at a time when the U.S. needs a stable domestic food supply (just as it needs a stable energy supply). We are concerned that this critical issue – which becomes even more serious when viewed in the context of projected climate-change impacts to water supplies - is being overlooked by our national leaders.

A reliable, safe and sustainable domestic food supply is just as important as a strong military to the protection of our national interests. The post 9/11 world of terrorist threats makes the stability of domestic food supply even more pressing.

Other Potential Future Demands on Western Water Supplies

Throughout the West, we are seeing proposals to build plants to make ethanol, another "answer" that may (or may not) lower greenhouse gas emissions. An April 2007 *Sacramento Bee* editorial provides a reality check on how much water it would take to grow all the corn required to meet California's goal of producing a billion gallons of ethanol a year. According to the *Bee*'s calculations, that's about 2.5 trillion gallons of water for 1 billion gallons of ethanol, which is more than all the water from the Sacramento-San Joaquin Delta that now goes to Southern California and valley farms. Because there is only so much water for agriculture in California and other Western states, this means that some other existing crops will not be grown, thus furthering our dependence on imported food sources.

With the high priority currently placed on ethanol and other biofuels, corn is currently a hot commodity. Because there is only so much water for agriculture in Western states, this means that some other existing crops will not be grown, thus furthering our dependence on imported food sources.

Another growing demand that will be placed on Western water resources is driven by power requirements. The total water consumed by electric utilities accounts for 20 percent of all the nonfarm water consumed in the United States. By 2030, utilities could account for up to 60 percent of the nonfarm water, to meet the water needs required for cooling and pollutant scrubbing. This new demand will likely have the most serious impacts in fast-growing regions of the U.S., such as the Southwest. Even without warming climate conditions, continued growth in these regions will put the squeeze on both water and power use. When you throw in climate change considerations, the projections look worse (Spotts, 2007).

THE IMPORTANCE OF WESTERN IRRIGATED AGRICULTURE

Western Irrigated Agriculture is Vital to the National Economy

Western water policy, over the past one hundred years, is one of the great success stories of the modern era. Millions of acres of arid Western desert have been transformed into the most efficient and productive agricultural system in the world.

Sprinkler irrigation keeps croplands cool, essentially countering rising temperatures caused by green-house gas emissions over the last century.

The Bureau of Reclamation operates about 180 projects in the 17 Western States. Reclamation projects provide agricultural, household, and industrial water to about one-third of the population of the American West. About 5 percent of the land area of the West is irrigated, and Reclamation provides water to about one-fifth of that acreage (in 1992, some 9,120,000 acres). Reclamation is a major American generator of electricity. In 1993, Reclamation had 56 power plants on-line and generated 34.7 billion kilowatt hours of electricity. All of this has been done for a total federal investment of $11 billion (U.S. Bureau of Reclamation).

A 1998 study by Dr. Darryl Olsen and Dr. Houshmand Ziari, estimates the impact of irrigated agriculture in the Western states to be $60 billion annually (direct and indirect income). Using Reclamation's estimate that 20% of irrigated agriculture receives water from Reclamation projects, then the annual return to the economy from the $11 billion investment in the federal system is $12 billion annually. In other words, the economy of the United States receives a greater than 100% return each year on this investment.

Western Agriculture Provides a Safe, Domestic Food Supply

Americans are justifiably concerned about the recent contamination of wheat gluten imported from China and used in pet food that killed thousands of animals in the United States. Earlier this year, federal agencies revealed that domestic chickens and pigs had been given feed similarly tainted by imported ingredients, and that many of the affected chickens had entered the nation's food chain. Those two events graphically demonstrate just how vulnerable the American public is to lax food safety standards in other countries, or potentially, to acts of food-based terrorism.

We all know that this country imports huge amounts of food. We've also now learned that the federal Food and Drug Administration (FDA) inspects only about one percent of that imported food. The call has now gone out to radically increase the FDA's inspection capabilities. Recently, former Secretary of Health and Human Services Tommy Thompson advocated for a doubling of the FDA's resources.

Mr. Thompson knows what he's talking about. This is the same man who, as he was leaving the Bush Administration, bluntly said, "I cannot understand why the terrorists have not attacked our food supply, because it is so easy to do."

However, while Mr. Thompson's proposal to bolster FDA's resources would represent an improvement, in reality, it means the agency would be able to inspect a whopping 2% of the imported food supply, thus leaving 98% un-inspected. Nobody should be very com-

fortable with an expanded inspection process that gives a foreign terrorist a 98% chance of succeeding in poisoning a commodity that finds its way into our food supply.

Yes, the U.S. has recently exp-erienced failures in its own food safety systems. But domestic food safety issues are within our power to address. Contamination of food stuffs produced by factories and farms beyond our borders is not.

RECOMMENDATIONS

So how will we meet the ever-increasing demand for water in the West in an era when there will be an ever-decreasing supply? Improved conservation and efficiency by urban and agricultural water users is certainly part of the solution, but only part. Climate change could further strain fresh water supplies in the American West. We must begin to plan for that now, and not wait until we are forced to make decisions during a crisis.

What We Must Avoid

Relying on agriculture to be a "shock absorber" to soften or eliminate the impending water shortage is not planning. It is a choice to put our heads in the sand and hope for the best. It is a decision that could worsen the overall impact of climate change on our nation's economy and security. Allowing water-short cities to absorb farmers' water supplies will significantly diminish domestic food production at exactly the same time climate change is predicted to severely adverse impact food production worldwide.

What Needs to be Done

Western water supplies are already inadequate to the demands of agriculture, urban growth and environmental enhancement. Global climate change, we're told, will further reduce those supplies. Working with farmers has made us incredibly sensitive to the big picture ramifications facing the future of Western agriculture, and the critical role reliable water supplies play in that big picture.

We must immediately begin to address the critical challenges we face. A practical, prioritized approach to addressing these challenges is possible, and essential. Our recommendations follow.

Grand Coulee Dam, Washington. The federal investment in the Columbia River Basin Project and other Western water projects generates a greater than 100% return each year. Source: USBR.

1. ***Prioritize Research Needs and Quantify Projected West-Wide Hydrologic Impacts***

Our country has tremendous, but limited, resources available to fix our problems, so accordingly we must prioritize and sequence our actions. An initial priority research item should be a comprehensive validation of West-wide changes in climate change-driven streamflow. This should be followed by quantification of the amount of additional above- and below-ground reservoir storage, conservation targets, etc. required to re-regulate the anticipated hydrologic regime changes. To optimize water management for beneficial use, researchers should look at scenarios where storage is spaced through the drainage. Potential storage sites should be located at high and low elevations to regulate and subsequently re-regulate the water supply to maximize beneficial use. A study of this type would quickly illustrate to policy makers the need to start modernizing our water infrastructure.

Congress should also authorize the U.S. Department of Agriculture (USDA) to work with national agricultural associations to assess the collective impacts to agricultural land and water use changes in western states over the last 10 years, as well as predicted trends. A study of this sort may provide the type of hard findings that may help wake up policy makers to the "big picture" ramifications of what is occurring across the Western landscape.

Both of these proposed studies lend themselves well to a private-public partnership that would add non-governmental farming

organizations, state agencies and academic institutions to a team of federal agencies including the expertise found within the Natural Resources Conservation Service, Bureau of Reclamation, and U.S. Geological Survey. For example, the Family Farm Alliance has partnered with Colorado State University and recently developed a proposal to the USDA for a project that would assess public attitudes and perceptions regarding agricultural water use in the West. That proposal has been funded by USDA. A similar type of proposal – one that involves producers, state and federal agencies, and academia - could be developed to create a partnership of the above agencies and other entities to collaboratively lead a climate change / hydrology research effort.

2. *Implement a Balanced Suite of Conservation and Supply Enhancement Actions*

We believe that it is possible to meet the needs of cities and the environment without sacrificing Western irrigated agriculture. To achieve that goal, we must expand the water supply in the West. There must be more water stored and available to farms and cities. Maintaining the status quo simply isn't sustainable in the face of unstoppable population growth, diminishing snow pack, increased water consumption to support domestic energy, and increased environmental demands.

It is simply ludicrous to believe that conservation alone will supply enough water for the tens of millions of new residents expected to arrive in Western cities during the coming decades. Farmers and ranchers understand that conserved water cannot realistically be applied to instream uses, as it will more likely be put to beneficial use by the next downstream appropriator or held in carryover storage for the following irrigation season.

Whether water shortages are attributable to drought or to climate change, reason dictates that measures should be implemented to provide more certainty for impacted water users. These measures should include rehabilitation of existing facilities and construction of new infrastructure. Many of the West's Reclamation projects are nearly a century old and many are badly in need of repair and/or modernizing. Rehabilitation measures should focus on maximizing the conservation effort through increased delivery efficiencies, construction of re-regulation reservoirs to minimize operational waste, and construction of new dams and reservoirs in watersheds with inadequate storage capacity to increase beneficial use and provide operational flexibility. Additional groundwater supplies should also be developed, but in a manner where groundwater use falls within the safe yield or recharge parameters of the aquifer. Conjunctive management of surface and groundwater supplies should be encouraged. As an example, groundwater might be utilized more during drought and allowed to recover during wet cycles. Installation of additional stream gauges, water meters, groundwater monitoring wells and better estimates of consumptive use are of paramount importance for the equitable management of available water supplies.

Temporary water transfers, conservation, recycling, and desalination efforts must

continue. However, these demand management actions must be balanced with supply enhancement measures that provide the proper mix of solutions for the varying specific circumstances in the West.

Many water projects are ready to be developed in the West (see Family Farm Alliance, 2005; also U.S. Bureau of Reclamation, 2005). While conservation and recycling programs have done a tremendous job of meeting new growth, only a small amount of new water storage capacity has been developed in the past 30 years. We cannot continue to "conserve just a little more" forever. It's time to start implementing the water infrastructure needed to cope with a changing climate, meet the needs of a burgeoning population, and support a healthy agricultural base in the West.

3. *Streamline the Regulatory Process to Facilitate Development of New Infrastructure*

Modern, integrated water storage and distribution systems can provide tremendous physical and economic flexibility to address climate transformation and population growth. However, this flexibility is limited by legal, regulatory, or other institutional constraints, which can take longer to address than actually constructing the physical infrastructure (Tanaka et al, 2007).

The often slow and cumbersome federal regulatory process is a major obstacle to realization of projects and actions that could enhance Western water supplies. In addition, there exists with agencies a defeatist attitude that no dams or water supply projects will be built. So, there is no commitment to earnestly begin and engage in the difficult problems described above.

4. *Make Self-Sufficiency in Food Production a National Priority*

Remarkably absent from the newly-ignited dialogue about food safety is a recognition of the importance of a secure and sustainable domestic food supply. Politicians from both parties now routinely urge us to end our reliance on foreign energy sources, but nobody is talking about food independence. A national response to climate change should include as one of its goals self- sufficiency in food production. It is time for our national leaders to stand up and focus on improving the security, stability, and economic aspects of domestic food production so that our food remains readily available, ample, affordable, and safe.

5. *Find Ways to Protect Farmland*

As previously noted, new research suggests that irrigation has kept croplands cool, essentially countering rising temperatures caused by greenhouse gas emissions over the last half century. Crops also turn carbon dioxide into oxygen. In addition to a multitude of other benefits (economic, security, habitat and open spaces, to name a few), our diminishing farmland needs to be protected. Federal funds and other money should also be authorized to help local governments protect farmland, analyze ways to keep farmland in production, set up grant programs for local governments and provide technical assistance to farmers. Congress should consider the option to encourage states to lease development rights from farmers to buffer their farmland.

Friant Dam, on the San Joaquin River, California. Temperance Flat Dam would be a new structure constructed on the San Joaquin River, above Friant Dam, which would provide much needed water supplies and hydroelectric power. Source: USBR

Opportunities exist to improve water conservation in Western agriculture, such as finding ways to minimize channel seepage losses. However, conservation alone cannot supply enough water for the tens of millions of new residents moving to the West. Source: USBR.

Conclusion

Europeans aggressively protect their farms and food production capability because they still remember the hungry years during and after World War II when they relied on other nations, America in particular, to feed them. The time has come – indeed, it's long overdue – for the United States to similarly adopt an overriding national goal of remaining self-sufficient in food production. Policy decisions on a wide range of issues ranging from taxation to the management of natural resources should then be evaluated to be sure they are consistent with that goal.

"Management of natural resources" equates to implementation. We must immediately begin on-the-ground work to maximize the ongoing conservation effort through increased delivery efficiencies, construction of re-regulation reservoirs, and construction of new dams and reservoirs in watersheds with inadequate storage capacity to increase beneficial use and provide operational flexibility.

It's hard to imagine a simpler or more important step to safeguard the American public.

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RESPONSE TO QUESTIONNAIRE SUBMITTED BY FLORIDA CRYSTALS CORP.; OKEELANTA CORP.; NEW HOPE POWER

HOUSE AGRICULTURE COMMITTEE
CLIMATE CHANGE QUESTIONAIRE
SUBMISSION OF FLORIDA CRYSTALS/OKEELANTA SUGAR
APRIL 9, 2009

Name: Van R. Boyette

Organization(s) represented: Florida Crystals Corp.; Okeelanta Corp.; New Hope Power.

Address: [Redacted]

Email: [Redacted]

Capacity: Consultant, Lobbyist. Okeelanta Corp. Vice President.

Part III: Carbon Reduction Program Additional Thoughts.

The purpose of this submission is to provide the Committee with some additional thoughts regarding the possible regulation of Agriculture in general and of the Sugar Cane Industry in particular under various regulatory scenarios currently being considered in the Congress. While we would not object to a Carbon Tax Approach given its relative simplicity, the unique nature of the sugar cane industry, with its bifurcation of the growing, processing, and refining of sugar, together with our large volumes of biomass residues leads to the submission of these comments as a recommendation of the fairest way to structure the general regulation of these components under a Cap and Trade approach.

Agricultural Exemption:

We believe there is a good case to exempt farming from regulation, provided farming activities do not result in "new" or "avoidable" GHG emissions.

Compared to industrial activities, farming of existing croplands has a low carbon footprint because the occurrence and frequency of carbon emitting activities (e.g. planting, cultivation, and harvesting using equipment that consumes diesel fuel) are relatively intermittent and of short duration, typically a few dozen hours per year/per acre in the aggregate. For example, in the case of sugar farming, we use mobile farming equipment that runs on diesel fuel (i.e. tractors and harvesters) at the rate of less than 25

equipment hours per acre/year. By contrast, industrial activities, such as fossil fuel power generation, tend to operate twenty four hours/day and on a year round basis. Accordingly, industrial activities will emit much larger volumes of GHG than farming. The data collected by EPA and others corroborates this statement. For example, according to the US Greenhouse Gas Inventory Report for 2006 published by EPA, farming activities account for less than 10% of total U.S. GHG emissions.

More importantly, all crops absorb carbon dioxide as a natural part of the photosynthesis and growth cycle. This carbon capture has a beneficial impact on the GHG balance and offsets GHG emissions from farming activity.

Admittedly, certain agricultural practices may result in "new" or "avoidable" carbon releases. For example, expanding new agricultural activities into conservation lands or lands which otherwise have been out of production for a long time may result in a net increase in GHG emissions. Similarly, the use of agronomic practices which do not conform to the "best management practices" guidelines (e.g. excessive use of fertilizers or other soil amendments) may result in avoidable GHG emissions. Any regulatory scheme should, at a minimum, discourage these practices.

In summary, we believe the above reasons justify farming activities an exemption from the GHG regulatory scheme, provided farming remains within existing croplands and follows BMP agronomic and harvesting practices.

If the Committee agrees with this approach, *in the case of sugar farming, we would recommend that this principle be applied up to the point that the sugar cane is delivered to the first processing facility. Industrial processing facilities which combust fuels and emit GHG should be regulated, as stationary sources, separate and apart from an agricultural exemption.*

If the Committee chooses not to go the exemption route and places all of agriculture under cap and trade rules for existing practices, then such regulation should recognize differences in net carbon footprints among the major crops. If Crop A has a lower baseline footprint per acre than Crop B then Crop A should bear a proportionately lower regulatory burden than Crop B.

In this regard, certain crops, due to the nature of the crop as well as farming practices, have particularly favorable carbon characteristics. For example, sugar cane has a dense leafy structure, grows year round, and is planted once every 3 years. Compared to crops that have a shorter growth cycles and are planted every year, sugar cane will have a more favorable carbon footprint and any regulation should recognize such differences.

In addition, there should be a mechanism to incentivize and reward improvements over a baseline footprint. *Any incentives or offsets should be tradable and distributed initially to the farmers who farm the land where the new practices are instituted.*

Regulation of Sugar Processing and Refining:

Historically, air emissions of control pollutants from stationary sources are regulated by the Clean Air Act, regardless of the industry classification or affiliation of the emitting sources. Accordingly industrial facilities which process raw agricultural feedstocks into finished products are regulated by the Clean Air Act and not subject to an agricultural exemption. The same regulatory framework should be followed in any carbon legislation. There should be a clean separation between farming and industrial activities, even when such industrial activities involve agricultural feedstocks. As explained above, we believe there is a strong case for the exemption of farming activities from any GHG emissions framework. However this logic does not extend to industrial facilities which process raw agricultural feedstocks.

Most if not all sugar mills process cane stalks into raw sugar using bagasse as a fuel source. As a result, the mills will be GHG neutral in a worst case scenario, assuming a de minimus allowance for fossil fuels consumed during start up and for GHG emissions other than carbon dioxide, such as methane and nitrous oxide. Sugar mills are currently regulated by the Clean Air Act and State Environmental Agencies. As such, they need not be regulated under agricultural cap and trade rules that might apply to farming practices, and should fare relatively well under any GHG regulatory scheme.

Furthermore, depending upon the circumstances, a sugar mill may generate excess bio-energy which is sold into the grid as renewable electricity or as a biofuel that displaces carbon fuels. In such cases, it is critical that these carbon displacing activities fully qualify for offsets and tradable allowances under Cap and Trade, unimpeded by a possible Agricultural exemption. *In this connection, it will also be important to clearly define that any tradable offsets resulting from these activities are the property of the producer of the renewable energy and not the buyer.*

Sugar refining, or the manufacture of food grade sugar, should be similarly regulated apart from the agricultural rules. Most sugar refineries (but not all) are located in port cities, divorced physically from the agricultural side, and will thus be using fossil fuels as an energy source. They should be regulated the same as other food processing plants and industrial facilities. However, to the extent that the United States imports refined sugar from countries that do not comply with applicable standards adopted pursuant to Cap and Trade, offsetting taxes or fees should be collected on the imported refined sugar.

In summary, we are happy to submit these observations and recommendations to the House Agriculture Committee and stand ready to work with you on the all important details as well as provide backup support as this legislation moves forward in the Congress.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
FOREST CLIMATE WORKING GROUP
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Forest Climate Working Group (FCWG)

Organization(s) you represent

The FCWG is a coalition representing the following organizations (American Forest & Paper Association, American Forest Foundation, American Forests, Binational Softwood Lumber Council, Hardwood Federation, Manomet Center for Conservation Sciences, National Association of Conservation Districts, National Alliance of Forest Owners, National Association of State Foresters, National Association of University Forest Research Programs, Trust for Public Land, The Wilderness Society, Weyerhaeuser).

Address

Email

Jad Daley: [Redacted]
Drue DeBerry: [Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Jad Daley and Drue DeBerry are the co-chairs of the Forest Climate Working Group. Organizations in the Forest Climate Working Group may submit additional answers to the questionnaire.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

NA

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

NA

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

NA

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

NA

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

We recommend that the U.S. Department of Agriculture and U.S. Environmental Protection Agency be given joint regulatory authority for any provisions pertaining to forestry. Because of USDA expertise working with forest landowners, USDA should play a strong role in the development of rules for offset programs. Additionally, USDA should be the primary department responsible for administering other incentives, beyond offsets, for additional climate mitigation in forests and forest adaptation tools for forest owners.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

NA

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

NA

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

NA

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

NA

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

NA

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

NA

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

NA

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

NA

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

U.S. forests must play a central role in our national climate strategy. America's forests and forest products annually sequester and store 10 percent of all U.S. carbon emissions—an essential contribution toward mitigating climate change. We must enhance our forests' sequestration capacity by providing offset credits and other incentives for private landowners to manage their lands for increased carbon sequestration and storage. Expert studies have shown that forest carbon offsets can help achieve our national emissions reduction goals in a cost-effective manner by lowering compliance costs for utilities and other covered entities under a cap and trade system. To maximize potential emissions reductions, forest landowners unable to participate in offset markets due to insufficient economies of scale or other constraints should still have access to incentives. We recommend that legislation offer these kinds of incentives beyond offsets, to ensure climate mitigation capacity in forests is maintained or enhanced. Incentives should be administered by USDA and could include programs modeled after conservation program or tax incentives. The participants in the Forest Climate Working Group have not reached agreement on the appropriateness of awarding allowances or auction proceeds outside capped sectors to

fund these types of incentives. However, if these revenue streams are made available the Group believes these types of incentives are appropriate.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

NA

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

NA

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

The Forest-Climate Working Group recommends that a range of U.S. forest carbon activities should be made eligible for participation in offset markets established by federal climate legislation, provided that they can deliver real, additional, and permanent emissions reductions that are equivalent to the emissions being offset.

All participating carbon pools in an offsets program expected to significantly change should be quantified and reported. Carbon pools include live and dead biomass, soils, and harvested wood products. Field measurements and estimates for forest-carbon projects and selected pools should be required to meet a specified benchmark for accuracy, to be reviewed and updated regularly over time using the best available scientific understanding. Third-party verification of reported amounts of carbon should be completed before they are registered for offset credits. A set of standardized tools to help determine which carbon pools will require measurement would mitigate compliance costs for landowners and project developers, and should be developed based on local/regional data. Measurement should not be required for carbon pools nearly certain to have increases.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

The Forest-Climate Working Group recommends that a range of U.S. forest carbon activities should be made eligible for participation in offset markets established by federal climate legislation, provided that they can deliver real, additional, and permanent emissions reductions that are equivalent to the emissions being offset. Eligible projects should include afforestation, reforestation, and forest management, with potential for others to be included

such as avoided deforestation. Projects should include forest management projects with increases in carbon stocks in forest pools, including live and dead biomass, soils, and harvested wood products.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

A system for verifying offset projects should ensure that third-party verification of reported amounts of carbon should be completed before they are registered for offset credits

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

NA

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

The Forest-Climate Working Group strongly advocates for the inclusion of forest carbon offsets in climate policy. Participants in the working group have not reached agreement on the appropriateness of awarding allowances or auction proceeds outside capped sectors, but we do have recommendations on how those revenue streams, if they were made available, should be utilized to broaden incentives for landowners to implement forest carbon projects that contribute toward national emissions reductions.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

The term "permanent" for forest carbon offsets should mean removal and/or storage of the subject carbon from the atmosphere for at least 100 years. Forest carbon contracts should assign clear obligation for reversals. Allowing market flexibility for landowners and project developers to establish forest carbon contracts of different duration in response to market demand would be appropriate, provided that the environmental integrity of emissions reductions is not compromised. Clear rules should be established for replacing shorter-term credits so that environmental integrity is maintained, and contracts of varying duration should be standardized to allow them to remain fungible in offset markets. Market flexibility should also include a suite of options to enable obligated parties to cover the risk of reversals.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

NA

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

NA

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

NA

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Yes. Forest carbon contracts should assign clear obligation for reversals. There should be a suite of options to enable obligated parties to cover the risk of reversals, particularly those risks presented by wildfires, hurricanes, and other natural disasters.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Legislation should provide broad guidelines for protocols and procedures, but the details should be left to the regulations. The U.S. Department of Agriculture should play a strong role in devising protocols and procedures.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Forest carbon offset markets should be carefully structured to minimize transaction and compliance costs—this will encourage the necessary level of participation from landowners and project developers to reach scale.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

No, existing conservation and forestry programs do not provide sufficient incentives. To secure the carbon sequestration and storage capacity of our forests, we must support and expand policies and programs that keep our forests as forests by slowing their conversion to non-forest uses and encouraging sustainable forest management. Incentive programs should adopt different project design guidelines than offset markets, but should be focused on climate mitigation activities with measurable climate benefits. This enhanced flexibility should be used to incubate innovative forest carbon activities and otherwise increase opportunities for landowners to participate.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

In addition to the above comments, the FCWG also developed consensus around the following topics that are important in the climate change policy discussions:

Leakage: Internal leakage should be documented and addressed, which will usually be accomplished if the appropriate geographic management unit is enrolled. Standardized mechanisms should be developed to account for and address external leakage.

Sustainability in Forest Projects: It is important to ensure that forest management implemented as part of forest carbon projects is sustainable. A range of approved methods should be provided for landowners and project developers to demonstrate sustainability.

Equivalence: Equivalence for forest-carbon offset projects with other offsets will be ensured if key elements of project design, including those detailed above, are adequately addressed.

Co-benefits: Forest offset projects can provide valuable co-benefits, including other ecosystem services. Projects should not be required to quantify co-benefits, but voluntary reporting could be advantageous for project developers.

Climate Research: If additional funds are made available through climate legislation, a portion of new funding should be directed to federal forest-climate research programs to help develop improved precision in forest carbon monitoring and to create new measurement tools that will lower transaction costs and increase participation by landowners.

Protected funds: If new revenues are provided for forest-climate programs (mitigation, adaptation, and research) through federal climate legislation, such funds should be placed in a dedicated fund and protected from diversion to other programs and purposes.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Afforestation	Excellent	Excellent	Medium	High
Reforestation	Excellent	Excellent	Medium	High
Forest Management	Excellent	Excellent	Medium	High

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
FOREST GUILD
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Robert Perschel
Organization(s) you represent

Forest Guild (www.forestguild.org)

Address
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

* Forest Guild Northeast Region Director (Bob is located in Holden, Massachusetts; the Guild's headquarters are located in Santa Fe, NM.;
* Coordinator of the Forest Guild Climate Working Group
* Co-author of *Climate Change, Carbon, and the Forests of the Northeast* (Published by the Forest Guild in December 2007; available on our website under "Publications")

The Forest Guild's mission is to practice and promote ecologically, economically, and socially responsible forestry – "excellent forestry" – as a means of sustaining the integrity of forest ecosystems and the human communities dependent upon them. The Forest Guild engages in education, training, policy analysis, research, and advocacy to foster excellence in stewardship, support practicing foresters and allied professionals, and engage a broader community in the challenges of forest conservation and management.

The Forest Guild is comprised of more than 700 foresters, allied professionals, students, and supporters who manage over 41 million acres. Headquartered in Santa Fe, New Mexico, the Guild maintains a presence nationwide with staff and volunteer coordinators in 12 states and nearly all major forest regions of the country.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

A direct carbon tax would be the most direct approach to addressing climate change because it would tend to change behavior of all producers and consumers. A cap and trade program can also be an effective approach if designed and monitored appropriately.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

NA

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Emission allowances should be fully auctioned. Any distribution of available allowances should be delivered to projects that can further mitigate or adapt to climate change but may not be easily covered in the offsets program.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

NA

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

We recommend that the U.S. Department of Agriculture and U.S. Environmental Protection Agency be given joint regulatory authority for any provisions pertaining to forestry. Because of USDA expertise working with forest landowners, USDA should play strong

role in the development of rules for offset programs. Additionally, USDA should be the primary department responsible for administering other incentives, beyond offsets, for additional climate mitigation in forests and forest adaptation tools for forest owners.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

NA

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

NA

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

Carbon reduction, if properly designed, need not have a negative impact on rural areas and forest landowners. However, the impacts of carbon reduction programs will be difficult to predict. Since rural populations will be disproportionate affected by both climate change and climate change policy, special measures must be included in said policies to help rural communities adapt to climate change and also fully participate in climate change mitigation activities through public and private land stewardship opportunities.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Revenues should be directed toward projects that increase carbon mitigation and adaptation on forest land by providing incentives for landowners to practice better forestry. Well designed projects can increase timber values, ecosystem services, reduce fire hazards and increase recreation amenities while they sequester additional carbon. This will make

ecosystems and rural economies more resilient to a changing climate. In particular, opportunities for green collar jobs and worker training programs can be augmented. Also, additional funding for research, education and monitoring should be priorities.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

NA

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Public lands should play a role in helping to sequester carbon and/or reduce greenhouse gas emissions. We need to carefully conserve and manage our forests in the face of climate change to maintain clean drinking water supplies, forest-based habitats for fish and wildlife, and forest products, among other key resources. Forest-based carbon sequestration and storage is at risk—recent studies suggest that forest stressors magnified by climate change could diminish this mitigation capacity and release stored carbon. We believe that the Forest Service should be a key actor in directing and funding a coordinated adaptation response to maintain our forest resources, including their mitigation capacity.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

NA

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

The most important lesson from ETS is to ensure that the cap be set at a level that lowers emissions and encourages trading of carbon offsets.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

U.S. forests must play a central role in our national climate strategy. America's forests and forest products annually sequester and store 10 percent of all U.S. carbon emissions—an essential contribution toward mitigating climate change. We must enhance our forests' sequestration capacity by providing offset credits and other incentives for private landowners to manage their lands for increased carbon sequestration and storage. Expert studies have shown that forest carbon offsets can help achieve our national emissions reduction goals in a cost-effective manner by lowering compliance costs for utilities and other covered entities under a cap and trade system. To maximize potential emissions reductions, forest landowners unable to participate in offset markets due to insufficient economies of scale or other constraints should still have access to incentives. We recommend that legislation offer these kinds of incentives beyond offsets, to ensure climate mitigation capacity in forests is maintained or enhanced. Incentives should be administered by USDA and could include programs modeled after conservation program or tax incentives.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

Yes, there should be an initial limit in offsets until it is determined the cap is working effectively and emissions are in fact being lowered. Once the systems effectiveness is confirmed additional offsets can be offered to enhance the emissions reductions.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

NA

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

The Forest Guild recommends that a range of U.S. forest carbon activities should be made eligible for participation in offset markets established by federal climate legislation, provided that they can deliver real, additional, and permanent emissions reductions that are equivalent to the emissions being offset.

All carbon pools expected to significantly change should be quantified and reported. Carbon pools include live and dead biomass, soils, and harvested wood products. Field measurements and estimates for forest-carbon projects and selected pools should be required to meet a specified benchmark for accuracy, to be reviewed and updated regularly over time using the best available scientific understanding. Third-party verification of reported amounts of carbon should be completed before they are registered for offset credits. A set of standardized tools to help determine which carbon pools will require measurement would mitigate compliance costs for landowners and project developers, and should be developed based on local/regional data. Measurement should not be required for carbon pools nearly certain to have increases.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

The Forest Guild recommends that a range of U.S. forest carbon activities should be made eligible for participation in offset markets established by federal climate legislation, provided that they can deliver real, additional, and permanent emissions reductions that are equivalent to the emissions being offset. Eligible projects should include afforestation, reforestation, forest management (including carbon sequestered and verified in forest products), and avoided deforestaion. Projects should include forest management projects with increases in carbon stocks in forest pools, including live and dead biomass, soils, and harvested wood products.

Theoretical modeling indicates that managing forests for certain forest products may increase the total on site and off site sequestration of carbon. We believe that forest products comprise a legitimate carbon sink and should be included in the overall calculation of acceptable projects. However, more research and modeling is required before the importance of this pool can be adequately determined, and needs to include credible methods to monitor, measure and verify carbon levels through time. For example, a full life cycle accounting is necessary to include useful life, fossil fuel consumption and the release of methane in landfills. The analysis needs also to account for carbon storage dissipation rates as wood moves through its life cycle. There are fundamental differences between on site carbon and off site carbon in relation to healthy forests. Forest management that builds an increasing amount of on-site biomass or carbon is more assuredly sustainable and ecologically sound than management practices that result in neutral or declining on-site biomass or carbon. Therefore, on site carbon is more valuable to overall forest health, function, and ecological co-benefits than off site carbon and consequently, from a holistic forest perspective, more beneficial to long term overall carbon sequestration.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

A system for verifying offset projects should ensure that third-party verification of reported amounts of carbon should be completed before they are registered for offset credits

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

A standards-based approach will be necessary because of the different forest practices regulations and best management practices now in place at the state level and the difficulty of establishing baselines and additionality above business as usual for individual management units. To satisfy the requirements that cap and trade programs sequester and store additional carbon, it is necessary to establish standards that are set to the long term averages of carbon that would be held in forests and/or forest products in a business-as-usual situation and then support specific projects that can sequester and store carbon above those averages, and above business as usual carbon levels for those projects. It will also be important to verify that the result of the total program is a movement upward from the projected business-as-usual regional or national averages. The baseline for new projects would then be adjusted accordingly to ensure continued improvement. Programs should allow for refinements of regional baselines where more detailed, reliable, project-specific data exists.

Appropriate baselines would allow cap and trade programs to:
1. Achieve additionality;
2. Provide economic incentives for landowners now managing less than adequately to enlist in these programs and improve their forest management practices; and
3. Provide economic incentives to landowners now conducting excellent management to continue these management practices and to enhance them.

Projects should also provide verification that the project is guided by forest sustainability standards. This can be accomplished through existing certification programs.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

The Forest Guild strongly advocates for the inclusion of forest carbon offsets in climate policy. Revenue streams that are generated by allowances should be utilized to broaden incentives for landowners to implement forest carbon projects that contribute toward national emissions reductions.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

It is important to clearly establish the goals of the cap and trade system in regard to critical phases and benchmarks for the buildup of atmospheric carbon and the associated effects on global climate. While we support storing sequestered carbon in forests for the longest time possible, there may be significant value in keeping carbon out of the atmosphere during particular periods of the global climate crisis. For forest carbon offsets permanent removal should mean at least 100 years. However, should public policy determine that it is advantageous to keep carbon in forests and out of the air for the next fifty years, for instance, until other removal techniques are developed and utilized, government programs might be established as part of a climate policy package that provide incentives for forest land owners to provide temporary carbon reserves.

In an offsets context, a ton of forest carbon stored is exchanged directly for the right to release a ton of carbon from fossil fuel or other industrial emissions. Equivalence between the offset and the emissions allowance it replaces demands that both last a similar period of time. Since permanence may be a barrier to some forestry sequestration projects, we recommend that offset credits from temporary forest carbon sequestration projects be considered as an option, provided that the environmental integrity of the emissions reduction is assured. As temporary forest carbon storage contracts reach the end of their term, permanence requirements compel offset purchasers, or project aggregators, to replace the forest stores with new offset contracts or with unused emissions allowances (which may be cheaper in the future as new low-emission technologies come on line).

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

NA

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

NA

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

NA

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?

Please respond in 300 words or less.

Yes. Forest carbon contracts should assign clear obligation for reversals. There should be a suite of options to enable obligated parties to cover the risk of reversals, particularly those risks presented by wildfires, hurricanes, and other natural disasters.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

Legislation should provide broad guidelines for protocols and procedures, but the details should be left to the regulations. The U.S. Department of Agriculture and the U.S. Environmental Protection Agency should have joint responsibility for devising protocols and procedures. Monitoring of program success and transparent reporting should be included in such protocols and procedures.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

Forest carbon offset markets should be carefully structured to minimize transaction and compliance costs—this will encourage the necessary level of participation from landowners and project developers to reach scale.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

No, existing conservation and forestry programs do not provide sufficient incentives. To secure the carbon sequestration and storage capacity of our forests, we must support and expand policies and programs that keep our forests as forests by slowing their conversion to non-forest uses and encouraging sustainable forest management. Incentive programs should adopt different project design guidelines than offset markets, but should be focused on climate mitigation activities. This enhanced flexibility should be used to incubate innovative forest carbon activities and otherwise increase opportunities for landowners to participate.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Internal leakage should be documented and addressed, which will usually be accomplished if the appropriate geographic management unit is enrolled. Standardized mechanisms should be developed to account for and address external leakage.

Some cap and trade systems require conservation easements as proof of permanence. Such a requirement would severely limit the participation of many private forest landowners, who own a great percentage of forest land in the country. Flexible contracts with durations shorter than 100 years should be used to attract this large landowning class into the program. These short term contracts must be appropriately discounted with provisions that the environmental integrity of the emissions reduction is assured.

It is important to ensure that forest management implemented as part of forest carbon projects is sustainable. A range of approved methods should be provided for landowners and project developers to demonstrate sustainability.

Equivalence for forest-carbon offset projects with other offsets will be ensured if key elements of project design, including those detailed above, are adequately addressed.

Forest offset projects can provide valuable co-benefits, including other ecosystem services. Projects should not be required to quantify co-benefits, but voluntary reporting could be advantageous for project developers.

A portion of new funding should be directed to federal forest-climate research programs to help develop improved precision in forest carbon monitoring and to create new measurement tools that will lower transaction costs and increase participation by landowners.

Any new revenues directed to forest-climate programs (mitigation, adaptation, and research) through federal climate legislation should be placed in a dedicated fund and protected from diversion to other programs and purposes.

The Forest Guild is a participant of the Rural Voices for Conservation Coalition (RVCC). RVCC is particularly concerned with how climate change will impact rural communities in the Western U.S. and the forests, watersheds and rangelands that dominate this landscape. RVCC is comprised of western rural and local, regional, and national organizations that have joined together to promote balanced conservation-based approaches to the ecological and economic problems facing the West. The following is an excerpt from the 2009 RVCC Climate Change issue paper (http://www.sustainablenorthwest.org/quick-links/resources/rvcc-issue-papers). The Guild helped

in the crafting of and endorses this issue paper as well as the following policy perspectives and recommendations:

"National policy addressing climate change will have dramatic effects on rural communities and landscapes. Specific components of national climate change policy, such as how resources are prioritized, credit allocation or distribution, offset eligibility, or the opportunity to participate in emerging markets will affect rural communities and landscapes. Therefore, rural communities should have a role in the collaborative development of national climate change policies. RVCC believes several key principles for rural communities and landscapes should guide how climate change policies are developed and adopted in the U. S.

1) Federal and state governments should foster the development and dissemination of reliable climate change information and tools to help build public understanding of climate change issues. Governments should assist rural communities in developing climate change assessments, strategies, and plans, and monitoring strategies to enhance collaborative learning and adaptive management.

2) Federal and state climate change policies must include strategies to ensure that low-income and other vulnerable populations receive assistance with climate change impacts. The needs of these populations in rural areas may be significantly different than those of urban low-income and vulnerable populations.

3) Federal and state strategies for public and private forest land management should integrate climate change considerations within collaborative, landscape-scale forest restoration efforts.

4) Markets for forest carbon-offsets and ecosystem services should encourage broad and diverse participation, provide access and opportunity for rural communities, and clearly address issues related to project scale, sustainability, and benefits to local communities.

Federal and state climate change policies should provide technical and financial assistance to rural communities for capacity building and workforce training to implement both adaptation and mitigation strategies."

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Afforestation	Excellent	Excellent	Medium	High
Reforestation	Excellent	Excellent	Medium	High
Forest Management	Excellent	Excellent	Medium	High

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
FRAMING OUR COMMUNITY,
INC.
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Joyce Dearstyne

Organization(s) you represent

Framing Our Community, Inc.

Address
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Executive Director

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Both a cap-and-trade program and carbon taxes/ fees correct the market failure associated with greenhouse gas emissions by forcing polluters to internalize the environmental cost of their emissions. Significant revenue streams for the federal government can be generated by both policies (to the extent that allowances under a cap-and-trade program are auctioned), and even without auctions, significant revenue streams for non-governmental participants may be generated through offsets in a cap-and-trade system. Despite the similarities of these policies on a number of criteria, a carefully crafted and regulated cap-and-trade program, with an option for additional policy mechanisms, is preferable.

A cap-and-trade approach provides certainty in the quantity of emissions from capped sectors, while a carbon tax/fee will provide certainty in the price of emissions. This is the trade-off: clear limits on emissions to prevent further environmental degradation or clear signals to the economy on the price of emissions. Considering the causes of climate change, the primary focus of any program should be strict and immediate emissions limits to ameliorate an urgent environmental problem and prevent catastrophic atmospheric change, a focus that favors a cap-and-trade approach. Carbon taxes do not guarantee any change in actual emissions.

Cap-and-trade programs to limit greenhouse gas programs are already being used internationally, allowing the U.S. to link with international efforts to address a global problem. The EPA has experimented with the use of cap-and-trade mechanisms through the authority of the Clean Air Act since the 1970's to reduce emissions of criteria pollutants, phase out lead from gasoline (EPA Gasoline Lead Phase-down), and regulate sulfur emissions from mobile source engines (EPA Averaging Banking and Trading Program). A domestic program to limit sulfur dioxide emissions illustrated the impressive results of a well designed cap-and-trade system, achieving emissions reductions at levels greater than expected with costs below expected levels.

Carbon taxes/fees have a narrower historical track record and are currently used in a more limited context internationally. Even with implementation of a carbon tax in Norway, actual emissions under the carbon tax rose higher than pre-tax levels due to increases in energy demand. Carbon taxes may also need to be adjusted periodically in order to ensure environmental effectiveness of the carbon reduction program. It is not immediately clear what effect frequent changes in the tax rate would have on the efficacy of the carbon reduction program.

Still, cap-and-trade and carbon taxes/fees are not mutually exclusive options and should be seen as complementary mechanisms. A carbon tax can probably be implemented more quickly and more easily than a cap-and-trade system; and the proposed regional systems do not cap all sources at the outset (WCI won't include transportation fuels under a

cap until 2015). Therefore, carbon taxes and other policy tools could be used as complementary instruments to provide a cost of carbon for emissions sources that will be, if not initially, included under a cap. Together, a combination of approaches including cap-and-trade, carbon taxes/fees, incentives such as tax credits, and renewable energy standards can provide a balanced approach to GHG reduction.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

Please respond in 300 words or less.

Agriculture and forestry should not be included as capped sectors under a carbon reduction program. These are natural systems, and to some degree, as we consider the climate change problem being caused by man or by anthropogenic sources of GHGs, it seems inappropriate to include natural systems as covered sectors or sources of GHGs. These systems have been part of baseline carbon dynamics since before industrialized man.

Agriculture and forestry are natural resource industries with integrated, broad ranging impacts on ecosystem services, including, but not limited, to the flux of atmospheric GHG concentrations. Ideally, the management decisions that produce positive GHG outcomes would also produce positive outcomes in other ecosystem services. This may often be the case, however, due to the dynamism of these systems, management activities that maximize GHG reductions or sequestration may sometimes conflict with other natural system values, such as the preservation of a species, or water quality outcomes.

In addition, there are specific challenges associated with including agriculture and forestry as covered sectors in a cap-and-trade program including the difficulty of monitoring national level emissions from these sources. Including these sectors in a mandatory cap-and-trade program could impose burdensome and unrealistic reporting requirements for businesses in these sectors. Small farmers and forest landowners would likely be the most negatively impacted, as the scale and scope of their resources are easily overwhelmed. Accordingly, in the event that agriculture and forestry were determined to be covered sectors under cap-and-trade program, it is essential that small forest landowners and agricultural producers be exempt from regulation.

Given these challenges with regulating natural resource industries for one particular outcome, it may prove ill advised at this time to include these sectors under a cap and trade system directly. These industries are better suited to incentive programs that will allow managers to maximize the benefits for multiple ecosystem values. The inclusion of forestry and agricultural offsets, with the appropriate monitoring protocol, would provide needed incentives to maximize GHG sequestration activities.

Ultimately, we do not think that at this time agriculture and forestry should be treated as covered sectors under a carbon reduction program. A cap-and-trade program that covers the only the electricity, transportation, and industrial sectors would be effectively comprehensive, addressing 80% of domestic greenhouse gas emissions. However, we do believe that agriculture and forestry should be included under a carbon reduction program through a carbon offset program that provides quality offsets based on biological sequestration. These sectors should also be targeted for financial and technical assistance

under a carbon reduction program to help address issues posed by changing climatic conditions, including opportunities to address adaptation.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

The distribution of emissions allowances will not affect the environmental integrity of a cap-and-trade program, but will have significant effects on distributional (i.e. regional, socioeconomic) equity of costs associated with a carbon reduction program. These distributional effects should be a primary consideration as policymakers craft their strategy for allowance distribution, and the goal should be a program that maximizes regional and socioeconomic equality in the face of a carbon reduction program.

Allowances under a cap-and-trade program will represent a relatively scarce commodity that will hold significant economic value. By auctioning emissions allowances to covered entities, government could collect revenues to be used in addressing specific public policy objectives, including minimizing impacts on vulnerable populations, aid to help natural ecosystems adapt to changing climates, strategies to encourage economic growth based on clean energy and a low-carbon world, and compensation for affected industries and consumers.

Studies have suggested that freely allocating allowances to covered entities increases the overall costs of a carbon reduction program by diminishing the capacity of governments to use new revenues to target those communities most affected by a cost of carbon ("Trade-Offs in Allocating Allowances for CO2 Emissions" Congressional Budget Office 2007). Evidence from the EU ETS, where allowances were freely distributed, has provided empirical support to these arguments as covered entities accrued windfall profits at the expense of energy consumers faced with increasing costs ("Cap and Trade 101: A Climate Policy Primer" Sightline Institute 2009). Additionally, a free distribution would shield emissions sources from a cost of carbon, clearly emasculating the primary market mechanism that cap-and-trade is intended to deliver.

We feel that a substantial majority of allowances should be distributed through an auction. However, we also recognize that the political reality suggests some portion of allowances will be provided at no cost; this may be prudent for the initial years of a carbon reduction program to mitigate costs and refine the programs associated markets and administrative mechanisms. When determining the exact strategy form the distribution of allowances, policymakers should seek to ensure that the costs of a carbon reduction program are not borne disproportionately by vulnerable populations, natural systems, and sectors or regions of the economy.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Nearly half of all states have already agreed to develop and participate in regional carbon reduction programs through the Regional Greenhouse Gas Initiative (RGGI), the Western Climate Initiative (WCI), and the Midwest Greenhouse Gas Accord. Not all state and regional programs have progressed on identical timeframes and each program is currently at a very different point in its development. Regardless, state and regional programs represent early action to address climate change and should be given credit, subject to requirements that these programs produce real, verifiable, permanent reductions in GHG emissions or increases in biological sequestration. These programs have also produced consensus-based standards and protocols that may be valuable tools in the development of federal/national level methodologies.

Federal policy will necessarily and explicitly address pre-existing regional and state policies in a number of ways: preemption, where federal policy erases pre-existing state and regional efforts; carve outs, where state and regional programs are allowed to opt out of the federal system and run their own markets; and layering, where the federal target and rules are put on top of existing state and regional programs (Point Carbon 2008: Preemptive Strike: The Future of Regional Trading Programs in the US). An important consideration will be how and to what extent it might be possible for states to pursue policies with more stringent targets and rules. Even with California as a notable precedent in other areas, it is difficult to foresee how this might be accomplished with GHG emissions considering the complexity of interstate commerce and the potential hurdles posed by a patchwork of state and regional policies.

The goal of federal legislation should be to create a cap-and-trade program that limits national GHG emissions while also linking to, or integrating, state and regional programs. This national program should avoid a patchwork of state and regional markets and move toward a common market framework with a fairly uniform price for carbon. To accommodate states that have already taken action on GHG regulation, national policy could include some process for state and regional systems to transition to the national framework, providing a reasonable timeframe for adjustment and recognition of, or credit for, early action. State or regional systems with weaker policies or standards would need to strengthen them over time while systems with stronger policies or standards would also need to adjust in order to align with federal targets and rules.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

The federal government has experience implementing programs to reduce atmospheric pollutants that will prove useful in the regulation of GHG emissions. The Environmental Protection Agency (EPA) has implemented various market-based emissions reduction programs since the late 1970's. Although the EPA may have the most familiarity with the administration of an emissions trading scheme, it may not have the necessary expertise to formulate the regulations for all sectors affected by a cap-and-trade program including any potential offset programs. Agency expertise and relationships within particular sectors will be critical to establish successful approaches. For example, the Department of Agriculture (USDA) must take an active role in determining specific implementation actions that will succeed in the agriculture and forestry sectors.

Since the primary economic argument for cap-and-trade over command-and-control methods is the increased efficiency of a market-based program, the agency or agencies which administer any cap-and-trade program should be capable of efficiently and effectively maintaining a functioning market. If interagency cooperation cannot meet this need, then creation of a new agency may be justified. Regardless of whether a new or an existing agency regulates a cap and trade program, there should be clear oversight and monitoring of the program.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

The entity responsible for regulating the market is not necessarily as important as the methods by which that regulation is instituted and adequately enforced: the regulator must have the capacity and inclination to set ground rules, provide oversight and exert power to achieve these aims. The CFTC and the Securities and Exchange Commission have been successful, and the Environmental Protection Agency runs a successful sulfur dioxide trading system. The individual institution responsible for regulating the derivative carbon market is not as important as having stated goals, transparency and oversight, and the mechanisms to be successful.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

The influence of financial intermediaries and derivatives in a future carbon markets could cause disruptive uncertainty in the cost of carbon. This may prove to be a major issue in protecting the efficiency of a cap-and-trade program as speculation could produce wild fluctuations in the cost of carbon, independent of any genuine scarcity created by a cap-and-trade system, that send artificial signals to the economy on the price of GHG emissions.

Some fluctuations in the cost of carbon are appropriate and will be inevitable in a cap-and-trade program. However, carbon markets that are too unpredictable may stifle investment as businesses will not invest in mitigation or sequestration projects if there is too much risk or a lack of clarity about investment options. Conversely, some of the mechanisms that cushion this uncertainty for businesses and others are provided only by financial intermediaries; hedging, lending and insurance that make uncertainty and long-term investment palatable are major drivers for the financial sector.

In order to address the impacts of speculation, while also fostering the development of a strong carbon markets, markets created by a cap-and-trade program should be sufficiently regulated to ensure that the access to the market and uncertainty in the cost carbon does not undermine the environmental integrity of the program.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

Rural populations will be disproportionately affected by both climate change and climate policy for two important reasons. First, the ecosystems on which rural populations rely for their livelihood are being adversely affected by changing climatic conditions. Second, rural populations generally lead more energy-intensive lifestyles and have higher incidence of poverty. Households and people in poverty will likely be more severely impacted by raising energy and commodity pricing ("Incidence of U.S. Climate Policy" Resources for the Future 2008). However, it is extremely difficult to predict the net distributional consequences of climate policy that may provide economic opportunities for rural areas, especially through different agriculture and forestry practices. For example, to the extent that sustainable natural resource management is a priority in climate policy, there may be landscape- or ecosystem-scale restoration opportunities that offer jobs and income to rural economies.

The true impacts of a carbon reduction program on rural populations, either positive or negative, will depend primarily on the structure and implementation of the policy. If key elements are not included, such as redistributive mechanisms for compensation of affected regions and populations, specific policies to address forest and agriculture mitigation opportunities, and strategies for addressing the adaptation needs of affected ecosystems, the program will likely have severe negative impacts on rural populations. These elements should be included as part of a carbon reduction program in order to produce the greatest environmental benefits with the least cost to society.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

A carbon reduction program focused on the energy, transportation, and industrial sectors will effectively place an additional cost on production and distribution of every-day goods and services that will likely be passed on to consumers. This will have a regressive effect, disproportionately affecting low-income households due to the larger percentage of their incomes spent on energy and commodities. The costs of climate policy will be exacerbated for rural communities by natural systems that will experience significant adjustments as a result of climate change. By capturing the value generated by a cost of

carbon through an auction and redistributing the revenues strategically, a well-designed a cap-and-trade program could dampen the regressive effects of a carbon reduction program.

Generally, these revenues can be directed towards priorities that will lessen the negative impacts of both climate policy and the biophysical impacts of climate change: transforming the nation's businesses and workforce to support a low-carbon, clean energy economy, particularly in rural communities; facilitating the transition for individuals, businesses, and communities most affected by climate change policies; and helping human communities and natural ecosystems adapt to climate change. Targeted investments to address these priorities should include financial incentives and technical assistance for business innovation and workforce training, financial assistance to low-income households in rural areas, and programs that promote sustainable and adaptive agriculture and natural resource management and ecosystem services.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

Revenues generated from the auction of emissions allowances will provide opportunity to provide transitional assistance for affected businesses. This assistance should not be restricted to those businesses affected by the costs of climate policy, but should also include businesses affected by the biophysical changes associated with climate change. These decisions should be based less on the overall costs to business, but more so on the impacts to national and regional economies and how those costs may be passed on to consumers. These opportunities to assist affected businesses must not deter investments intended to help cushion the impacts of a carbon reduction program for vulnerable communities.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Federal land management agencies and public lands have dual roles in managing natural resources in the face of changing climate. These roles should be addressed through the inclusion of public lands and the participation of land management agencies in a range of activities designed to both mitigate climate change and adapt to its affects on natural systems.

First, public lands may be used to study and demonstrate how ecosystems may be effectively managed to adapt to climate change. Second, the value of ecosystem services, including carbon sequestration, provided through public land management may facilitate to market participation and could produce economic opportunities for local communities. Although there may be overlap, these roles are not equivalent and both should be supported and funded as necessary.

Federal land management agencies should engage in the development of forest carbon offset markets as the technical expertise of agency staff will prove useful in developing standards and protocols for biological sequestration offset projects. Line level

staff should also receive training to understand how the effects of traditional activities, such as conservation and best management programs, translate into carbon benefits and market opportunities. This expertise will also prove critically important in developing strategies and tools to help natural systems and resource-dependent communities adapt to climate change.

As protocol are developed, federal land management agencies should participate to address questions and issues about resource management and the federal role and effects of federal participation in emerging markets. The role of federal land management agencies should be to expand and enhance carbon sinks through stewardship activities on public land. Existing state and regional protocols (i.e. CCAR) now allow offset projects from public lands and values from trading qualified offsets have the potential to increase investment in ecosystem services and land management activities with considerable potential for local communities.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

The price of carbon that results from a cap-and-trade program will likely have substantial impacts on the success of the policy. This price is the primary driver of change in the economy, providing disincentive for GHG-intensive growth and promoting a low-carbon, clean energy economy. Extreme prices on either end of the spectrum have the potential to stifle the desired goals of climate policy.

In theory, a cap that is too low and markets that respond insufficiently or too slowly could result in an excessive cost of carbon. A cap set too low would make allowances scarce and therefore expensive, and a slow demand response by business and consumers might fail to bring the cost of carbon back down. In turn, this high cost would pass along to consumers and businesses, resulting in significant regressive effects. In this scenario, a cap-and-trade system implemented too quickly or ambitiously would carry such a high price tag that its costs may outweigh its benefits.

There are a few reasons to believe that such a scenario will not occur and why, if it does, it would not be economically painful. First, most of the current targets for emissions reduction are fairly modest, so the cost passed along won't likely be excessive. Second, we have ample evidence that markets respond to costs similar to those likely to be experienced as a result of a carbon reduction program. For example: the spike in hybrid and small-car sales, rise in transit use, and the drop in gasoline consumption, all due to higher gasoline prices leading to a peak in 2008; the recent economizing by airlines in the face of high fuel prices; and widespread deployment of wind power as a result of the federal production tax credit. The most likely cause of a high cost of carbon would be scarcity brought on by economic growth, a circumstance where the economy would be well-suited to handle additional costs.

A substantial cost of carbon is the primary mechanism of either cap-and-trade or a carbon tax, and while an excessively high cost of carbon is undesirable, a price that is too low should be of primary concern. "Safety valves" and other mechanisms designed to provide greater price certainty (i.e. price floors and ceilings, strategic allowance reserves) should not prohibited, but if used, they must not compromise the implementation of a cost

of carbon, the central tool of climate policy, and should only be used in the case of excessively high allowances prices.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

The development of the EU ETS and the experience with the trial period provides a number of useful lessons for the U.S. and other countries. Suppliers quickly factor the price of emissions allowances into their pricing and output behavior. Liquid bilateral markets and public allowance exchanges emerge rapidly and the "law of one price" for allowances with the same attributes prevails. The development of efficient allowance markets is facilitated by the frequent dissemination of information about emissions and allowance utilization. Allowance price volatility can be dampened by including allowance banking and borrowing and by allocating allowances for longer trading periods. The redistributive aspects of the allocation process can be handled without distorting abatement efficiency or competition despite the significant political maneuvering over allowance allocations. However, allocations that are tied to future emissions through investment and closure decisions can distort behavior. The interaction between allowance allocation, allowance markets, and the unsettled state of electricity sector liberalization and regulation must be confronted as part of program design to avoid mistakes and unintended consequences. This will be especially important in the U.S. where 50 percent of the electricity is generated with coal ("The European Union's Emissions Trading System in Perspective" Pew Center on Global Climate Change 2008).

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

Agriculture and forestry should be active participants in a carbon reduction program through both a voluntary offsets program and the allocation of allowances proceeds to address climate change threats and opportunities through adaptation and mitigation strategies.

A voluntary program for qualified offsets should be included within a cap-and-trade framework to provide incentives for emissions reductions and increases in biological sequestration from economic sectors that are not within the established caps, such as agriculture and forestry, and to provide opportunities for entities in the capped sectors to

acquire emissions reductions from credible and cost-effective carbon offset projects. Activities under a voluntary offsets program should seek to provide emissions reductions or increases in biological sequestration that are credible, quantifiable, and verifiable, meeting standards that ensure the equivalence of offsets from different sectors and project types.

The financial incentives backing qualified offsets can stimulate entrepreneurial activity and encourage investment in forest-sector projects that provide credible and verifiable carbon benefits, while also providing co-benefits, including ecosystem services and economic development opportunities for rural communities. To ensure that the benefits of a voluntary offsets program are available at a variety of scales, such a program should encourage broad and diverse participation and provide access and opportunity for rural communities. In addition to a voluntary offsets program under a federal carbon reduction program, climate policy should maintain voluntary over-the-counter market opportunities in addition to formal, qualified offset markets guided by regulatory standards and protocols.

It is important to note, however that many worthy forestry projects will not meet rigorous standards for offsets established under a cap-and-trade system, yet will provide multiple values including absorbing and storing carbon. Rather than relaxing standards to get greater participation in offset programs a cap-and-trade program should support alternative programs to provide incentives for beneficial, non-offset, projects. A federal carbon reduction program should provide incentives for these types of activities that will produce real climate benefits, among others, if not able to satisfy the rigorous protocols necessary under an offset definition. These incentives can be supplied from the allocation of allowance proceeds generated from an allowance auction. Alternatively, these projects could receive "bonus allowances" under the cap, which are then sold to covered entities. This would provide financial incentives beneficial forestry products while also providing additional carbon reductions under the cap.

15) Should the total number of offsets issued annually by the government be limited? If so, how much? *Please respond in 300 words or less.*

When making the determination whether or not to limit the total number of offsets issued, policymakers should consider offset quality as the primary issue. By establishing appropriately rigorous standards and protocols for offset projects, a carbon reduction program will have established adequate limits to offset quantity by prohibiting excessive participation from less-than-qualified projects. The criteria for offsets and other tradable commodities representing environmental benefits are well understood and should be used to determine offset quality: additionality, permanence, market shifting (or "leakage"), monitoring and verification, etc. In short, rather than starting from some overall limitation as a share of planned reductions, a carbon reduction program should focus on offset quality.

Additionally, some share of offsets should capture other economic and environmental benefits that only some offsets projects will generate. Forest ecosystem restoration - as opposed to mere tree farming - is a good example. Such projects might also deliver higher quality offsets, as well. For example, a restored ecosystem might have a more legitimate "permanence" claim than a tree farm.

Some observers fear that an excessive supply of offsets will present a dangerous escape hatch that could violate a cap by allowing covered entities to fund alternatives to their own necessary action to reduction GHG emissions. The extent of this danger rests on parameters of the system - the ultimate goal is lower atmospheric CO2. If a cap is sufficiently strict and offsets are of sufficient quality, then the mix of regulated emissions reduction and offsets shouldn't matter. In practice, it seems unlikely that so many high-quality offsets will be available that we will be able to avoid reductions in fossil fuel use.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

In considering the distribution of offsets under a cap-and-trade program, we are assuming that the question is referring to the potential percentage of compliance able to be fulfilled with offsets and the division of these offsets between particular sectors, international projects, etc. We would support a strong (large percentage or supply) option for domestic offsets from forestry activities, with provisions that identify the crucial role of offsets in preventing deforestation internationally.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

Criteria for measuring and accounting for the legitimacy of offsets should be based on a balance of environmental integrity and economic viability to ensure that offset markets are accessible for both large and small scale landowners. Existing protocols like CCAR, the Voluntary Carbon Standard (VCS), and the American Carbon Standard provide guidance on how to maintain legitimacy of offsets and should be considered as resources in the process of creating national-level standards. The VCS even addresses projects scale by allowing alternative verification options for small scale projects. So long as these requirements maintain the environmental integrity of projects, they will allow greater participation at the small scale, an important proviso for rural communities and small landowners.

In terms of accounting and measurement, forest offset projects may cause changes in a number of different carbon pools. Although measuring all carbon pools affected by an offset project may enable more complete emissions accounting, the cost of measuring changes in all carbon pools may be prohibitive. Potential increases in accounting accuracy should be considered along with the cost of measuring and monitoring affected pools, to be reviewed and updated regularly over time using the best available information. All carbon pools to be claimed for credit should be measured and monitored. The inclusion of carbon pools which may increase over time but are not financially feasible to measure and monitor should be optional (unless they are being claimed for credit).

Third-party verification of reported amounts of carbon should be completed before they are registered for offset credits. A set of standardized tools to help determine which

carbon pools will require measurement would mitigate costs for landowners and project developers, and should be developed based on local/regional data.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

To satisfy the necessary environmental integrity of offsets, potential forest projects should be required to address major criteria including permanence and leakage; baselines and additionality; aggregation; transaction costs; measurement and quality uncertainty; and monitoring and verification. All statistical approaches to estimating carbon storage and fluxes should apply conservative estimates to minimize the risk of overestimation. Forest offset projects have the potential to generate significant social and ecological co-benefits beyond carbon, as well. These benefits should be documented and considered for prioritization under a carbon reduction program. The assessment of offset projects should maintain environmental integrity, while also providing economic viability that encourages participation from a broad scale of landowners and managers, and project developers.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Existing protocols like CCAR and VCS provide direction to Congress and federal agencies in the design of a system to verify offset projects. Verification represents a cost to project developers and landowners. While stringent verification is necessary to maintain the environmental integrity of the carbon reduction program, Congress and federal agencies should seek to mitigate this cost to facilitate landowner participation at varying scales. The government may certify verifiers to ensure they meet a standard set of verification guidelines. Verification should be conducted by independent third parties independent of the government that do not have a conflict of interest in approving the offset project.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

These two options should not be considered as mutually exclusive and there is no reason why alternative options for compliance via project-based and standards-based accounting should not be available. Providing both options may allow a broader array or offset types and landowner participation that may not be easily accounted for using only one of these approaches.

A standards-based approach could mitigate costs to project developers and landowners by assuming stated carbon benefits of particular activities and eliminating the need for costly monitoring and verification of particular carbon pools while a project-based approach may allow landowners flexibility in designing offset projects. Agriculture and forestry projects, unlike industrial projects, will be highly varied, reflecting particular local and ecological conditions and allowing both standards- and project-based approaches to

satisfy measurement requirements will provide flexibility and encourage innovative offset types.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Emissions allowances and qualified offset credits issued under a cap-and-trade program should be equivalent in terms of environmental benefits and considered as fully interchangeable for the purposes of complying with emissions limits. Properly designed offset markets will ensure this equivalency through adequate measurement and verification of carbon benefits. Some legislative proposals have proposed a system of discounting to limit the use of offsets for compliance purposes. Discounting undermines measurement mechanisms and standards, questions the utility and enforcement capacity of verification mechanisms, and could result in unintended consequences like inflated accounting by project developers.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Establishing a definition of "permanence" will be important. This issue is critical for credible and uniform carbon offset projects, but it poses particular challenges for forest-sector projects. Key factors for these projects include the length of time (e.g., 50-80 years) over which many forest projects sequester and store carbon, the risks and uncertainties associated with natural systems over such long periods of time, and the social and economic changes over long periods that might affect landowner behavior.

Existing offset programs have been exploring mechanisms to deal with these issues, such as insurance policies and clear policies to deal with reversals. Forest carbon projects should assign clear obligation for reversals. Withdrawal of an offset project may be acceptable so long as the carbon storage associated with that project is fully compensated for by registration of another project with at least as much carbon storage or through the payment of an "exit fee" equivalent to the value of the carbon represented by that project.

Additionally, the likely length of time required to sufficiently address issues of permanence in forestry projects will mean that projects may involve multiple landowners. There may need to be provisions in an offset standard for transfer of title, etc in order to facilitate this process. Obtaining and enforcing long-term commitments may be difficult, and allowing shorter-term contracts may provide for greater landowner participation, provided that such contracts maintain the necessary degree of environmental integrity. Clear rules should be established for replacing shorter-term credits so that environmental integrity is maintained, and contracts of varying duration should be standardized to allow them to remain equivalent in offset markets.

23) How should Congress address <u>existing</u> offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

The goal of an offset program within a national carbon reduction strategy should be to integrate state and regional, or other voluntary, systems that wish to transition their projects or credits to the national program. In principle, transition policies should seek to reward or credit early action but also require timely action to transition to the national standards, assuming that national standards outperform existing standards. Assistance for this effort to bring projects up to standard may be an important federal role, recognizing that early-actors might receive some benefit for early entry. There might also be carbon offset markets, often referred to as over-the-counter markets, which continue to function with looser standards for carbon offset projects. Such markets might serve unique client niches outside of the national cap-and-trade system and should be allowed to function alongside a cap-and-trade system.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Producers and landowners who have been early actors should be recognized and given opportunity to participate in national offset programs, perhaps given assistance in bringing their projects up to the standards of the new program. The national program should not simply provide full credit to early-actors who have put together projects under lesser standards.

The second question addresses the issue that we refer to as "co-benefits." If a landowner develops a project, such as reforestation, to sequester and store carbon, and the landowner meets additionality requirements by establishing a baseline against which additional carbon benefits are measured, that project is likely to provide a variety of "co-benefits" in addition to carbon, such as water quality, wildlife habitat, forest products, etc. These are clearly significant environmental and social benefits beyond carbon.

If one assumes that other markets for environmental services will develop the issues arises of whether a landowner can claim credit in water or habitat markets for the co-benefits provided by the same activities implemented for the carbon offset project. In this scenario, landowners should receive credit for all of the co-benefits that their management activities provide.; well-designed natural resource management activities take into account an array of environmental factors and seek to provide a number of co-benefits. It will be difficult to separate and identify the specific activities and costs associated with each of the project co-benefits.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

The federal government has played a significant role in helping foster projects that may have significant carbon benefits, regardless of whether programs were designed explicitly to maximize carbon. Existing projects funded with federal program dollars may have trouble passing what's referred to as a financial additionality test as these projects did not require the revenue generated from the sale of offsets to make them economically viable, a traditional test for measuring additionality. If existing programs are used in the future to engage in offset markets, they will likely need to be redesigned to comply with offset protocols and these protocols will have to detail how these sorts of projects are treated (i.e. is there a cost-share threshold past which a landowner would fail a financial additionality test?). Beyond offsets, there is a critical role for federal investments in an array of landowner and community assistance programs as well as public lands programs for strategies to adapt to and mitigate climate change.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?

Please respond in 300 words or less.

To partially address the issue of reversals, credits for offset activities should only be generated ex-post (i.e. after the emissions reduction or sequestration has been measured and verified). Utilizing ex-post crediting inhibits project owners from fraudulently claiming emissions reductions or sequestration. If credits are issued this way, there are a variety of approaches for risk management that may be implemented and several methods should made be available to manage these risks and may provide a first line of control over the potential for negative environmental results. Buffer pools and insurance policies to cover the stored carbon or its market value are two of the most discussed approaches in current protocols to manage the risk of reversals.

The risk of reversals owing to natural disturbances should be managed through appropriate buffer pools that hold carbon benefits in reserve, insurance policies, or other tools that may be established in contractual arrangements that stipulate the particular details of assigning liability based on risk. The minimum requirements for insurance should be clearly outlined in any protocol and the contractual arrangements for insurance should be left to private parties. Although biological sequestration projects have the potential for impermanence (or reversals) of stored carbon, the mere existence of risk should not disqualify these project types.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

A properly design offset program will require a considerable amount of detail, informed by experts from a broad community (i.e. science, policy, economics). The degree to which Congress could adequately address the level of detail required of an offset program is limited (i.e. politics, timing). Congress should provide direction, however, through principles that guide the establishment of an offset program including ensuring quality offsets, a system in which small scale businesses can easily participate, and procedures and protocols that value a full range of ecosystem service benefits from natural systems even as it maintains a focus on GHG reduction.

The details of an offset program will benefit from the expertise of federal agencies and the public comment period provided through an interagency federal rulemaking process. For agriculture and forestry offsets, the Department of Agriculture (USDA) should play a significant role due to the department's knowledge of agriculture and forestry practices, as well as its history of involvement with landowners. Particularly, the Forest Service should be engaged in the design of forestry offsets. The Office of Ecosystem Services and Markets within the USDA has a distinct mission that includes facilitating the creation of these markets. This office should play a lead role in the development of protocols and procedures. The Environmental Protection Agency will likely be the lead agency implementing a carbon reduction program and should work with the USDA coordinate on the design of an offset program for agriculture and forest activities.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

Knowledge is a critical barrier; a significant amount of educational outreach to explain best management practices for carbon sequestration and emissions reduction should be pursued. It will be essential to train local and regional agency offices to effectively assess the carbon sequestration impacts of traditional conservation and management programs. Private landowners will also need education about the benefits and costs associated with these practices, to include an explanation of public financial assistance programs available for landowners, along with a clear explanation of the contractual obligations and tax liabilities for landowner participation including land-use restrictions on current and future owners.

Cost of measuring some carbon pools (especially soil carbon) may be also prohibitive. The costs of measuring, monitoring, and verification should be considered and designed to enable the participation of small and micro-scale projects through appropriate aggregation or specially-designed approval programs. The Kyoto Protocol's Clean Development Mechanism has designed a special pathway for micro-projects to cut down on verification and compliance costs and could be used as guidance.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

Current conservation and forestry programs do not provide sufficient guidance on strategies and actions to adapt to and mitigate climate change, systems for monitoring and measuring the climate change benefits of such strategies and actions, financial investment in federal and state agency capacity to effectively implement such programs, or financial incentives for landowners to participate in such programs. Congress needs to address these, beginning with investments in applied research and capacity to transfer information to landowners and communities.

If forestry carbon projects are expected to be competitive with timber values, the price of offset credits will likely need to be higher than the prevailing market prices. To further incentivize adoption of conservation projects with carbon benefits, a supplemental tax benefit or subsidy may encourage these activities. The USDA's Conservation Reserve Program is an example of such a program. Federal private lands technical assistance providers (NRCS, USFS, CRSEES, etc.) could provide modeling in relation to baseline and additionality services to privates, cutting costs and providing a layer of validation. Both an economic development service in relation to mitigation as well as an adaptation measure for improved forest management.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

My organization (INSERT NAME OF ORGANIZATION HERE) is a participant of the Rural Voices for Conservation Coalition. The Rural Voices for Conservation Coalition (RVCC) is particularly concerned with how climate change will impact rural communities in the Western U.S. and the forests, watersheds and rangelands that dominate this landscape. RVCC is comprised of western rural and local, regional, and national organizations that have joined together to promote balanced conservation-based approaches to the ecological and economic problems facing the West. The following is an excerpt from the 2009 RVCC Climate Change issue paper (http://www.sustainablenorthwest.org/quick-links/resources/rvcc-issue-papers):

"National policy addressing climate change will have dramatic effects on rural communities and landscapes. Specific components of national climate change policy, such as how resources are prioritized, credit allocation or distribution, offset eligibility, or the opportunity to participate in emerging markets will affect rural communities and landscapes. Therefore, rural communities should have a role in the collaborative development of national climate change policies. RVCC believes several key principles for rural communities and landscapes should guide how climate change policies are developed and adopted in the U. S.

1) Federal and state governments should foster the development and dissemination of reliable climate change information and tools to help build public understanding of climate change issues. Governments should assist rural communities in developing climate change assessments, strategies, and plans, and monitoring strategies to enhance collaborative learning and adaptive management.

2) Federal and state climate change policies must include strategies to ensure that low-income and other vulnerable populations receive assistance with climate change impacts. The needs of these populations in rural areas may be significantly different than those of urban low-income and vulnerable populations.

3) Federal and state strategies for public and private forest land management should integrate climate change considerations within collaborative, landscape-scale forest restoration efforts.

4) Markets for forest carbon-offsets and ecosystem services should encourage broad and diverse participation, provide access and opportunity for rural communities, and clearly address issues related to project scale, sustainability, and benefits to local communities.

Federal and state climate change policies should provide technical and financial assistance to rural communities for capacity building and workforce training to implement both adaptation and mitigation strategies."

As an alternative to completing the following table, we would like to provide some broad recommendations on forestry practices for participation in offset markets and associated issues.

Forest related activities commonly cited as pertinent in relation to the verifiable sequestration of carbon for offset credits include:

- afforestation/reforestation
- avoided conversion/deforestation
- improved forest management

Each of these areas reflects a range of challenges and opportunities related to sequestration effectiveness, verification, and costs and capacity related to project implementation.

Afforestation/reforestation quickly sequesters carbon, but may need to offer assurances related to permanence. Site preparation and planting costs vary widely, but can be achieved by project developers at many scales.

Avoided deforestation offers a verifiable demonstration of reduced emissions through carbon storage in forest preservation and conservation, particularly in tropical forests. However, it remains to be seen if carbon markets in themselves will be sufficient to engage project developers when other high return land-use options may exist. This realm commonly will require participation by broad-ranging and large-scale partners.

Improved forest management has been shown to be effective in sequestering carbon through, for instance, longer rotations and reduced impact forestry, and often generates addition ecosystem benefits and can play a role in ecosystem adaptation measures. However, verification costs can make project development less than cost-effective and difficult for small producers.

Each of these activities can play an effective, verifiable, cost efficient role in offset generation, able to be utilized by project developers at various scales. However, federal policy discussions should recognize the distinctive contributions and challenges related to these various activities, and promote flexibility in policy design in order to maximize adaptation and mitigation contributions.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
FRIENDS COMMITTEE ON
NATIONAL LEGISLATION

Collin C. Peterson Chairman House Committee on Agriculture

Committee on Agriculture U.S. House of Representatives Biographical Form

Name
Devin Helfrich, Legislative Advocate

Organization(s) you represent
Friends Committee on National Legislation (FCNL)

Address
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.
Legislative Advocate for the Environment and Energy Program at FCNL

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-¬and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

The Friends Committee on National Legislation's (FCNL) preferred climate change mechanism is a direct pollution charge (carbon tax) with a consumer rebate of the majority of the pollution permit revenue. FCNL views the direct pollution charge as the most effective, fair, and durable climate change mechanism. A direct pollution charge can be set up with an emissions cap which represents as much or more "emissions certainty" as any cap and trade system considered, including the Chairman Waxman draft proposal (e.g. Rep. Jim McDermott's HR 1683 and Rep. John Larson's HR 1337).

FCNL would like to see the final climate legislation contain no trading of pollution permits. Allowing permits to be traded will create the biggest commodity market in the world with the very real potential for manipulation and gaming and harmful volatility. As the New York Times reported in a quote of a carbon trader, ''Carbon will be the world's biggest commodity market, and it could become the world's biggest market over all,'' said Mr. Redshaw, the head of environmental markets at Barclays Capital.

CO2 price volatility is likely to be greater than currently suggested even by the wide ranges in CO2 price forecasts, and it is likely to exceed that of natural gas. A standard deviation of 50% or more per year for CO2 prices is plausible. Metin Celebi et al., The Brattle Group, CO2 Price Volatility: Consequences and Cures, January 2009.

A market trading system will be more expensive to implement and to reach our emissions reductions goals. Peter Orszag, former director of CBO and current director of OMB, states in a CBO report called Policy Options for Reducing CO2 Emissions – A CBO Study, February 2008, [A]vailable research suggests that in the near term, the net benefits (benefits minus costs) of a tax could be roughly five times greater than the net benefits of an inflexible cap. Put another way, a given long-term emission-reduction target could be met by a tax at a fraction of the cost of an inflexible cap-and-trade program.

The following are four advantages of a direct pollution charge (carbon tax):

1. Predictable energy prices. A gradually increasing direct pollution charge produces long term stable price signals in contrast to the price volatility endemic to cap-and-trade.
2. Rapid implementation and simplicity. British Columbia enacted and implemented a direct pollution charge in five months. The Northeast states' cap-and-trade system (RGGI) took five years of negotiations and only covers power plants.
3. Transparent and easily understandable. Cap-and-trade is a hidden tax and the United States is already suffering from poorly understood financial instruments. In addition, gaming is endemic to complex cap-and-trade systems, which involve vast networks of traders, lawyers, consultants, and transaction costs.
4. International transferability. An explicit direct pollution charge is more easily harmonized through tariffs under World Trade Organization rules. These harmonizing tariffs strongly encourage our trading partners to enact their own direct pollution charges to capture the revenue.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

1) Auction 100 percent of the pollution permits
2) Rebate the majority of revenue back to the people

1) Auction 100 percent of the pollution permits. Giving away permits to industry does not ease the burden on consumers. Auctioning all of the permits would allow the government, not industry, to capture the value of the pollution permits. The permit revenue should be used primarily to offset the increasing cost of energy to the consumer, and secondarily to invest in low-carbon technology, conservation and efficiency efforts, climate change adaptation, and worker transition. Conversely, if the government allocates permits to producers free of charge, the government would lose the ability to make consumers whole and the cap and trade program would remain regressive; "gifting" would create windfall profits for producers and stockholders, and would not prevent price increases for consumers. Gifting would also dampen the immediate price signal to the recipient industries to invest in low-carbon technologies.

[G]iving away allowances would be significantly regressive, making higher-income households better off as a result of the cap-and-trade policy while making lower-income households worse off. Further, giving away the allowances would preclude the government from dedicating the value of the allowances to reducing the overall economic impact of the policy.
Peter Orszag, former director of CBO and current director of OMB, testimony before the Senate Energy and Natural Resources Committee, May 20, 2008.

Now, the experience of a cap-and-trade system thus far is that if you're giving away carbon permits for free, then basically you're not really pricing the thing and it doesn't work, or people can game the system in so many ways that it's not creating the incentive structures that we're looking for.
President Obama, Business Roundtable, March 12, 2009.

2) Rebate the majority of revenue back to the people. Any climate change legislation that increases the cost of emitting carbon will increase the cost of energy and energy-intensive goods and services; the price paid for pollution permits by producers will be passed almost entirely on to the consumer. The greatest impact will be felt by low- and moderate-income households, which are least able to absorb the price increases. By returning the majority of the pollution permit revenue to

consumers, the rising costs of energy and goods in a family's budget can be offset. Furthermore, the rebated revenue will not inhibit the incentive for families to conserve and invest in more efficient purchases. Instead, consumers can adjust their energy usage so as to keep more of their "climate rebate" for other purposes, while those unable to change their consumption patterns in the short-term would still not lose disposable income. Any climate rebate system must not forget the poorest individuals that do not file taxes and are not Social Security recipients, but who nonetheless feel the burden of energy and goods cost increases. Finally, the link between higher energy costs and receiving a climate rebate should be explicit to consolidate public support and ensure long-term program viability.

Under a cap-and-trade program, firms would not ultimately bear most of the costs of the allowances but instead would pass them along to their customers in the form of higher prices…Those increases, however, would impose a larger burden, relative to their income, on low-income households than on high-income households.
Terry Dinan, Senior Advisor, CBO, testimony before the House Ways and Means Subcommittee on Income Security and Family Support, March 12, 2008.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

National climate legislation may need to preempt state and regional programs, but any national system will need to be coordinated at some level internationally. The international transferability is a key advantage of a direct pollution charge. An explicit carbon tax is more easily harmonized through tariffs under World Trade Organization rules. These harmonizing tariffs strongly encourage our trading partners to enact their own carbon taxes to capture the revenue.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-¬and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.
Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and¬-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

FCNL would like to see the final climate legislation contain no trading of pollution permits. Allowing permits to be traded will create the biggest commodity market in the world with the very real potential for manipulation and gaming and harmful volatility. As the New York Times reported in a quote of a carbon trader, ''Carbon will be the world's biggest commodity market, and it could become the world's biggest market over all,'' said Mr. Redshaw, the head of environmental markets at Barclays Capital.

CO2 price volatility is likely to be greater than currently suggested even by the wide ranges in CO2 price forecasts, and it is likely to exceed that of natural gas. A standard deviation of 50% or more per year for CO2 prices is plausible. Metin

Celebi et al., The Brattle Group, CO2 Price Volatility: Consequences and Cures, January 2009.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

Yes. Any revenue return system should take regional differences into account.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Rebate the majority of revenue back to the people.

Any climate change legislation that increases the cost of emitting carbon will increase the cost of energy and energy-intensive goods and services; the price paid for pollution permits by producers will be passed almost entirely on to the consumer. The greatest impact will be felt by low- and moderate-income households, which are least able to absorb the price increases. By returning the majority of the pollution permit revenue to consumers, the rising costs of energy and goods in a family's budget can be offset. Furthermore, the rebated revenue will not inhibit the incentive for families to conserve and invest in more efficient purchases. Instead, consumers can adjust their energy usage so as to keep more of their "climate rebate" for other purposes, while those unable to change their consumption patterns in the short-term would still not lose disposable income. Any climate rebate system must not forget the poorest individuals that do not file taxes and are not Social Security recipients, but who nonetheless feel the burden of energy and goods cost increases. Finally, the link between higher energy costs and receiving a climate rebate should be explicit to consolidate public support and ensure long-term program viability.

Under a cap-and-trade program, firms would not ultimately bear most of the costs of the allowances but instead would pass them along to their customers in the form of higher prices…Those increases, however, would impose a larger burden, relative to their income, on low-income households than on high-income households.
Terry Dinan, Senior Advisor, CBO, testimony before the House Ways and Means Subcommittee on Income Security and Family Support, March 12, 2008.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

Yes. That assistance should be limited and phased out to assure a level playing field.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Create a price floor. When auctioning permits, a reserve price - that would act as a price floor - should be set to reduce price volatility, ensure a minimal price signal to act as constant incentive for low-carbon investments, and to guarantee a constant revenue stream for investing in efficiency and clean energy technologies. Investors need confidence in permit cost. A price floor does not allow the price of permits to crash and thus stifle clean energy investment. If the cost of dumping

carbon into the air has the potential of becoming very cheap, e.g. during the crash of the EU's Emissions Trading Scheme with no floor, industry will have less confidence to invest in emissions reductions since the savings of that investment are unknown and may not be realized.

[A] reserve price may provide assurance to parties making emission reductions that the reductions will have some value in the allowance market. For example, if a covered source can expect a reserve price to be set at a certain level (e.g., $10/ton), and the source makes multiple reductions, each at a per-ton cost below the expected reserve price, the source can have confidence that its efforts will be cost-effective. Jonathan Ramseur, Analyst in Environmental Policy, CRS, Emission Allowance Allocation in a Cap-and-Trade Program: Options and Considerations, CRS Report, June 2, 2008.

Recommendation 6: Reserve Price. A reserve price should be used in each auction...A compelling justification for a reserve price can be found in the academic literature and from previous experience with auctions…
Charles Holt, Professor, University of Virginia, et al., Auction Design for Selling CO2 Emission Allowances Under the Regional Greenhouse Gas Initiative - prepared for RGGI Working Group staff, October 2007.

Create a permit reserve pool. A reserve pool would function as a modified price ceiling to reduce price volatility for both the consumer and industry. The pool would be set up to sell additional pollution permits into the market when the permit price reached an unacceptably high threshold. Any additional permits released from the reserve pool into the market would be offset by reductions in the number of regularly-issued emissions permits allocated for future years to maintain the long-term cumulative emissions cap. Any permits released from the reserve pool must have banking limits to keep firms from stockpiling cheaper permits for use in more expensive future compliance years. Banking of reserve permits could push current prices above the reserve pool ceiling, effectively enabling the price volatility that the pool is created to prevent. Finally, price spikes would jeopardize the political viability of the program as occurred in 2000 in the Los Angeles basin region RECLAIM cap and trade program.

[P]ermitting firms to purchase allowances from a public "reserve pool"– composed of allowances that were borrowed from future years or that supplemented the initial supply–could partially substitute for allowing borrowing by individual firms. The reserve pool could help reduce costs by giving firms the opportunity to exceed annual caps in years when the cost of complying was temporarily high. Its effectiveness in realizing cost savings would depend on the size of the pool and the threshold price at which firms could purchase the reserve allowances.
Douglas Elmendorf, Director, CBO, testimony before the House Ways and Means Committee, March 26, 2009.

How climate policy legislation is designed can have a significant impact on price volatility. From an economic perspective, a smooth price signal that increases over time is the most efficient way to provide incentives for investors and to minimize disruptions in the economy...Moreover, the reduced price volatility resulting from the introduction of a ceiling and a floor enhances the investment climate for new investment beyond that which results from unbridled price volatility.
Dallas Burtraw, Senior Fellow, Resources for the Future, testimony before the House Ways and Means Committee, March 26, 2009.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

The EU's ETS demonstrates the problem of price volatility and the market allowing for booms and busts of pollution permit prices. Investors need confidence in permit cost. The crash of the EU's permit value stifled clean energy investment. When the

cost of dumping carbon into the air is very cheap, e.g. during the crash of the EU's Emissions Trading Scheme with no floor, industry will have less confidence to invest in emissions reductions since the savings of that investment are unknown and may not be realized.

Price spikes would jeopardize the political viability of the program as occurred in 2000 in the Los Angeles basin region RECLAIM cap and trade program.

Part II: Carbon Reduction Program Administration and Implementation
The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

Selected agriculture and forestry activities should be eligible for a portion of the permit revenue collected, not as offsets to emissions, but as additional to the emissions cap.

As offsets to emissions, legislation should strictly limit and verify offsets. A cap must mean real domestic emissions reductions. Offsets, particularly international offsets, deliver less-certain reductions especially over the long-term. Inclusion of offsets in climate legislation will slow our country's transition to a low-carbon infrastructure. The worthy goals of offsets, such as protecting carbon sinks like forests and soils, should be incentivized separately from the requirement to surrender a permit for each ton of carbon dioxide emitted. If included, any limited offsets must be certified by a standardized set of criteria with rigorous rules of "additionality" and transparency. Offsets may also lead to "subprime carbon," as financial institutions bundle various complex and risky futures contracts to deliver uncertain offset credits.

[O]ffsets could compromise the environmental certainty of a regulatory program if offsets used for compliance lack credibility...GAO suggested that the Congress consider key lessons from the CDM, including the possibility that, (1) due to the tradeoffs involving cost savings and the credibility of offsets, their use in mandatory programs may be, at best, a temporary solution to achieving emissions reductions, and (2) the program's approval process may not be a cost-effective model for achieving emission reductions.
John Stephenson, Director Natural Resources & Environment, GAO, testimony before the House Energy and Commerce Subcommittee on Energy and Environment, March 5, 2009.

The financial crisis was sparked by bad mortgages, and U.S. carbon markets could pose similar problems through the creation of "bad carbon" or "subprime carbon." Subprime carbon -- called "junk carbon" by traders -- are contracts to deliver carbon that carry a relatively high risk of not being fulfilled and may collapse in value...Subprime carbon would most likely come from shoddy carbon offset credits, which could trade alongside emission allowances in carbon markets...It could be as difficult, if not more, to analyze the quality of the numerous underlying carbon offset projects as it is to analyze U.S. mortgages.
Michelle Chan, Director of Green Investments Program, Friends of the Earth, testimony before the House Ways and Means Committee, March 26, 2009.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

Yes. Well under the 2 billion allowed by Chairman Waxman's draft legislation for the

reasons above.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
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25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
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26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
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28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
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29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Cap at the first point of sale. Capping emissions "upstream" at the first point of sale or other practical "chokepoint" will greatly reduce the number of sources to regulate. An upstream cap will be less burdensome to enforce, reduce administrative costs, and cover more of the economy. By imposing the cap requirement upstream at the mine, refinery, processing plant, and import point, a smaller number of firms and facilities must acquire pollution permits based on the CO2 equivalent content of their product that will be emitted downstream.

[I]f the European experience is followed and a downstream cap-and-trade program put in place, administrative complexity would rise considerably. In fact, the ETS exempts emitters of less than 10,000 tons of CO2 per year and thereby only covers about 50% of the EU's emissions.
Gilbert Metcalf et al., Analysis of U.S. Greenhouse Gas Tax Proposals, a report by the MIT Joint Program on the Science and Policy of Global Change, April 2008.

Compared with a "downstream" design, which would tax or regulate users of fossil fuels, an upstream approach would have two administrative advantages. It would involve regulating a limited number of entities, and it would not require firms to monitor actual emissions...On the basis of information from the Energy Information Administration, such a system would entail regulating roughly 150 oil refineries, 1,460 coal mines, and 530 natural gas processing plants.
Peter Orszag, former director of CBO and current director of OMB, Policy Options for Reducing CO2 Emissions – A CBO Study, February 2008.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
FRIENDS OF THE EARTH—U.S.
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Michelle Chan

Organization(s) you represent

Friends of the Earth - US

Address

[Redacted]

And
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Program Manager, Green Investments Project

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Friends of the Earth (FoE) supports a hybrid system such as the managed price approach described in a Congressional Budget Office report/ testimony of March 26, 2009. A managed price approach combines the environmental certainty of a cap with the price certainty of a carbon tax. Price certainty creates substantial cost savings and provides business with predictable price signals for making early investments in breakthrough technology and infrastructure, benefits usually ascribed to a carbon tax. But it would also include an emissions cap, benefits usually attributed to a carbon trading system. Also, publishing a stable and predictable price for carbon would eliminate the basic incentive for pure financial speculation and prevent carbon bubbles. This in turn would largely prevent the development of subprime assets, the creation of complex and opaque products, and excessive risk-taking, problems which FoE raised in a recent report titled "Subprime Carbon."

Bills that have been introduced which adopt a managed price approach include the "Clean Environment and Stable Energy Market Act of 2009," introduced by Representative McDermott and the "Safe Markets Act of 2009" introduced by Representative Doggett.

Friends of the Earth advocates for a simply-designed upstream carbon market (with no offsets, banking, borrowing, allowance give-aways, nor strategic reserves) with a managed carbon price.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Friends of the Earth's first preference is for an upstream cap, which would mean that energy-related emissions from the agricultural sector would be covered. However, most leading climate change bills also cap mid-stream sectors; in this case, Concentrated Animal Feeding Operations should be covered under a carbon reduction program. These "factory farms" arguably are more "factory" than "farm" and produce significant greenhouse gas pollution.

Regarding forestry, most of FOE's focus has been on international forests. Global efforts to address climate change have included discussions on how reducing deforestation and degradation (or preferably stopping deforestation altogether) can play a role. This provides an important opportunity to address the real need for improved forest

governance structures, while simultaneously conserving biodiversity and safeguarding the rights of the indigenous and traditional forest dwelling peoples.

FoE urges the U.S. to provide assistance to developing countries in protecting forests as part of efforts to reduce climate emissions globally, working proactively within the UN climate negotiations process to develop an equitable and just delivery mechanism.

Reducing Emissions from Deforestation and Degradation at the UNFCCC

At UNFCCC discussions in Bali in December 2007, Reducing Emissions from Deforestation and Degradation (REDD) was a major topic of discussion. While many of the details of an agreement on reducing emissions from deforestation and degradation are currently being developed, it is clear that reducing deforestation and degradation as well as protecting standing forests is necessary to stabilize the climate. Substantial new funding sources will be required to reduce emissions from deforestation and degradation in a manner consistent with limiting warming to 2°C. However, a number of non-financial policy options exist which should also be supported in all climate mitigation and adaptation strategies.

Responsible Leadership by the United States

Assistance from the United States for reducing deforestation will be an important component in a successful global agreement. The U.S. has opportunities both through both climate legislation and through the direct appropriation of funding, to contribute to reducing deforestation.

Forest protection is one of the most cost effective ways to reduce emissions globally, and therefore will play an important role in the global solution. However, forest carbon offsets have been offered as a way to reduce the costs of emissions reductions under a cap-and-trade system. These offsets have proved to be problematic and ineffectual in reducing emissions. Because of the significant structural design issues and social and environmental concerns associated with forest carbon offsets, the United States should not fund forest protection through this type of mechanism.

Effective and Just Funding Mechanisms for Forest Protection

To be effective and just, any mechanism to reduce emissions from deforestation and degradation must:

- Support comprehensive national policies designed to address the key, underlying drivers of forest loss. Promoting effective governance in recipient countries is vital.

- Ensure that policy development be based on participatory and transparent processes that safeguard and enhance the rights of local communities, including indigenous and forest dwelling peoples.

- Ensure that the central role of indigenous and traditional forest dwelling peoples, including land tenure rights, is clearly recognized.

- Not support the inclusion of forests in carbon markets. REDD funds and policies should not support the inclusion of standing forest in the international carbon offset market given the significant structural design issues associated with offsets, including concerns about the additionality and permanence of emissions reductions from offsets as well as their impact on the level of reductions realized within industrialized countries.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Friends of the Earth has consistently called for 100 percent of pollution permits to be auctioned. Such an arrangement is 2-3 times less costly to the economy, and a more fair system. It also frees up funds for government to lessen the burden of transitioning away from fossil fuels.

Won't Costs Go Down If Permits Are Given For Free?

Conventional wisdom holds that in a cap and trade program, if pollution permits are given to utilities and other fossil fuel providers for free, then those companies will not increase the costs to consumers. While intuitive, this is a completely false notion.

The Congressional Budget Office and other institutions have verified that whether you auction the permits or give them away for free, prices will increase. This was witnessed first hand in the European Trading System where the majority of pollution permits were given to polluters for free. Instead of using the value of the permits to make up the cost of limiting their pollution or installing cleaner technologies, the companies still passed the costs on to energy consumers and received windfall profits. Giving permits for free creates windfall profits for utilities while auctioning the permits to polluters does not.

If permits are auctioned, energy prices will rise but the government collects revenue from the auction and can redirect those funds back to energy consumers to lessen the burden of increased costs, renewable energy to help transition our economy away from oil, and internationally to assist developing countries in helping to battle the global climate crisis. If permits are given for free, energy prices will rise but the government does not collect any funds to aid our nation's transition away from fossil fuels.

The Congressional Budget Office explains: "A common misconception is that freely distributing emission allowances to producers would prevent consumer prices from rising as a result of the cap. Although producers would not bear out-of-pocket costs for

allowances they were given, using those allowances would create an 'opportunity cost' because it would mean foregoing the income that they could earn by selling the allowances. Producers would pass that opportunity cost on to their customers in the same way they would pass along actual expenses."

- Auctioning permits ensures that all polluters pay based on their amount of pollution. This mechanism encourages companies to adopt clean energy technologies to lower their pollution and ultimately to transition away from dirty fossil fuels to clean renewable energy or get out of the market.

- Auctions create government revenue that can be used to help energy consumers, invest in clean technology, and address the impacts of global warming worldwide.

- Permit giveaways will result in windfall profits for companies as they get income from both consumers and government.

- Auctions allow the market, rather than government, to determine the winners and losers among polluters who need pollution permits.

- Permit giveaways are estimated to cost the economy twice as much as auctions. Auctions are fair. Air is a public resource that polluters should have to pay to use.

- 100 percent auction will simplify climate legislation so that things are much more transparent, and Congress is able to be held more accountable.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

A national system should be ultimately compatible with state or regional systems. However, Congress should design a national climate policy with an eye towards ensuring maximum environmental and market integrity, and not feel that they must replicate the (potentially inferior) design elements of existing programs in an effort to conform with them. In developing regional programs, state lawmakers have already recognized that they instead may have to adapt their systems to a larger national one.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

Because carbon markets are politically-created, they can have design elements which produce unique gaming opportunities and require particular surveillance activities. For example, the Waxman bill creates a strategic reserve which would release additional

credits and allowances if carbon reaches a particular trigger price. Such price triggers generally do not exist in other commodities markets. In addition to "simple" manipulation (e.g. taking long/short positions) around price triggers, the strategic reserve could tempt financiers, which own offset companies, to push carbon prices to the trigger price, to enrich their offset business.

Regulatory coordination may also be necessary. Although the price movements in many commodities are linked, carbon prices will affect an uncommonly broad range of other commodities. For example, carbon and energy prices are likely to be closely correlated, providing opportunities for cross-market gaming, making regulatory coordination between energy and carbon derivatives regulators critical.

Finally, the opportunities for fraud in the offset project market are significant. For example, having project developers pay for emissions reduction verification creates a conflict of interest, particularly if the verifier is also offers project development consulting services. Although the Waxman bill and others create sanctions for fraud, additional oversight bodies may be needed to oversee this very distinct market. In particular, ensuring that international offset projects meet U.S. standards will be especially difficult.

Although FoE supports strong carbon market regulation, we also urge Congress to design carbon markets in ways that inherently reduce the opportunities for gaming, fraud, excessive speculation, etc. in the first place, rather than only rely on derivatives and commodities regulations to prevent these activities. In general, the more "bells and whistles" are included in carbon market design -- strategic reserves, trigger prices, offsets, etc. -- the more chances there are to game the system. Friends of the Earth supports a simply designed carbon market with a managed carbon price.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

   Please respond in 300 words or less.

   Although the CFTC has not done a good enough job in providing robust oversight over the derivatives markets, it is the agency with experience in regulating both derivatives in general, as well as existing emissions markets. Barring any significant institutional changes in how the U.S. regulates derivatives, CFTC it is the logical existing agency to oversee the carbon derivatives. However, it should also be given significant additional staff and resources, and the Committee must resolve the problem of regulatory capture that has plagued the CFTC.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market

participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

To the greatest extent possible, carbon should be traded on regulated exchanges. For example, Senator Harkin's "Derivatives Trading Integrity Act of 2009" would prohibit over the counter trading.

However, it should be noted that even if all trading were done over exchanges, the exchanges themselves rely on a self-regulatory model and have historically not done a good job in enforcing their own standards. The CFTC provides oversight over exchanges, but to a great extent it has its hands tied when it comes to investigating potential wrong-doing. The agency must first prove that there is "substantial proof" that a market participant is manipulating prices before commencing any action, a requirement that should be changed.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

The economic harm caused by the climate crisis to these communities dwarfs the costs of reducing emissions. Increasingly severe droughts, floods and changes in climate, which will impact these communities and others, must be avoided.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Revenues generated by the bill's auctions must be spent fairly and wisely. Instead of giving money to polluters, the bill should use revenues to fund:

- Energy efficiency and clean energy: Using energy more efficiently and promoting clean and safe sources of energy, such as wind, solar and geothermal.

- Economic growth and assistance: The bill must guarantee that it assists low and middle income US Americans as they cope with increased energy costs.

- Adaptation funding for developing countries: Vulnerable communities in around the world need funding to prepare for the impacts of climate change, such as droughts, floods, and fires.

- Clean transportation: Funds from this bill can provide people with more options besides driving, which will significantly reduce our dependence on oil.

- Clean technology for developing countries: The bill should fund truly clean energy technologies to help countries leapfrog to climate friendly energy systems. Such technologies do not include oil, gas for export, any type of coal technology, hydropower above ten megawatts, or nuclear power.

- Funding for reducing tropical deforestation: The bill should fund assistance to countries for reducing tropical deforestation, which is critical to reducing global warming pollution, in a way that protects the environment and peoples' rights.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

Yes, Friends of the Earth would support reasonable transition assistance paid for through the auctioning on permits.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Public lands should be incorporated in a national greenhouse gas plan in the form of stricter enforcement and laws that keep forests in tact.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

See Question 1, above. A carbon trading program should employ a managed price approach, which creates a hybrid system that combines the environmental certainty of a cap with the price certainty of a carbon tax. Price certainty creates substantial cost savings and provides business with predictable price signals for making early investments in breakthrough technology and infrastructure, benefits usually ascribed to a carbon tax. But it would also include an emissions cap, benefits usually attributed to a carbon trading system. Also, publishing a stable and predictable price for carbon would eliminate the basic incentive for speculation and prevent carbon bubbles. This in turn would largely prevent the development of subprime assets, the creation of complex and opaque products, and excessive risk-taking.

The benefits of a managed price approach can be found in a recent Congressional Budget Office Report (see Testimony of Douglas Elmendorf, Congressional Budget Office, before the House Ways and Means Committee, U.S. House of Representatives, March 26, 2009 at)

An example of a legislative proposal based on a managed price approach is the "Safe Markets Development Act of 2009," introduced by Representative Lloyd Doggett in March 2009. It sets a hard emissions cap in 2020, and empowers an independent board to publish an eight-year (2012-2020) stable price path for allowances. Mimicking the open market operations of the Federal Reserve, the Treasury Department would hold quarterly auctions and manage the supply of allowances to hit, on average, the published annual price. As necessary, the board would adjust and re-publish the price path to meet the 2020 cap. Although trading would occur during the periods between auctions, volumes would be diminished because there would be very limited arbitrage opportunities given the frequent auctions and the stable, predictable prices.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

The agricultural sector should be involved in a national carbon emissions reduction strategy. For example, Friends of the Earth supports the promotion of climate-friendly agricultural techniques such as no-till farming and reducing the use of petroleum-based pesticides and fertilizers. However, incentives for employing such techniques should not be pursued through providing carbon offsets; rather regulatory incentives should be used instead.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

To effectively address climate change, the US needs robust domestic targets that send the correct economic signals to change industry behavior. US climate policy must ensure that polluters reduce their own emissions instead of relying on purchasing offset credits generated from unregulated carbon emitting industries either at home or abroad.

In particular, international project based offset credits, like the Clean Development Mechanism (CDM), have failed to deliver meaningful emissions reductions. According to a recent study of international offsets by leading carbon trade analysts at Stanford University, "offset schemes are unable to determine reliably whether credits are issued for activities that would have happened anyway." (Wara, Michael W. & Victor, David G. "A Realistic Policy on International Carbon Offsets" Program on Energy and Sustainable Development, Working Paper #74: April 2008.) Indeed, proving the "additionality" of all offset projects, that is whether the project actually requires the income generated by the offsets credit revenue to be viable and therefore represents genuine emission reductions over business-as-usual, has proven to be extremely difficult.

While domestic offsets at least do not rely on international emissions reductions and thereby avoid some of the justice and equity concerns that are foundational to critiques of international offsets, they nevertheless suffer from the same design issues. Further, as frontline communities often suffer the greatest from both carbon emitting industries as well as their co-pollutants, domestic offsets can result in problematic and unjust impacts on already affected communities. Additionally, many of the unregulated sectors from which offsets are purported to be derived are significant contributors to greenhouse gas emissions and therefore should be included in mandatory emissions reduction policy. For the above mentioned reasons, Friends of the Earth does not support the inclusion of domestic offsets provisions in climate mitigation policy.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

18) What should be the criteria for assessing offset projects?

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Please respond in 600 words or less.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

As mentioned above, Friends of the Earth does not believe offsets should be permitted in a carbon trading program.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Existing offset credits or those established through a voluntary system should remain in the voluntary system and not be allowed to be substituted for allowances in a mandatory system.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
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Please respond in 300 words or less.

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Please respond in 300 words or less.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Biofuels

Biofuels have received special attention for, among other things, their purported greenhouse gas benefits as compared to conventional fuels. When the greenhouse gas emissions from biofuels are measured on a full life cycle basis, including all stages of production, transport, processing and end-use, emissions can vary significantly. New analyses published in the journal Science demonstrate that the emissions caused, directly or indirectly, by converting land to biofuel production far exceeds the benefits of plants' carbon uptake. The complex interaction of increased feedstock demand and increased commodity prices drives the expansion of agricultural production in to new lands, yielding significant greenhouse gas emissions over the short- and long-term.

Although preliminary evidence suggested that moving from fossil fuels to biofuels would decrease greenhouse gas emissions, new studies indicate that it is impossible for mass production of crop-based biofuels to result in net negative emissions and may in fact increase emissions significantly due to the changes in land use. Without biofuels, agriculture is already the world's primary driver of land use change (land that is converted from native natural uses such as forests or native grasslands to cropland or industrial development). Each gallon of biofuel relates to a specific amount of land necessary to grow a specific crop or feedstock from which the biofuel is produced.

In Indonesia, the conversion of rainforest peatlands into palm oil plantations (for both food and biofuel crops) has made the country the third largest emitter of greenhouse gasses around the globe. Often the dynamics of global agricultural supply and demand are even more complex. For example, as the United States decreases soy acreage to make way for increased corn production to meet ethanol demands, South American countries increase soy production to meet global demand. Soy expansion then encroaches on tropical forests, resulting in significant greenhouse gas emissions.

A federal policy to address global warming is likely to heavily subsidize biofuels as a climate mitigation strategy. Subsidizing biofuels as a cure for global warming simply does not make sense if biofuels are produced without using stringent criteria to ensure a reduction in greenhouse gas emissions.

Biofuels and the Environment

Outside of the adverse climate "benefits," of biofuels contribute to environmental degradation in many other ways.

Competition for land drives biofuel production in to biodiverse areas around the world. In developing countries, the pressure for high rent land translates into encroachment on cattle ranges and forests and sensitive ecosystems for plantations of palm oil, soybeans, sugar, and other biomass used for fuels. Deforestation and other forms of habitat destruction have a direct impact on the species that live within those habitats.

Biodiversity is also threatened by the use of agricultural pesticides and fertilizers used to grow crops for biofuel production. Eutrophication and algae blooms from nitrogen fertilizer run-off depletes oxygen in aquatic ecosystems, choking fish and other water

species. Pesticides also pose a significant threat to ecosystems, often indirectly killing untargeted species. Threats to biodiversity also include emerging genetic technologies that are invested in the energy debate. Some scientists are trying to make a new genetic code, designing entirely new forms of life called SynBio (synthetic biology).

Biofuels and People

Land use changes driven by biofuels not only causes deforestation and the loss of carbon sinks and biodiversity, but it also impacts food security. Concern has arisen, connecting the use of food crops to produce fuel as a cause for global food price increase. Land is finite, and is already overly doled out between critical land uses. The reality is that competition over land to produce crops, whether it is for food, fuel or fiber, will be the real driver of increased food prices, no matter what crop is used for biofuel production.

Production of biofuels in developing countries causes untold human rights violations and adversely impacts livelihoods. Corporation often illegally acquire land, force slave labor conditions, and cause severe environmental degradation affecting public health, largely with impunity. For example, rapid expansion of Colombia's monoculture palm oil production, driven by surging demand for biodiesel, has already resulted in widespread violence, illegal land appropriation and large-scale deforestation. Another example is Brazil, which is praised for its developed sugar ethanol industry, but is plagued with problems of poor worker, compared to slavery conditions in Brazilian sugarcane plantations.

Friends of the Earth does not support climate legislation that provides subsides, in the form of carbon credits or auction revenue, to the production or promotion of biofuels that do not meet strict environmental and social criteria, including, but not limited to, reduced greenhouse gas emissions, provisions to protect human and environmental health and biodiversity, restrictions on corporate consolidation, is sensitive to economic and social issues such as food sovereignty and measures to protect human rights.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
GOLFPRESERVES™
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name
William Crispin
Noble Hendrix

Organization(s) you represent
Golfpreserves™

Address
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.
Founders

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Yes, any one of the three.
Because it is necessary.
We prefer cap and trade because in our opinion it will be most effective.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Yes.
Because they are effective sequesterers of carbon.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Allowances should be distributed on the basis of the actual verified and proven carbon sequestered or emitted.
We favor a market based value for allowances and credits based on the actual amount of carbon sequestered or emitted.
We believe in an across the board system based on the actual carbon emitted or sequestered by whatever the activity.
If no cost allowances are used, there definitely should be a limit, otherwise the program is a sham.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Yes.
As long as it can meet the standard of the actual carbon sequestered or omitted.
Any program that meets this standard now or in the future should be included.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

First choice is existing agencies to regulate the program, only if they wish to do so.
If they do not, then a new agency should be created.
Lackluster administration of the program will render it ineffective.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

Yes.
As long as it is effective.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

Yes.
With proper and diligent oversight.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

No.
A properly operated program should benefit these sectors.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

After the program begins, there must be some flexibility in the administration of the program to address the unforeseen negative impacts. Education, research and facilitation could offset negative impacts.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

Yes.
Through offset availability and income tax incentives.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

They should qualify as long as they meet the standard of the amount of verified and proven carbon sequestered and emitted as would any other participant.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

There should be a floor and a ceiling price to provide stability in the market. But market forces should be allowed to operate unfettered as much as possible within those limits.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

All have successes and shortcomings. The system created for the United States should take the best from all and leave the worst behind.
Yes.
Agriculture and forestry offsets are well recognized.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected

agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

We believe in a program established on the founding principal of the actual amount of carbon emitted and sequestered.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

No.
Offsets should compete in the marketplace.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Emitters should find their offsets in the open marketplace.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Strict, scientifically-based standards administered by an independent verifier. Current examples are Voluntary Carbon Standard and the Gold Standard.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

The actual amount of carbon sequestered.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Congress should create a standard or adopt an effective current standard in use, require independent verification, and have the flexibility to adapt as the program begins.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Congress should do both and evaluate each as to its effectiveness and be able to adapt as the program unfolds.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

One to one based on the actual amount of carbon.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Offset credits should be the actual verified and proven amounts of carbon sequestered, should be permanent, and have some flexibility to be replaced by other credits if found to be defective or no longer in existence.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

If existing offset projects meet the standard determined by Congress, they should be accepted, if not, they should not be.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

If the project meets the criteria of the standard, it should be accepted, and if it meets the criteria for other standards and other environmental benefits, it should be accepted there also.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Any project that meets the qualifications of the standard should be accepted, no matter the source.
No matter the source or the primary intention of the project.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?

Please respond in 300 words or less.

No money should change hands until actual carbon has been proven to have been sequestered and meets the standard.
There must be a carbon offset replacement component to the program that acts as insurance to protect the program participants.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

There should be sufficient specificity in the legislation to clearly direct the agencies that will implement the program to not let it wander away from the legislative intent.
USDA, EPA and DOE.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

The greatest obstacle is that there is no established program clearly delineated with a sensible standard that would give agricultural producers the opportunity to participate.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

No they do not.
Congress should offer a clearly delineated, verifiable program, based on the actual carbon sequestered with the market incentive needed by industry to make a program work. Other additional financial incentives and technical assistance to speed up, adopt and implement the program, should be part of the flexibility of the program..

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Other programs or standards that add to the carbon program should be considered and implemented on the basis of their actual reduction of carbon emissions or actual sequestration of carbon. Other programs that detract from the carbon program should not be included and should be left to the development of their own programs so as not to damage the carbon program.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
GREENHOUSE GAS SERVICES LLC
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name:	Adam Penque
Organization you represent:	Greenhouse Gas Services LLC.
Position:	Manager of Standards and Methodologies
Address:	[Redacted]
Email:	[Redacted]

Part III

Please list specific types of *practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)* that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering* carbon or reducing GHG emissions (*Excellent, Good, Moderate*)	**Ability** to *verify* carbon sequestration or GHG emission reductions (*Excellent, Good, Moderate*)	**Cost** for agricultural producers and private forestland owners to *implement* (*High, Medium, Low*)	**Capacity** of agricultural producers and private forestland owners to *implement immediately* (*High, Medium, Low*)
Anaerobic digestion (AD) of animal waste from; • Dairy and Cattle • Swine • Poultry • Other livestock • Co-digestion of animal waste with other organic waste materials. AD technologies include simple; full and partial lagoon cover systems as well as more sophisticated in ground and above ground digesters. In addition to AD other technologies that prevent the release of methane from open lagoon management of animal waste should be included. Examples of these technologies are (and not limited to) the following; • Geobags • High efficiency liquid/solid separators • Fuel production • Composting	Excellent	Excellent	Medium	High

Please list specific types of *crop production* that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering* carbon or reducing GHG emissions (*Excellent, Good, Moderate*)	**Ability** to *verify* carbon sequestration or GHG emission reductions (*Excellent, Good, Moderate*)	**Cost** for agricultural producers and private forestland owners to *implement* (*High, Medium, Low*)	**Capacity** of agricultural producers and private forestland owners to *implement immediately* (*High, Medium, Low*)
Intelligent Use of Nitrogen with Precision Farming The current standard practice for use of nitrogen (N) fertilizers by farmers is to apply a uniform rate of N across their entire field. USDA data indicates much of this fertilizer (24-30%) is over applied and provides no increase in crop yield. Farmers apply the excess N fertilizer because the cost of the extra N is less than the potential yield loss from under application. Through the use of Precision Farming Methods, farmers can determine areas of the field which require less N fertilizer by allowing the farmer to select and apply the correct amount of N to each area of the field. These practices reduce the amount of N used to below the current standard practice of application of a uniform rate of N across the entire field. These application methods provide significant reductions of N applied to the fields and result in reduced emissions of Nitrous Oxide a potent GHG. The high GWP of nitrous oxide (310) provide an effective means of reducing GHG emissions by one half ton of CO2e per acre.	Excellent	Excellent	Low	High

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
GROWTH ENERGY
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Tom Buis
Greg Krissek

Organization(s) you represent

Growth Energy

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Tom Buis – CEO
Greg Krissek – Chair, Technical Committee

Current Growth Energy Policy Position – April, 2009

Thank you for the opportunity to offer input on this important issue. While we appreciate your request for our views on the impacts of federal legislation to address climate change, we have not yet formulated our organization's specific recommendations to your request. However, we do have serious concerns that we feel must be addressed in any legislation addressing Climate Change. These concerns are outlined below.

- We believe that the approach to reducing carbon should be an incentive based approach, not a regulatory regime.
- The federal agency or agencies chosen to implement climate change oversight programs, cap and trade, etc., should be experienced in today's agriculture and today's ethanol production. Often, these programs end up controlled by Federal agencies that do not understand modern agriculture and often do not bother to find out the challenges and opportunities confronting rural America.
- Credit should be allowed for those who have already taken the steps to reduce carbon use and emissions, including ethanol plants that have reduced their carbon footprint by investing in cleaner energy to produce ethanol. Those who have already taken steps to reduce carbon should not be penalized, nor treated the same as those who have done nothing.
- Any climate change legislation should be fair and equitable to all energy production and not, as some have proposed, single out renewable fuels thus giving other fuels a market advantage.
- We also believe that any climate change legislation should take into account other components of comprehensive energy legislation, such as, low carbon fuels standards, and both direct and indirect land use. Holding American agriculture and renewable fuels production responsible for other countries farming practices is in-equitable, not based on peer reviewed modeling, and frankly could lead to the destruction of our nation's food, fiber, and renewable fuels production in the future.
- It is absolutely critical that any steps taken to address climate change be transparent, equitable and science based – not based on concept or theory – but peer-reviewed science.
- Finally, if a cap and trade system is included, the regulatory oversight of the trading of these commodities should be by a federal agency that has the experience, staff and capability to ensure fair and open markets.
- In summary, we look forward to working with your committee to ensure that any legislative efforts to address climate change are science based, equitable, are incentives –not regulations, and are reflective of modern agriculture and ethanol production – not how we farmed or produced ethanol in the past.

Part I: Carbon Reduction Program Design Please refer to policy position attached above

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
   Please respond in 600 words or less.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
   Please respond in 300 words or less.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
   Please respond in 600 words or less.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
   Please respond in 600 words or less.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
   Please respond in 300 words or less.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
   Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and- trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation Please refer to policy position attached above

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Part III: Carbon Reduction Program Additional Thoughts Please refer to policy position attached above

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
GENE RICHARD HEINZE
FRYE, PH.D.
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name: Gene Richard Heinze Fry

Organization(s) you represent: self

However, I am a member of the Union of Concerned Scientists, the Massachusetts Climate Action Network, Lexington Global Warming Action Committee, and several other environmental organizations. I do not speak for them, but a decade ago I spoke about global warming ,on behalf of UCS, to several citizen groups at various times.

Address: [Redacted]

Email: [Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing the organization, including any office or elected position you hold or if you are a volunteer.

I am not responding on behalf of any organization, but let me say a little about myself.

I hold a PhD from Cornell University (1989) in resource economics. I have worked for the Maine Office of Energy Resources, the Massachusetts Department of Public Utilities, and Northeast Utilities. About half of my time with them has been devoted to energy efficiency programs, mostly evaluating how much savings they actually achieved. Perhaps 5% of my work there involved renewable energy in various forms. Volunteer work I did before graduate school involved renewable energy, nuclear power, and electricity forecasting.

Until 3 months ago, I had been an independent consultant for 5 years. Among my clients were two newsletters for which I wrote scores of articles on climate change: *The Global Environmental Change Report* and *Business and the Environment*. For another client, I helped develop savings estimates for Energy Star Appliances and Premium Motors programs. However, much of those 5 years I spent giving public lectures on climate change and distributing CDs (updated often weekly), with material from those lectures and 200 or so scientific studies.

Please let me know if I can be of further assistance.

Part I: Carbon Reduction Program Design

1. **Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why? 600 words or less.** (577 words)

Congress should enact a program. I believe a cap-and-trade approach is better. Its effect is broadly similar to a carbon tax: to reduce carbon use by raising its price. The effect of either method will flow through the economy, raising prices of carbon-intensive goods, with secondary effects rippling through the economy, as "input-output" models show.

On the other hand, the costs of damages from carbon will fall (not absolutely, but relative to what they otherwise would have been) as the amount of carbon emitted falls. Based on my 19 years of following the literature, it is clear to me that the discounted fall in damage costs (many trillion dollars) far exceeds, perhaps by a factor of 100, the economic detriment of increased carbon prices (a hundred billion dollars, or somewhat more).

Economic theory tells us that a tax is better when the marginal damage cost is known better than the amount of reduction needed. On the flip side, a cap is better when the reduction needed is known better than the marginal damage.

Estimates of the damages range from a little less than zero to more than twice the gross world product. The latter are much more credible. Damages from current emissions are not static, but rise over time, and more steeply at higher atmospheric carbon levels. That is, damages accelerate; they are non-linear. For a carbon tax to work in this context, it must be systematically revised steadily upward. However, the amount of damages decades in the future - from current emissions - are difficult to estimate accurately now.

On the other hand, the amount of carbon emissions compatible with reducing future damages is much less uncertain. There is a consensus that we should seek to hold warming to 2°C, consistent with 450 ppm CO2-equivalent. (We are at 440 ppm CO2-equivalent now. So, meeting this goal will be most challenging.) Assuming current carbon sink rates and trivial methane releases from permafrost (both extremely optimistic), world emission paths to achieve this are clear. They involve large emission reductions in the near term and even steeper reductions in decades to come. US emission paths are not as clear, but a steady US reduction to 80% or more below current emissions by 2050 is consistent with the needed world emissions reductions.

In the case of escalating damage values, *i.e.* when those values rise over time, cap-and-trade is also better than carbon taxes are. In theory, in this case, which

we actually face, carbon taxes should be revised upward each year as marginal damages rise. Raising taxes is always contentious and many consistently call for tax cuts, an ebb and flow that depends on the relative strengths of political parties and the economy. Businesses, especially electric utilities that make very long-term investments, need consistent and predictable standards for long-term planning. Given politics, carbon taxes cannot achieve this.

Finally, a cap-and-trade system will encourage technological innovation to drive the cost of carbon reduction down. This increases the combined producer and consumer surplus. A carbon tax is somewhat more likely to encourage accounting innovation to lessen the tax burden, which does not help the planet.

In sum, we are far less uncertain of the amount that must be reduced than we are of the damages avoided by current reductions. Caps are much less susceptible to politics and much better for long-term planning / regulatory certainty. Thus, cap-and-trade is much better than carbon taxes. Moreover, auctioning allowances will bring revenue similar to carbon taxes.

2. **Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?** 300- (257)

Yes, they should be generally covered. Agricultural and forestry emissions from fuel use are easily covered by application of a cap to the fuel sector (refiners, importers).

However, it is crucial to cover emissions from biofuels. Reduction in emissions from a renewable resource (biofuel crops like corn, soy, switchgrass, etc.) must be weighed against the increase in emissions from converting cropland and especially "idle" land to biofuel production. As Searchinger et al. and Fargione et al. showed in February 2008, the greenhouse gas penalty from most land conversion far exceeds the GHG savings from biofuel use, with a "payback" ranging from about a decade to several centuries for most cases.

I note that turning potential food crops to biofuels also raises food prices. This was very dramatic in 2007-8, when grain prices tripled, biofuels being the chief among 4 main causes. People in 3rd world countries experienced great pain; hunger and even starvation mushroomed. Food prices have since fallen to only a little above 2005 levels, but they will rise again. Moreover, some researchers say that making corn ethanol uses more energy than it produces. In fact, food prices will rise systematically as the droughts induced by global warming spread.

It is also worthwhile to cover emissions from some agricultural operations for other purposes. Feedlots come to mind first. The emissions, mostly methane, are concentrated rather than spread out over a wide area, almost a set of point sources. It would be more or much more difficult to try to regulate emissions

from other agricultural operations (methane from rice growing, cattle grazing, etc.), which are non-point sources. Those should probably not be covered.

3. **If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances to the agriculture and forestry sectors be allocated at no cost? If so, should there be a limit on the number of no-cost allowances?** 600- (597)

   Allowances should primarily be auctioned. Carbon emitters, who cause the damages, should pay for them. Those who emit little carbon per $ of value created should be appropriately rewarded with lower carbon costs than their competitors, while those who emit a lot should face higher production costs that match the greater damage they cause. This will result in needed changes in the carbon intensity of the economy overall, as industries grow at different rates.

   However, 100% auction at first will probably not get the number of votes in Congress (especially 60 votes in the Senate) required for passage. To get the votes will probably require that low carbon emitters initially subsidize high carbon emitters. However, the subsidy will be a tiny fraction of the damages avoided by implementing a cap-and-trade system sooner rather than later, and so worth providing.

   For example, I would probably pay $1,000 (present value) to subsidize ratepayers in places like Ohio, Kentucky, Tennessee, North Carolina, and West Virginia. Start with 7 billion tons of CO2 equivalent / year, split among 300 million Americans, x $13.70 per Ton. The $/Ton is escalated, but on a declining subsidized fraction of total allowances, then present valued. People from a low-carbon state would pay about 4 times the average subsidy, so that electric prices for ratepayers in coal states, who get the subsidy, would rise more slowly. Then it would be many years before their electricity is as costly as mine is already. This temporary distortion in the appropriate price signal (and fall in consumer + producer surplus) is worth gaining the votes in the Senate needed for a super-majority.

   Stated pointedly, this is a small price to pay for my children having a future and the US not fighting an ever-escalating series of water wars. My $1,000 subsidy to coal states would be trivial compared to my recent retirement fund losses. This subsidy can be arranged.

   Thus, a combination of auctioned and free allowances appears needed.

   I suggest the following. Initially, allocate almost half of allowances at no cost. Half of allowances would be available for carbon users – primarily electric utilities, factories, and heating oil suppliers. Such organizations would receive

.05 (1/20) free allowances (1 Ton of CO2 equivalent emitted) for each ton of CO2 documented as emitted (or carbon supplied that turns into CO2) over 1999-2008, possibly half an allowance (10 baseline years x .05) in all. In the second year, .05 times 2000-8 emissions. In the third year, free allowances for .05 of emissions over 2001-8. And so forth. In the tenth year, .05 free allowance for documented 2008 emissions.

Oil companies should not receive allowances, because ExxonMobil has led the fight to delay climate action, thus imposing a hidden tax (future damages) worth trillion of dollars on American (and world) consumers. Nor should coal producers receive free allowances, for the same reason.

The transition would be smooth. Assuming constant allowance prices (administration estimate of $13.70/Ton of CO2), coal-fired electricity prices would eventually rise 2¢/kWh, at the rate of 0.2¢/kWh per year. Natural gas-fired electricity prices would rise half as fast. Wind, hydro, and nuke prices would not rise. Gasoline prices would rise 12¢/gallon at first, similar to current monthly variation.

However, allowances prices would rise as the cap tightens. Perhaps in 25 years, coal-heavy electricity users would pay electric prices as high as I do already (20¢/kWh). Some small users would not be able to document past emissions, so always less than half of emissions would be given away.

Any free allowances for agriculture and forestry should be allocated using the above guidelines.

4. **Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e., RGGI or individual state programs)? If so, which programs and why?** 600-(28)

   Yes, a US-wide cap-and-trade system should provide a smooth transition from US regional and other carbon reduction programs. Programs such as RGGI, Midwestern Governor's Association Accords, the Western Climate Initiative, and the California-UK program should be rewarded for early action, not penalized.

5. **If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.** 300- (49)

   I think the Environmental Protection Agency should regulate and administer the cap-and-trade program. The EPA has experience administering the sulfur cap-and-trade program and can use that experience in administering a carbon program. The EPA is the agency for the environment, which is what regulating carbon emissions is all about. The EPA is currently preparing to regulate CO2

emissions, pursuant to the Supreme Court's 2007 decision, pending action by Congress.

6. **If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.** 300-

   I don't know.

7. **Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible only to major market participants; or c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.**

   Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? 600-

   I don't know.

8. **Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agricultural community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.** 600- (588)

   I expect any such negative impacts will be small, generally smaller than on typical regions or populations not of special interest to the agricultural community.

   In contrast, the positive impacts on agricultural communities will be large and strongly growing, larger than for almost all other communities. Immediately, these range from modest expansion of selected biofuel opportunities (bagasse, corn stalks, sawdust, etc.) to mushrooming income from hosting far more wind turbines, and later, solar farms.

   More important, carbon emission reduction will decelerate the rate of growth in forest fires, and provide some hope that forests will decelerate the dieback process in the western US and Canada. (See, *e.g.*, van Mantgem *et al.* and Snetsinger & Kurz both 2009) This could even lead to resumption of carbon sequestration in forests.

Even more important, carbon reductions will lead to tremendous growth in soil carbon sequestration opportunities. The value of soil carbon sequestration has the potential to exceed the value of crop production. But they are closely tied, since sequestration enables continued crop production at current levels. Over the next 10-40 years, the need to pull very large amounts (*e.g.*, 5-10 GT/year) of carbon from the air, in order to move carbon out-gassed by permafrost soils into current temperate-zone soils, will become overwhelming. This will provide huge income opportunities for farmers and ranchers.

Most important of all, carbon reduction will decelerate the growth rate for droughts that damage and wipe out crops. The value of this is incalculable; it probably exceeds the present value of the future gross world product (GWP). Without food, the economy collapses and money is worthless. Without food, world human population collapses. $4 million per human life (a value used in studies I reviewed for the MA utility commission in 1991), times 4 billion delta population, dwarfs GWP. Human life may not be worth so much.

Without a carbon reduction program, we are already ahead of schedule to have "once a century" droughts cover the southern half of the US by 2059. "Once a decade droughts" or worse would cover most of the rest of the US. Compare D. Rind *et al.*'s 1990 global projections to recent observations, through 2002, in A. Dai *et al.* 2004. Actual "once-a-decade" droughts already covered 30% of Earth by 2002, compared to 27% in the vintage 1990 projections. See graphs at the end of answer #30. Such severe droughts, which have just begun, will devastate agricultural production. US food production could be cut in half before 2100, and yet more deeply by 2100.

The situation will be as bad or worse in most of the rest of the world, beginning with India, then China. When the Himalayan glaciers have mostly finished melting away, perhaps by 2035, the Ganges will cease to flow when it's not monsoon season. China also depends on Himalayan glaciers. With perhaps half as much food for the world in 50-80 years, the world's present population cannot be supported. Rapid population reduction will be ugly in the extreme and, on a global scale, unprecedented.

Droughts have worsened even since 2002. "50-year droughts" or worse already afflict eastern Australia, north China, the Pampas, and California. North China is the world's largest wheat producer. The Pampas and Australia have been significant "breadbaskets of the world". This "50-year drought" data from 2008-9 is even farther ahead of the vintage 1990 projections than the 2002 planet-wide data was. California is America's "salad bowl." Even the US Southeast recently lost its immunity to "once a century" droughts, while drought intensifies in the US Southwest.

9. **How might revenue generated under a carbon reduction program be best used to offset any negative impacts?** 300- (56)

   See my answer to question #3 above. One could use auction revenue to finance energy efficiency and research in renewable energy. One could use allowance auction revenue to send a tax rebate to every American. One could fund renewable energy and carbon sequestration. One could give rebates (or program benefits) only to selected Americans, who Congress considers to be particularly needy, such as populations served by USDA nutrition programs.

   The answer to this question is much lower priority than that the cap should decline fairly rapidly and that bonus allowances be authorized.

10. **Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?** 300-

    Transitional assistance should come primarily from limited distribution of some free allowances, for a limited period, as outlined in answer #3 above.

11. **What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?** 300- (300)

    Public lands should be used extensively and intensively to sequester carbon.

    Forests can sequester a little. However, areas burned by forest fires have risen 6-fold since 1986 (Westerling *et al.*, Soja *et al.*, both 2006). Even undisturbed western US forests are systematically losing biomass (van Mantgem *et al.* and Snetsinger *et al.*, both 2009). Thus, carbon sequestration in forests can only be modest and short-term, not long-term.

    Great potential exists to sequester carbon in rangeland soils and probably agricultural soils (get details from Carbon Farmers of America).

    Jim Laurie estimates that rebuilding carbon in rangeland soils can sequester 2 Tons of carbon / acre (1.5 ounce / square foot) / year, or more, using techniques from Holistic Management, pioneered by Allan Savory. The method: graze cattle for short periods on modest plots (10-400 acres is modest for rangeland), then move them the next week to an adjacent plot. Rotate plots throughout the year.

    On those plots, carbon is sequestered in two ways. First, dung beetles move lots of carbon underground. Second, close-munched grasses add to their root systems, to later support new above-ground growth. In 6 months or so, repeat the process on the same plots.

More carbon, much of it in underground mycelium networks, or in the form of glomalin, facilitates much better soil moisture retention. Streams flow almost year around, and clear, where they used to flow only a month or two, and turbid. Each year, more species of perennial grasses appear, where before the ground was bare or hard-packed, sporting only species like mesquite. Bare ground on the Maddox spread outside Ozona, Texas shrank from 68% to 30% over six years of treatment.

Returning soil carbon levels from 3%, a typical level today, to 5% (or more), more typical of pre-human levels, could move 10+ billion tons of carbon from the air to US soils, over perhaps two decades. That's 50 billion tons of CO2, or 7 years of US emissions. The value would be $700 billion to the agricultural community, based on the administration's estimate of 1st year carbon prices under its cap. However, the price of carbon will rise as the cap tightens and damages from warming rise. The present value of agricultural carbon sequestration could top $2 trillion.

12. **Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.** 600- (595)

Carbon prices should be determined exclusively by market forces. Limits on them would tie both hands behind our back as America struggles to survive the greatest threat ever to US national security.

Costs of inaction (damages from climate change) dwarf the cost of action (cutting emissions). Future damages are uncertain, but we are already committed to many times current damages. With prompt and major action, I hope we can prevent far larger damages: the collapse of civilization in the lifetime of today's children (see UN Secretary General remarks 9/24/07) and rapid depopulation of the Earth. We can do so only by using agricultural resources wisely, on top of cutting emissions deeply.

Central to estimating future damages is the status of Tipping Points. The report to Senator Snowe in early 2006 identified three.

1) Widespread melting changes reflective ice to absorbent water.
2) Carbon sinks (which have absorbed half our emissions) become carbon sources.
3) Warming liberates large quantities of methane from thawed permafrost.

We are passing Tipping Points now.

First, ice on the Arctic Ocean is shrinking rapidly. Minimum area in 2007 shattered the old record, down 40% in 27 years. Minimum volume set a record in 2008. The consequent change in Earth's reflectivity (albedo) is similar to what triggered ice ages over the past million years, but in the opposite direction. This albedo change will raise temperatures, independent of atmospheric GHG levels.

Second, Canadian forests have changed from carbon sinks to carbon sources (Snetsinger 2009). Mangem et al. (2009) suggest the same may already be true for western US forests. Drought turned the undisturbed Amazon rainforest temporarily to a carbon source in 2005 (Phillips 2009). North America's 2002 drought cut CO2 absorption 50% continent-wide (Peters 2007). Over 1997-2004, world ocean absorption of CO2 fell 7% (Behrenfeld 2006), including 50% in the North Atlantic (Schuster 2007) and Sea of Japan (Park 2009). So, a higher fraction, perhaps exceeding 1.00 within 20 years, of human GHG emissions will stay in the air.

Third, permafrost holds 3-5 times as much carbon (Zimov 2006) as humans have ever emitted. Most carbon will emerge from thawed permafrost as methane, a potent GHG. I don't know the time frame. Temperatures in Siberia, Alaska, and Canada are rising faster than anywhere else. This has increased permafrost thaw, in depth and area (+7 % 1900-2002, IPCC). "Drunken trees" and split houses dot Alaska. Atmospheric methane levels last year resumed rising. Large methane burps occurred recently in the Arctic Ocean (Shakhova 2008), probably from warming subsea methane hydrates.

Exceeding Tipping Points can produce "runaway" warming, stopped only when many millions of square miles of dark forests turn to light desert, reversing Earth's albedo change, or even when weathering removes enough CO2 from the air (upwards of 100,000 years, Schaffer *et al*. 2009).

The UK's *Stern Review* (October 2006, headed by Sir Nicholas Stern, former World Bank chief economist) estimated the present value of damages from climate change at $74 trillion.

He has since said that he underestimated the damages. At Copenhagen in March 2009, he said if temperatures rise 4-7°C, [our commitment when we pass Tipping Points], southern Europe would look like the Sahara, major world rivers [Ganges, etc.] would dry up, and agriculture would be destroyed and life impossible over much of Earth. The result would be "extended conflict, social disruption, war essentially, over much of the world, for many decades," costing a third of the world's real wealth.

Stern understates the cost of inaction. The cost of action unimpeded by price limits on allowances is trivial by comparison.

13. **What, if any, lessons can be learned from the European Union's Emissions Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture or forestry?** 600- (123)

I am barely acquainted with the EU's ETS. My understanding is that many sectors and industries are partly or even wholly exempt, depending in large measure on the local country's binding limits. Or, what is almost the same, too many sectors and industries are granted free allowances.

In general, ETS limits have not declined appreciably, so that allowances sometimes trade for near zero. That is, the ETS market is prone to collapse.

Since the ETS began in 2005, US CO2 emissions have declined an average of 1% per year. It is not clear that Europe-wide CO2 emissions have fallen as much, although individual nations (*e.g.*, Spain) have done better.

I am not acquainted with international carbon reduction programs for agriculture or forestry.

Part II: Carbon Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14. **What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agricultural and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?** 600- (546)

    My answer differs fundamentally from the one I would have given 8 years ago. Then I would have emphasized a voluntary offset program and never have thought of bonus allowances. Now I think primarily bonus allowances are needed for agriculture and forestry.

    What has changed is that we are now way behind the 8-ball. Eight years ago I was not aware that so much carbon was stored in permafrost. Projected droughts by 2059 were just projections. I had not yet seen data on actual droughts. Actual data shows we are ahead of schedule. Gore and Bush both promised action on climate change. Bush did not act.

    To enable the survival of the United States 50 years from now, we must become carbon negative in short order, long before 2050.

    However, too much of American carbon-using infrastructure cannot change fast enough to do that. Steam-electric power plants have nominal lives of 40 years and actual lives that are longer. Factories can last longer. The half-life of housing stock may exceed 50 years, while the half-life of commercial building

stock is perhaps 25 years. The half-life of cars and trucks is perhaps 7 years, buses and trains perhaps 10 years.

Offsets for agriculture and forestry activities would allow for this slow turnover in carbon-using stock. Emissions could fall only 70% by 2050 and offsets could achieve the other 10% in cuts. However, 80% is insufficient. We are passing the Tipping Points now. We are well ahead of schedule to have "once-a-century" droughts cover 45% of Earth by 2059, including the southern half of the US.

The water wars have begun – in Darfur, Somalia, Afghanistan, Zimbabwe, eastern Congo, Pakistan. Most are civil wars along ethnic lines, intensified by declining resources, especially per capita. They will intensify and spread. Kenya and Nigeria appear to be up next. Rwanda may flare up again. When the Himalayan glaciers vanish, and with them the Ganges in the dry season - probably by 2035, food production in India will decline a lot. Groundwater is already 3,000 feet down in much of north China, where the Yellow River will vanish for much of the year by 2035.

The US is not immune from non-violent "water wars" like those that afflict the Tigris & Euphrates, or the Nile. Disputes over allocation of water from the Colorado and Arkansas Rivers come to mind. American farmers are draining the Ogallala Aquifer, much of it to grow corn for beef feedlots and ethanol production. Thus, its water will be mostly "gone" before the need for it becomes really great. The same, or worse, is true for many other underground aquifers around the world, from Arabia and central Mexico to the Indus Valley and north China. Sustaining peoples on fossil aquifers, whether in Darfur or outside Las Vegas, is asking for trouble not far down the road.

From way behind the 8-ball, we need bonus allowances for agriculture and forestry carbon sequestration. I hope this will allow the US to go carbon-negative by 2040, which is probably needed to re-pass Tipping Points, going the other direction. Bonus allowances would be in addition to emissions reductions and some modest offsets. The federal government would purchase bonus "allowances" for sequestration, at emission allowance prices, in addition to those it still auctions.

15. **Should the total number of offsets issued annually by the government be limited? If so, how much?** 300- (58)

Yes, the number of offsets should be limited. Most sequestration should be in the form of bonus allowances. US total offsets should be limited to perhaps 15% of total US emissions at first, declining to 10%, even 5% by 2030. Meanwhile, bonus allowances should rise, from perhaps 1% initially, to equal total allowed emissions by 2030 or 2040.

16. **How should Congress prioritize the distribution of available offsets (who gets them and how much)?** 600-

I don't know about available offsets, unless this means free allowances, in which case see answer #3. If the government has acquired true offsets for government-sponsored sequestration, I would suggest auctioning them off.

17. **What should be the criteria for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?** 600- (584)

I think of 7 types of offsets: paying someone else to 1) use energy more efficiently, 2) produce energy with less carbon, 3) sequester carbon in the ocean, 4) sequester carbon in trees, 5) sequester carbon in soils, 6) sequester carbon in rocks, and 7) prevent some sunlight from reaching Earth's surface.

Types 1 and 2 are difficult to account for, because "Would they have happened anyway?" is tough to determine. Gross savings can be easily quantified, verified and monitored, and should be monitored over the life of the savings. But the attribution (the "free rider" problem, in the language of the energy efficiency community) is very tricky, and plagues the current international offset scheme. It seems that many or most current "offsets" are actually primarily free riders: they would have happened anyway, at least mostly to the extent they did, if slightly later.

Type 7, geo-engineering, seems straightforward if government subsidies are not involved. Noted geo-engineering schemes include mirrors in space and sowing the stratosphere with sulfur (mimicking volcanoes). Piping surface, carbon-rich, ocean water to the deep ocean and bringing carbon-poor deep-ocean water up to the surface is probably similar.

Types 3-6, involving sequestration, raise difficulties for quantification, verification, and monitoring. This is especially true for trees and ocean. How long do trees live before fires wipe them out? How are growth rates and soil carbon uptake and out-gassing affected by intensifying droughts? For ocean fertilization, will plankton sink, or simply be eaten? These things must be measured, probably every 2-3 years for forests. Assuming indefinite or even long lives for trees in a changing climate is probably unrealistic.

Sequestering more carbon in oceans will exacerbate acidification problems that have begun to devastate marine life, from mollusks to corals. Is the ocean sequestration trade-off worth it? Maybe.

For soil, ocean, and forests, measure how many pounds of CO2 are removed from the air per square foot (or square mile) per day or year. There are rhythms, mostly seasonal, that must be accounted for. Soils should be random sampled

to several inches deep, perhaps 1-2 sites per acre for small projects, 1-2 per 10 acres for large projects. Sample before treatment, and again during treatment, perhaps every two years. Tree cores, or diameter breast height, might be used for trees. Sample a few random trees per acre, every year or two. Sample 1-2 sites per 10 acres for larger projects. Actually, given the severity of the climate problem, perhaps 1-2 sites per 100 acres for very large projects.

For ocean projects, sample carbon % in water, in a sample of sites, before treatment, during treatment, and after treatment. Use similar area coverage to soils and trees.

Especially for trees and soils, go back a few years after treatment (5? 10?) to see how well treatment effects have persisted. They may or may not be very durable. It's a new field of study and persistence is an open question. This is probably not feasible for ocean fertilization.

Storage in rocks (e.g., short towers, or open silos, of crushed rock) should have sampled rocks assayed before treatment and after treatment, near edge and near core of a silo, high and low, at a statistically valid sample of silos. 10% precision at 90% confidence is a familiar standard. Compare rock surface carbon % before and after to determine how much weatherization has occurred, how fast. Extrapolate from a few sampled rocks to the silo of rocks, and from a few silos to a population of silos.

18. **What should be the criteria for assessing offset projects?** 300- (42)

To what degree would they have happened anyway? Did the offset process make it happen a year or two earlier? Make twice as much happen? In energy efficiency evaluation, this is called partial free ridership. For more, see answer to #17 above.

19. **How should Congress design a system for verifying offset projects?** 300- (101)

Congress should direct the EPA to set up a system to verify offsets (and bonus allowances), delineating basic principles. Congress should direct that these verification standards be updated at least every two years.

EPA in general should hire independent consultants to perform verification measurements at sites claiming offsets or bonus allowances. The consultants should have no ties to any owners of the sites being measured. They should be paid out of a money pool funded by a fee assessed on those who claim offsets, a fee approximately proportional to the number of offsets claimed, discounted over the number of years claimed.

20. **Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?** 600- (106)

I believe a project-based approach, at least initially, would be preferable. Measured results are required.

Measurements will be less certain for ocean fertilization projects than for projects for forests, soils, and rock silos, where the target local does not move in unpredictable ways. Less certainty does not mean they are less important, but it does mean we need to be aware of the problem and the possibility that savings may not materialize.

As more experience is gained with types of offsets, a standards-based approach (what we in energy efficiency call stipulated values) may become appropriate. But stipulated values are very much not the way to begin.

21. **What should be the relationship between offsets and allowances?** 600-

One ton of carbon sequestered should generally earn an allowance for one ton of carbon emitted. Where sequestration continues (*i.e.*, yet more carbon is removed by a tree or a soil) for multiple years at the same site, an allowance should be available for each year another ton is taken out of the air. However, again, that new sequestration actually continues must be verified, if not annually then every two to five years.

An offset for using energy more efficiently should earn an allowance as long as, and to the extent that, the efficiency measure has not yet (X years after installation) become standard practice. This distinguishes economic life (of one type) from physical life.

22. **Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?** 300-

I don't have any insights not included above.

23. **How should Congress address <u>existing</u> offset projects or credits established through a voluntary or market system (e.g., the Chicago Climate Exchange or an emission registry)?** 600- (84)

Congress should generally give credence to existing offset projects or credits already established through a voluntary or market system. However, a continuing stream of allowances for such project should be subject to ongoing verification generally consistent with answers to questions 17 and 19-21 above.

That an existing contract says that its offset persists for X years does not make it so. Such stipulated persistence will need verification that the stipulated value remains reasonable. Much current stipulated persistence is likely to be rather optimistic.

24. **The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?** 600- (36)

    In general, early actors should get credit for what they've done, especially the future sequestration of efforts already undertaken, as long as it is verified to continue into the future. I have no opinion on stackability.

25. **How should activities that may have been paid for in part by assistance from Federal or state government activities (i.e., cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?** 300-

    I will leave this to others to answer.

26. **Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?** 300- (78)

    Yes, a producer should be required to return revenue, but only to the extent that an offset project fails to produce the expected benefits. There should be an exemption for natural disasters in which humans have no hand (earthquakes, volcanic eruptions).

    However, there should probably not be an exemption, or at most a modest partial exemption, for other disasters that have historically been "natural", but which human activity has exacerbated: droughts, floods, hurricanes, bark beetle infestations, and the like.

27. **Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?** 300-

Protocols and procedures should be set out in only the most general way in legislation. The details should be left to the appropriate government agency. That might be the EPA. However, for agriculture and forestry (as distinct from energy efficiency and storage in oceans and rocks), I understand that the Natural Resources Conservation Service, aided by Extension Services and Land Grant colleges, could play a substantial role. Resource and Conservation and Development councils might also be helpful.

28. **What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?** 600-

I'm only aware of a few. Doubtless, several others exist. Standard ones are lack of information or attention (priority) – the time to become educated about a problem and practices to solve it. Small farmers also need resources to assist in implementing new policies. Another is a split between a land owner and the land administrator, who may rent the land or its use. Again, legislation may give general guidance on the subject, but most details are best left to the regulatory agency.

29. **Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?** 300-

I am not familiar enough with current programs to give a reasonable answer.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not have been covered by the questionnaire, such as low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

A no-carbon fuel standard could supplement to a renewable portfolio standard. Nuclear power, despite well-known drawbacks, produces no carbon during operation. Its problems are small compared to those of fossil fuels, especially the most carbon intense ones – coal, shale oil, and tar sands. Given the magnitude of damages from climate change, every non-carbon source is needed. A no-carbon standard could start at the current base (30% of US kWh) and rise a little faster (as a % of total US electricity) than a renewable portfolio standard.

An energy efficiency standard like the one in the Waxman-Markey climate/energy bill is wise. Further, I suggest automatically updating efficiency standards for as wide a range of "appliances" as possible. The minimum efficiency standard in 5 years would equal the median efficiency of those appliances sold today. I suggest a "phantom power"

standard. Any "appliance" (video game, TV, etc.) whose on/off status is normally controlled by the user (excluding, *e.g.*, refrigerators, water heaters) consume no more than 2% as much power when it is off than when it is on.

Because most biofuel use exacerbates climate change, current requirements should be scaled back dramatically. Remaining requirements must be structured to not worsen climate change, and concentrated on cellulose and waste.

If biofuels are credited for reducing GHG emissions, the EPA should annually update the credit factor, based on the greenhouse effects (*e.g.*, Searchinger 2008) of the current mix of biofuels, and their overall energy out to energy in ratio, which some (*e.g.*, Pimentel 2005) find is usually less than 1.00.

To recap, droughts are worsening even faster than projected. Once-a-century droughts were projected to cover almost half the world by 2059, with once-a-decade droughts covering most of the rest. See the 2 graphs below. This means a vast change from forest to prairie and grassland to desert. This would lead to a huge and rapid population reduction, as global food supplies shrink.

On top of emission cuts, this calls for a vast and intense involvement by agriculture to sequester carbon, with modest help from forestry, using bonus allowances. This means many hundreds of billions, perhaps trillions, of dollars in agricultural income. This could preserve agriculture across the United States.

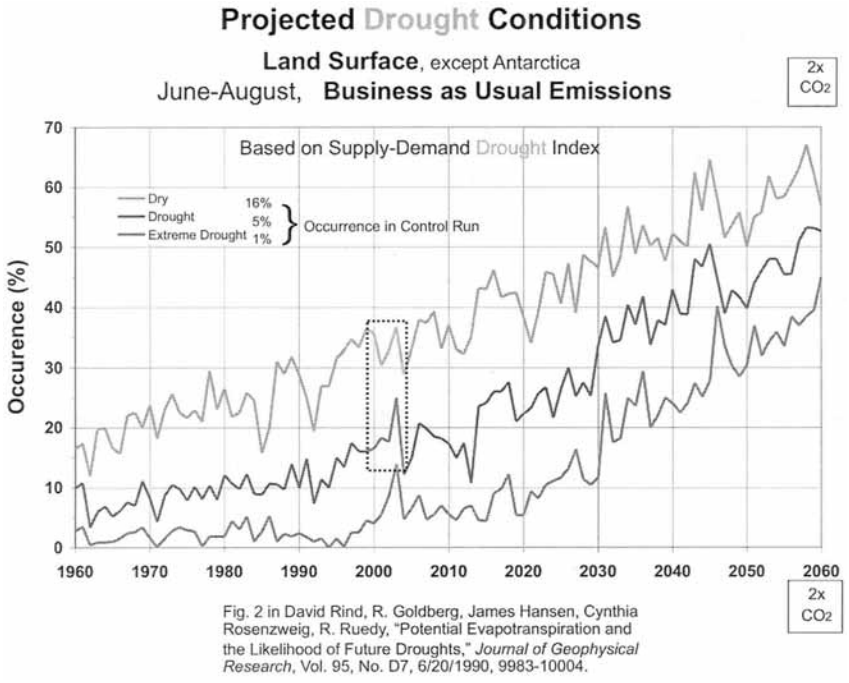
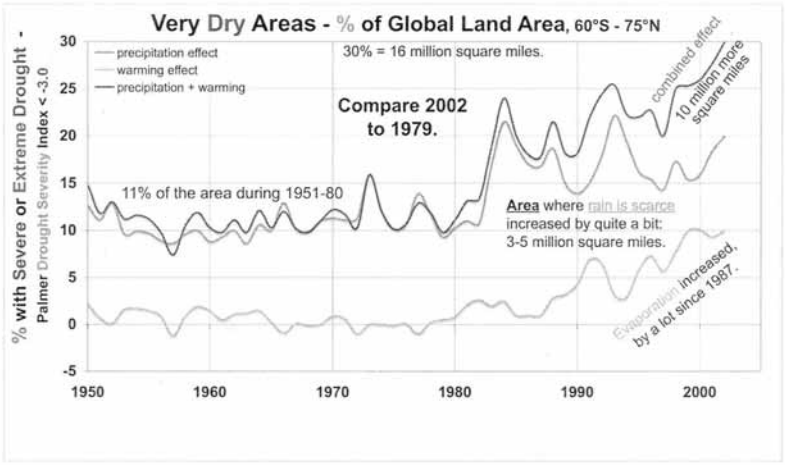


Fig. 2 in David Rind, R. Goldberg, James Hansen, Cynthia Rosenzweig, R. Ruedy, "Potential Evapotranspiration and the Likelihood of Future Droughts," *Journal of Geophysical Research*, Vol. 95, No. D7, 6/20/1990, 9983-10004.

Droughts Are Spreading Already.



from Fig. 9 in Aiguo Dai, Kevin E. Trenberth, Taotao Qian [NCAR], "A Global Dataset of Palmer Drought Severity Index for 1870-2002: Relationship with Soil Moisture and Effects of Surface Warming," *Journal of Hydrometeorology*, December 2004, 1117-1130

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Please list specific types of **forestry practices** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions (*Excellent, Good, Moderate*)	**Ability** to *verify* carbon sequestration or GHG emission reductions (*Excellent, Good, Moderate*)	**Cost** for agricultural producers and private forestland owners to *implement* (*Excellent, Good, Moderate*)	**Capacity** of agricultural producers and private forestland owners to *implement immediately* (*High, Medium, Low*)
Plant trees	moderate	good	good	medium
Release predators / parasites of bark beetles	moderate	moderate	moderate	low
Forest fire suppression	moderate	good	moderate	medium

Please list specific types of **practices associated with livestock operations (e.g., manure management, grazing/pastureland practices)** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions (*Excellent, Good, Moderate*)	**Ability** to *verify* carbon sequestration or GHG emission reductions (*Excellent, Good, Moderate*)	**Cost** for agricultural producers and private forestland owners to *implement* (*Excellent, Good, Moderate*)	**Capacity** of agricultural producers and private forestland owners to *implement immediately* (*High, Medium, Low*)
Quick rotation grazing (holistic management)	excellent	excellent	excellent	high
Spread perennial grass seed	moderate	moderate	good	high

Please list specific types of **crop production practices** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions (*Excellent, Good, Moderate*)	**Ability** to *verify* carbon sequestration or GHG emission reductions (*Excellent, Good, Moderate*)	**Cost** for agricultural producers and private forestland owners to *implement* (*Excellent, Good, Moderate*)	**Capacity** of agricultural producers and private forestland owners to *implement immediately* (*High, Medium, Low*)
Contour plowing (Keyline process)	moderate	moderate	moderate	medium
Crop rotation	moderate	moderate	moderate	medium
Chisel plow ("subsoiler") soil preparation	good	moderate	moderate	high
Switch from synthetic to organic fertilizer	good	moderate	moderate	low

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
MARTHA HOLDRIDGE
Committee on Agriculture
U.S. House of Representatives
Biographical Form

April 10, 2009

Name
Martha Holdridge
West Wind Farm
Farm location: Greenbrier County, West Virginia
Office: [Redacted]

Web site: www.westwindfarm.biz

Organization(s) you represent
Self only

Address
See above

Email [Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

I am a member of the following organizations but I am not responding on their behalf.

The Northeast Pasture Consortium – stakeholder volunteer
The American Grassfed Association – member and author of one article
The American Forage and Grassland Council – member
West Virginia Cattlemen's Association – Greenbrier County member

Part I: Carbon Reduction Program Design

Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?

Please respond in 600 words or less.

I favor a carbon tax that starts at a low rate and gradually increases until a goal is met. I believe the tax would be simpler and fairer than a cap and trade system.

Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

Please respond in 300 words or less.

Yes, agriculture and forestry should be covered. In this way carbon sequestration by agriculture and forestry could be eligible to receive payments for reducing CO2 in the atmosphere. Best management methods of organic farming, no-till farming, and intensive rotational grazing can achieve significant carbon sequestration.

If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?

Please respond in 600 words or less.

I do not favor the cap and trade system, partly because of these complications.

Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

No comment

If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Please respond in 300 words or less.

I do not favor a cap and trade program.

If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

Because of this and other complications, I do not favor a cap and trade system.

Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

No further comment.

Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

On my farm we have reduced CO2 in the air and increased SOC (soil organic carbon) in the soil. The SOC is very beneficial for grass growth in our pastures. High SOC minimizes soil erosion and holds moisture well in periods of low rainfall. I believe high SOC, especially in pastures is very beneficial to groups cited above. Since grass farms require few, if any, inputs, transportation requirements are minimized.

The number and distribution of small, local processing plants for pasture-raised, pasture-finished animals needs to be greatly increased. There should be no need for West Virginia graziers to send their grass-finished beeves to Nebraska for slaughter and butchering in a giant plant, and then be returned to an East coast market!!!

How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Subsidize the establishment of small, local processing plants. Establish training programs for managers and other personnel to work in these plants. Increase the number of federal meat inspectors. Establish a revised and clear set of written rules for small processing plants.

Additional revenues should go to other "green" projects such as better home insulation or improved railroad roadbeds.

1) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

No comment.

2) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

Public lands can also be managed so as to sequester carbon. Managers of public lands should set a good example and perhaps serve as teachers for the private sector.

3) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

It is important that carbon prices (as a tax or fee) be set low in the early years and that all businesses (including some agri-businesses) pay the same for emitting a metric ton of CO2. Both businesses and consumers will need time to plan and to adjust to gradually increasing fossil fuel energy prices. Clean energy sources will need time to plan, invest, build, and begin operating.

What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

It is my understanding that ETS has not been successful in reducing GHG through a market-based cap and trade system. This is another reason I favor the carbon tax and government management.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

To measure SOC in pastures, I believe it is necessary to take periodic (and, in my opinion, numerous and random) samples of pasture soils and test those samples for organic matter (OM). (The OM: C ratio being 1.7: 1.) I do not think it is sufficiently accurate to assign offset allowances according to agricultural practices. For example, I rotate steers into fresh pastures every day. I believe that sequesters more carbon than once-a-week rotations. Also I manage my pastures organically, applying no chemical fertilizers or herbicides. I believe that practice results in more life in the soil and higher carbon sequestration. Furthermore, there is a great variation in soils. How could daily agricultural practices be verified? Thus I feel it is necessary actually to test the soil to determine the year over year change (increase) in organic matter.

From reading the Rodale Institute research, I believe organic management practices have a very favorable effect on carbon sequestration. I have no comments on forestry practices.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

Offsets should not be limited. They should be as accurate as possible, though measurement systems must also be economical. With experience the price paid for an offset might need to be adjusted.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

Who gets them should be that farmer who earns them by employing the most effective management methods.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

See above in my answer to 14.

18) What should be the criteria for assessing offset projects?

Please respond in 300 words or less.

See above in my answer to 14.

19) How should Congress design a system for verifying offset projects?

Please respond in 300 words or less.

For small farms with pastures, I believe NRCS would be the ideal testing and/or verifying agency. They might test annually or every two or three or five years. For large ranches, contracting private testers or verifyers may be necessary.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?

Please respond in 600 words or less.

I believe that periodic measurement of field results by an independent inspector will prove to be highly desirable.

21) What should be the relationship between offsets and allowances?

Please respond in 600 words or less.

No comment. I do not understand the question.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?

Please respond in 300 words or less.

Permanence could be a problem in agricultural areas that are level enough to be cropped. In West Virginia most of our land too hilly to be plowed – even no-till.

If land use is changed from grass to conventionally plowed crop land, then CO2 will be released and that farm should pay a carbon tax – the amount depending on the amount of carbon lost.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?

Please respond in 600 words or less.

Congress should try to incorporate existing programs, if the voluntary market measurements can be equated with the federal system.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Early actors should not be penalized. Their work should be incorporated into the federal program. They may be able to help in teaching newcomers the most effective methods and could be rewarded for such service.

With respect to both additionality and stackability, I believe that by basing carbon offset payments strictly on the measured increase of organic matter (and thereby carbon) in the soil, the goal of reducing CO2 in the air may best be achieved.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

For the welfare of the nation and the world, it is the tested results that count. Nevermind the original purpose. Many "best management" practices recommended by Federal or state programs will achieve some carbon sequestration or reduction in GHG emissions. Let us be

thankful for good results. Furthermore, farmers have already paid taxes on such program payments.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?

Please respond in 300 words or less.

Offset revenue should be paid only on test results, not on a standard practice. See my comment in 14.

Natural disasters, such as floods, will be less severe following years of carbon sequestration – especially in pastures. Farmers will receive disaster relief payments. I believe carbon offsets should still be paid only on tested increases in soil organic carbon (SOC). Some floods in some areas could even increase SOC. I think it is better not to mix disaster relief with carbon offsets.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

Probably ARS could be helpful with devising protocols. Extension agents might review such protocols so that they are practical for farmers to use. As mentioned above, I think NRCS could be very helpful in testing.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

Mind set could be a problem. Meeting with county agents, NRCS and early adopters would probably help.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

I believe existing conservation programs do not provide sufficient incentives. However, the prospect of carbon offset payments, if large enough, combined with technical assistance would do the trick for many farmers.

If a farmer switches to pastures from cropping, he may have much heavy equipment that he will no longer need. He may owe a lot of money on that equipment. Some financial assistance in parting with that equipment would likely be most welcome.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

The following report is derived from the experiences I have had in managing my own farm. From 2002 to 2007 I took soil samples that were tested at the WVU Soil Test Lab. In order to better understand the health of my pasture soils, I requested that organic matter (OM) tests be included. It was not until late 2007 that I learned that year-over-year increases in OM would be a measure for carbon sequestration. My interest in carbon sequestration has intensified since then.

Martha Holdridge
West Wind Farm
Farm: Greenbrier County, WV
Office: Bethesda, MD

CARBON SEQUESTRATION from MANAGED PASTURES

May, 2008

Over the past five years we have sent West Wind Farm's soil samples to West Virginia State University's testing service to do several soil tests including organic matter tests. From 2002 to 2007 organic matter in 14 tested paddocks increased from 4.1 % to 8.3% (average.) Here are calculations of CO2 and Carbon sequestration based on the increase in soil organic matter:

YR	OM	lbs. OM	lbs. C	lbs. CO2 equivalent
2002	4.1%	13653	8031	29418
2004	7.0%	23310	13712	50226
2007	8.3%	27639	16258	59554

This is based on:
A 2" soil sample; minimum 5 sample cores per acre
The top 6 inches of soil weighing 1,000,000 lbs.
Therefore the 2" sample represents 333,000 lbs. of soil
The OM: C ratio being 1.7:1.0 and
CO2 having 27.3% C
All values represent a one acre area

Thus over five years we have sequestered:
59,554 less 29,554 = 30,136 lb. or 15 tons of carbon dioxide per acre
16,258 less 8,031 = 8,277 lb. or 4 tons of carbon per acre
For one year, this equals sequestration of 0.8 tons of carbon per acre/year

MANAGEMENT

1. West Wind Farm's method for achieving carbon sequestration is Management Intensive Grazing (MIG) in the production of our pasture-finished beef. In the tested

section of our small farm the steers are moved to fresh pasture every day. How does this frequent moving achieve carbon sequestration? Cattle come into a paddock when the grass is about 8 to 10 inches high. At that time the grass roots are also about 8 to 10 inches long. When our steers eat the grass down to about 2 to 4 inches, the roots (especially fine roots) also die back to about 2 to 4 inches, leaving behind decomposing roots that become organic matter.

The organic matter, which is about 58% carbon, is held in the soil. Only if and when the soil is disturbed and comes in contact with oxygen is the carbon released, creating new CO2 in the air. Continuous, year-round, grass cover prevents this release.

2. Our steers return to a paddock after both the above-ground grass leaves and the below-ground roots are again 8 to 10 inches long. The rest period may be 2 to 4 weeks depending on rain and other factors. This system is usually called rotational grazing, but one may think of it as pulsing the grass. This pulsing may take place 4 to 6 or even 8 times over the warm-weather growing season. By means of photosynthesis, with each rotation more CO2 in the air is drawn into the ground as carbon.

As I understand it, grass is especially effective because of this "pulsing" - whereas trees primarily grow and then hold the carbon in branches, trunk, and roots.

3. Another favorable factor for West Wind Farm may be that we use no chemical fertilizers, no herbicides, no pesticides. Some say that this increases carbon sequestration.

MEASUREMENT

Some carbon offsets (e.g. trees) seem difficult to estimate before the project or to measure after the practice is completed. I believe the above illustrates that managed pasture is one type of carbon offset for which results can be measured with considerable accuracy both during and after the project.

OTHER BENEFITS

Producing grass-finished beef on managed pastures is very low in use of fossil fuels. We have no need for diesel or gasoline for plowing, planting, spraying or tilling to produce corn for feedlot finishing. We use no chemical fertilizers, pesticides, or herbicides, and thus we eliminate that use of natural gas. No fossil fuel is needed to transport corn or animals to the feedlot. The June 2004 issue of National Geographic pictured a handsome 1250 lb. conventionally-raised steer and stated that raising that steer took an agricultural investment equal to 283 gallons of oil. Several grassfed producers have told me they believe they use less than 20 gallons to raise a steer from birth to harvest.

While sequestering carbon, our farming system (unlike planting or saving trees) is producing an annual, edible product. This product - grass-fed, grass-finished beef (or meat of any grassfed ruminant animal) - is healthy for our consumers. It is high in the "good" fatty acids, Omega-3s, TVAs, CLAs, and high in vitamins A, E, and Beta-carotene. Furthermore, we administer no antibiotics, hormones or steroids.

The environment benefits from natural fertilization of the pastures and from better air and water quality. The farmer benefits from no pesticides or synthetic fertilizers in his well water or in the air he breathes. The animals benefit from eating the green diet that nature intended for them.

Please list specific types of *forestry practices* that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	Effectiveness at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	Ability to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	Cost for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	Capacity of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of *practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)* that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	Effectiveness at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	Ability to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	Cost for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	Capacity of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Management Intensive Grazing +	Excellent	Excellent	Low	High or Medium
organically managed pastures				

Please list specific types of *crop production practices* that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	Effectiveness at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	Ability to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	Cost for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	Capacity of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

MANAGED GRAZING SUPPORTS CARBON SEQUESTRATION

at WEST WIND FARM, Greenbrier County, West Virginia

Animal Management

Black Angus steers are bought in April as pasture-raised yearlings

Pasture-finished on farm for 3–6 months

Never given any
- Grain
- Antibiotics
- Hormones
- Steroids

Supplemented with
- Kelp in a mineral salt mix – routine
- Hay and/or soy hulls – as needed

Cattle water
- Moveable troughs

Avg. daily gain, 1.8 lb./day

Pasture Management

Soils: silt loam teas-litz or cateache

Rainfall: usually adequate

Elevation: 2500–2900'

Organically managed 22 years
- No pesticides
- No herbicides
- No synthetic fertilizers
- Nitrogen from seeded legumes (esp. white clover)
- Soil amendments: lime as needed; turkey litter (2009)

Rotational grazing: Daily
- Small paddocks
- Polywire electric fencing within larger fenced areas
- 2–4-week pasture "rests"
- "Pulsed" grass growth and consumption, root dieback

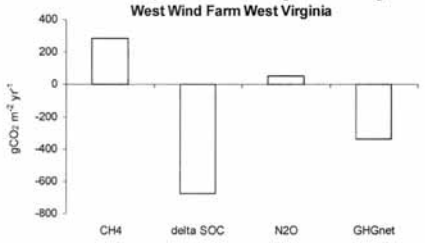
BENEFITS FROM WEST WIND FARM MANAGED GRAZING

Carbon Sequestration Noted from Soil Tests

2002 soil organic matter = 4.1% = ~4.0 tons carbon/acre
2004 soil organic matter = 7.0% = ~6.9 tons carbon/acre
2007 soil organic matter = 8.3% = ~8.1 tons carbon/acre

In 5 years, a 4.1 tons/acre increase in soil organic carbon (SOC)
~15 tons of carbon dioxide (CO_2) sequestered / acre
= an average of 0.8 tons CO_2) sequestered / acre / year.

Estimated carbon sequestration & net greenhouse gas sink
West Wind Farm West Virginia



2008, S. DelGrosso, ARS, Ft. Collins, CO

Other Benefits

In comparison to beef finished on grain in feedlots,
- Little fossil fuel is needed to power machinery: plowing, planting, or tilling grains; drying corn; or transporting feed or animals to feedlots
- No fossil fuel is needed to produce chemical fertilizers, pesticides, or herbicides for feeds
- Precipitation on pastures is well retained
- Soil erosion is minimal; soil quality improves
- Ground water quality is not degraded
- Animal living conditions are uncrowded.

And the beef is tasty and healthy.

West Wind Farm ☙ Mountain Pastured Beef ❧ is

High in	Low in
-Omega-3	-Fat
-CLA and TVA	-Calories
-Beta-carotene	-LDL cholesterol
-Vitamins A & E	-BSE and *E-coli* risk

Test results and methodologies are available on request.

☙West Wind Farm❧
Tel: (MD) or toll-free
Email: [Redacted] ; Website: http://www.westwindfarm.biz

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
HOWARD SOIL CONSERVATION DISTRICT
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Robert R. Ensor

Organization(s) you represent

Howard Soil Conservation District

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

District Manager, replying on behalf of the Board of Supervisors

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

A cap and trade system seems to be the most effective. This allows the businesses needing credits to go on the open market to purchase the credits at fair market value, retaining as much money as possible to fund improvements to their operation. That provides financial incentive for those that can provide credits and provides lowest possible cost to those that need the credits.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Agriculture and forestry should be covered from the standpoint that they can provide credits for sale through implementing good conservation practices. There should not be any limits that would inhibit the production of essential food and fiber for the world's population.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Allowances for agriculture and forestry should be allocated at no cost as long as they are following a bona-fide conservation plan and showing that they are implementing Best Management Practices that will ultimately result in carbon sequestration and credits available for sale.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Yes, although some of the existing programs, such as RGGI, are far too restrictive in their approach. Agricultural Best Management Practices, which are not included in the RGGI program can offer immense opportunities for carbon sequestration and as side benefits they

will enhance and maintain the soil base for future productivity, help clean streams and waterways and generally enhance the local environment and communities across the US.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

Existing agencies should be able to handle the process. The USDA houses both the Forest Service and the Natural Resources Conservation Service which should be key players in the establishment of the cap and trade system from an agricultural perspective. The hard part will be the turf battles with EPA, NOAA and other federal regulatory agencies (bullies) that want the program.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

Few people here, including me, know enough about the CFTC to comment on this one. The Chicago Climate Exchange seems to be doing an adequate job in fulfilling the role from an on-the-ground, everyday operational perspective. There should be no need to establish another regulator, if an existing one can be adapted to function properly.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

The objective, from our perspective in working with local landowners, should be to implement a system that will allow the most participation from those having credits to trade while encouraging good land use practices that ultimately benefit the landowner and the local communities across rural America. Most landowners will desire a fairly structured instrument that they can understand and feel comfortable with. We envision ourselves, the local Soil Conservation District, as a key player in the verification of practices and perhaps a party responsible for contract enforcement regarding Agricultural Best Management Practices that sequester carbon.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include:

residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

Possibly, but not if the carbon sequestration aspects of Agricultural Best Management Practices are properly considered in the cap and trade system. The production of food and fiber on America's working lands should be of the utmost importance. This can be done in an environmentally friendly manner and will sequester carbon at the same time. If that is not done and agriculture is saddled with caps, then this county and the rural communities certainly will suffer as will the food and fiber production necessary to maintain our population.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Revenue from carbon trading in the agriculture sector should be tied to the implementation of Agricultural Best Management Practices that sequester carbon. The issue of "Additionality" needs to be eliminated. Farmers that have been farming for decades using practices that sequester carbon should be able to sell those credits resulting from their long standing conservation ethic. This will bring income into the communities and offset any negative impacts both financially and environmentally.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

Yes, with caution regarding the amount of transitional assistance. This could be tied to the overall impact on the bottom line and profitability of the business.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

If the issue of "Additionality" is eliminated then public lands should set the standard for land management practices that sequester carbon.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

If Agricultural Best Management Practices are included then there should be adequate credits for trade and market forces would best determine the price.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Unknown from our perspective.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

We view agriculture and forestry as net carbon sinks as much research suggests. The implementation of Agricultural Best Management Practices will provide credits for sale or trade. If that is not the case then voluntary offsets or bonus allowances for selected activities is appropriate. The objective must be to provide adequate food and fiber for the US and the world in an environmentally sustainable manner.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

The government needs to decide on priorities among those activities that may conflict with the climate change objective. Again, food and fiber production must be a primary objective of the Administration. If offsets must be issued to agriculture to maintain an adequate food supply then issue as many as necessary, provided the farmers are implementing Agricultural Best Management Practices.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Yes, based on priorities for the good of the Country. Adequate food and fiber should be at the top of the list.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

That is actually an easy question to answer once the decision is made on the quantification of carbon sequestration from Agricultural Best Management Practices. Most farmers across the US have a Conservation Plan developed though the local Soil Conservation Districts and our partners in USDA, NRCS. The standards and specifications for those practices are contained in the Technical Guides in each Field Office across the US. It is a rather simple process to verify that the practices have been implemented and are being properly maintained as per the standards and specifications. The USDA, NRCS and the local Soil Conservation Districts already conduct annual status reviews for those farms that have Federal or State Agricultural Cost Share Program Contracts. That provides the monitoring and accountability needed to assure legitimacy of the program.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

1. Are the farmers following a Conservation Plan, 2. Do the practices meet the local Standards and Specifications as contained in the local Technical Guide, 3. are the practices in place and 4. are they properly implemented and maintained to provide compliance with the carbon sequestration contract.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

A national system is good as long as it provides for local oversight and local implementation. Congress should design a broad system that states can adapt to the local conditions. Conservation Districts (all 3000 across the nation) stand ready to help with the local design and implementation in the rural areas of America.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Standards-based is the only logical and cost-effective approach that will work. There is too much variability in soils, climate, rainfall, vegetation types, etc to approach it any other way. There can and should be regionalized standards based on research which provides the scientific basis for the established standards.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

From an agricultural perspective once the primary objective of adequate food and fiber is determined to be achievable and adequate profitability to ensure continued production is

ensured, then the net should be zero (offsets + allowances = 0) for each farm. The primary objectives of production and profitability must be determined to be achievable first.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

In the field of agriculture conservation practices there are annual practices and long term practices. The annual practices that sequester carbon, such as no-till and cover crops, are based on decisions centered on fuel costs, soil temperatures, soil organic matter content, erosion potential and weather. These can be highly variable and will require some flexibility from year to year. Many of the long term practices such as buffers, converting cropland to grass or trees, manure storage facilities have fewer variables in the decision making process and will be in place for many years. Our recommendation is to target 5 to 10 year contracts with a 10% to 25% acreage reserve to provide a buffer for the annual variables.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Existing offset projects are there because of the conservation ethic of the landowner. He should not be penalized for implementing good practices in past years. He should be rewarded and provided the opportunity to receive money through credit sales for the good stewardship. This will insure the practices will remain in place and the good farming practices will continue. The temptation, otherwise, is to plow everything up and start over from zero in order to be able to participate in the cap and trade system,.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

They should be rewarded and provided the opportunity to receive money through credit sales for the good stewardship. This will insure the practices will remain in place and the good farming practices will continue. Yes, there are always multiple benefits to any conservation practice installed on the landscape so landowners should be able to stack the credits and take advantage of as many opportunities as possible. That will insure the continued viability of the agricultural enterprise.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should

those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

The cost-share funds rarely pay for 100% of the cost of the practice; usually it is much lower than 50%. All the practices have a "life span" which states how long the functional life of practice is estimated to be. During the life span the farmer should be able to sell his investment percentage in the practice and the resulting ecosystem benefits/credits. After the life span is over the credits should be his to sell or trade 100%.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Uncontrollable events, certainly the producer/landowner should not be held liable or forced to return revenue. If a Standards Based process is used then there should not be any question about the result. In that process the quantification is based on scientific research, regionally adjusted and if the farmer does the necessary practices according to Standards and Specifications in the Technical Guide then it is a moot point. Use the Procedure Based approach rather than the Results Based approach.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Leave the protocols and procedures to the designated agency. The USDA established the Office of Environmental Services and Markets as a result of the latest Farm Bill. Allow that Office to provide coordination among the myriad of federal agencies with a stake in the Ecosystem Market, charge them with developing the protocols and procedures that are acceptable to Congress and the stakeholder agencies. States are busily developing criteria also, so there will need to be coordination at that level also.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Clear guidance on policy and protocol is the major obstacle. There are no obstacles from a technical practice perspective. The practices are well known and familiar, the market procedure is an unknown and nobody will participate until everything is clearly understood. Technical assistance from the local Soil Conservation District could be difficult to obtain just because of the lack of funding for personnel in some cases.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Increased technical assistance funds (not financial assistance) to Conservation Districts channeled through the USDA, NRCS are essential. Our experience is that there are adequate financial assistance funds to get practices installed on the ground but there are definitely not enough trained personnel to assist with the planning, design and construction supervision of the Agricultural Best Management Practices. Farmers are eager to learn about the ecosystem marketplace and the opportunities available, but it is difficult to respond to their requests in a timely manner due to staff shortages.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

See USDA, ERS Technical Bulleting 1909 for work already done on this topic

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Land use conversions to forestland	Excellent	Excellent	High	Medium

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Methane capture and use	Good	Good	High	Low
Grazing Management	Good	Good	Low	High
Use of Improved Species	Good	Good	Medium	High
Improved Use of Fertilizer	Good	Good	Medium	High

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Conservation Tillage	Excellent	Excellent	Low	High
Crop Rotations with Cover Crops	Excellent	Excellent	Low	High
Improved fertilizer management	Excellent	Excellent	Low	High
Improved Irrigation Management	Good	Good	Medium	Medium

RESPONSE TO QUESTIONNAIRE SUBMITTED BY HUMANE SOCIETY OF THE UNITED STATES AND HUMANE SOCIETY INTERNATIONAL

Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Wayne Pacelle

Organization(s) you represent

The Humane Society of the United States and Humane Society International

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

President and CEO

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

We support a cap-and-trade program that would cap emissions while also allowing the trade of carbon offsets for agricultural and forest activities that reduce or sequester carbon emissions, including incentivizing farmers to raise animals on well-managed, extensive grazing systems and encouraging responsible agro-forestry practices, which sequester carbon, conserve water, and maintain soils. To be effective, tradable carbon credits would need to meet certain criteria that indicate they are based on real emission reductions.

Reducing GHGs in the United States has the potential to create jobs in both the agriculture and forestry sectors by providing incentives for both new and existing farmers to use sustainable agriculture practices, such as organic agriculture and rotational grazing systems, and for establishing agro-forestry projects in forests that can obtain food and timber in more sustainable ways from forest ecosystems.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Yes, the agriculture and forestry sectors should be regulated under a carbon reduction program. Agriculture—and associated land use, including deforestation—contributes an estimated 30% of global GHG emissions,[1,2] making it a necessary part of any strategy for mitigating climate change. Animal agriculture, in particular, contributes 18% of all GHGs worldwide, and, as industrial animal production methods spread worldwide, measures will need to be put in place that reduce the GHGs that come from using pesticides, fertilizers, and other agrochemicals for growing feed crops to fuel concentrated animal feeding operations (CAFOs); the emissions from transporting live animals and animal products; the GHGs from heating and cooling of CAFOs; and the GHGs that result from manure and manure management.[3]

Protection of forests not only keeps carbon in the trees and ground, and preserves forests' carbon-sequestering ability, but also maintains habitat that is essential for the survival of wildlife jeopardized by climate change, including endangered and threatened species.

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[1] World Bank. No date. Adaptation to and mitigation of climate change in agriculture (Washington, DC: World Bank).
[2] Scherr S. 2009. Farming and land use to cool the planet in State of the World 2009: Into a warming world (New York: W.W. Norton and Company, 2009), p. 31.
[3] Steinfeld H, Gerber, Wassenaar T, Castel V, Rosales M, and de Haan C. 2006. Livestock's long shadow: environmental issues and options (Rome: FAO, 2006).

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?

Please respond in 600 words or less.

If a cap-and-trade system is established, allowances should not be free, but auctioned off and the funds used for research into environmentally sustainable forms of energy production and GHG mitigating strategies, including organic and pasture-raised farming methods. For forestry, the revenue generated by allowances should fund activities that result in greater carbon sequestration, such as conserving existing forests and funding reforestation activities.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

Cap-and-trade programs should be linked to existing and emerging carbon reduction programs to ensure a consistent approach for impacted industries. At this early stage, individual state or regional programs should be encouraged to pilot and determine what approach works best for that area. For example, a cap-and-trade program could allow regional greenhouse gas initiatives (RGGI) to continue operating if their programs operating within the national system meet the national program's requirements.

While a cap-and-trade program should function as an umbrella for other regional or state programs, a national program should operate as a floor rather than a ceiling. The ability to experiment within the framework of a national program particularly makes sense in states or regions with a concentration of one type of industry. Of particular importance is the freedom for states or regions to impose a lower cap or more rigorous standards than the national program may create to address a particular state or regional carbon emitter. A secondary benefit to allowing state and regional carbon reduction programs to operate is that these programs generate a revenue pool, which can get funneled back into the states. Because each state would be responsible for determining how the new resources will be spent, they can use these resources to address particular problems in that state or region. These states and regions work as test-beds for the national program, and creating incentives for creative approaches will result in better tailored solutions to our nation's problems.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Please respond in 300 words or less.

While the Humane Society of the United States and Humane Society International feel that a new agency could be beneficial for the trade component of a cap-and-trade program, the emissions regulations within the cap component of the program must remain within the EPA. The benefit of creating a new agency to deal with a cap-and-trade program would be the placement of all components of the program under one agency. While this may seem more efficient given that our current agencies are not able to address both the emissions regulations underlying a cap as well as the financial components underlying the trade component of a cap-and-trade program, assigning emissions regulations to a new agency outside the EPA would be counterproductive and wasteful.

Emissions reductions for carbon will, by necessity, be linked to other pollution and emissions reductions for any given industry. Because the EPA currently oversees other air pollution problems under the Clean Air Act, it should oversee the carbon reduction as well. A unified regulatory approach to reducing harmful air emissions will result in less cost for industry and easier oversight for the government.

Emissions regulations should be entirely under the EPA to ensure a consistent and nonbiased approach to regulation, but other agencies with core jurisdiction over specific industries will have to work closely with EPA to ensure optimal implementation. For purposes of farm-specific regulations, the USDA's Office of Ecosystem Services and Markets should have a division that focuses specifically on GHGs from agriculture. This division should work closely with the EPA on management and implementation of new technologies, determining offsets, and other issues that come under the cap component of the program. Similarly, the Office of Ecosystem Services and Markets should work with the new or existing financial regulatory agency that manages the trade and auctioning components of the cap-and-trade system.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and- trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

Farmers and residents of rural communities could benefit, rather than suffer, as a result of greater job opportunities created by carbon reduction programs. For example, the construction of new infrastructure, such as small-scale biogas digesters, and the restoration of degraded grasslands could provide more jobs and prevent rural to urban migration. Sustainable forestry practices also can create more jobs and protect the livelihoods of people dependent on forest ecosystem services, while protecting wildlife and biodiversity.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Revenue generated under a carbon reduction program should be used to encourage the development of new carbon-reducing technologies to ease the cost of reducing emissions, to enable businesses already using sustainable practices or generating low carbon emissions to remain competitive, and to reward businesses that voluntarily move to systems that place them below their caps. This funding should be particularly focused on small, independent and/or family farms that meet sustainable goals but are not large enough to have financial incentives from offsets. Additionally, revenue generated under these programs should go to low-income families to help them bear any increased food or other costs that result from a cap-and-trade program.

Because climate change is a worldwide problem requiring the active engagement of developing countries, grants should be given to encourage the protection of forested areas and sustainable agriculture practices that reduce GHG emissions and sequester carbon in those countries, as well as in the United States.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

It is important that businesses receive incentives to change their practices to benefit the environment, but this must be accomplished in a way that does not create windfall profits or a market inequality between small sustainable farms and industrial farm animal production facilities. If animal agriculture operations using practices that result in high

greenhouse gas emissions are given subsidies to reduce their emissions, this must be paired with market incentives for farms that already use sustainable practices, to help them remain competitive. Otherwise, the results could skew market costs for carbon emissions, reduce rewards for voluntary carbon reduction, and result in less reduction overall.

Measures to assist U.S. companies in dealing with potentially higher costs could address competitiveness issues due to carbon leakage. More importantly, however, is the environmental policy objective of preventing businesses from moving production to other countries with lower environmental standards, which will only serve to exacerbate the very problem climate change legislation and/or agreements are intended to address. Such measures must be carefully crafted to comply with U.S. obligations under the World Trade Organization (WTO). To the extent they may be challenged at the WTO, tying these measures to environmental objectives rather than competitiveness concerns will strengthen the United States' ability to successfully invoke a defense under GATT Article XX (e.g., Article XX(g)—justifying measures that are otherwise inconsistent with GATT provisions if they are "related to the conservation of exhaustible natural resources").

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

Public lands, including forests, should be managed so that they both retain and increase, when possible, the presence of trees, grasses, other vegetation, and biological materials from plants and animals that will sequester carbon.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

While the U.S. scheme can and likely will differ from the EU ETS and carbon trading schemes of other nations, we believe it is important for the United States to take a "lessons learned" approach to avoid similar pitfalls. The Government Accountability Office (GAO), which has published a report on ETSs, finds that in the EU, "over-allocation" of allowances during the initial phase (i.e., cap exceeded actual emissions) led

to price collapses in the carbon market.[4] When allowances have little or no value, there is no incentive to pursue innovative technologies.[5] The GAO reports that this situation can result from uncertainty in the data used to set up the cap and distribute allowances, and, therefore, "accurate emissions data are essential to setting an effective emissions cap and achieving the intended environmental objectives."[6]

Schemes from other nations can serve as a model. For instance, while New Zealand's ETS scheme is under review, it nevertheless might provide a useful example for the United States. Its ETS applies to the forestry, transport, electricity, industrial processes, synthetic gases, agriculture, and waste sectors,[78] which will gradually be brought into the ETS over a five-year period.[9] Although the full obligations of each sector under the scheme enter into effect at differing points in time, all sectors and all gases will be fully covered by 2013.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

Animal agriculture needs to be held accountable to agreed-upon performance standards that require producers to reduce GHGs on their operations. These standards could include a requirement for farmers to establish and maintain carbon sinks through pasture-based or rotational grazing systems, which allow carbon to be sequestered in the soil and can utilize animal manure as a natural form of fertilizer.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

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[4] U.S. Government Accountability Office. 2008. GAO Report: International climate change programs at 6. November. http://www.gao.gov/new.items/d09151.pdf.
[5] U.S. Government Accountability Office. 2008. GAO Report: International climate change programs at 6. November. http://www.gao.gov/new.items/d09151.pdf.
[6] U.S. Government Accountability Office. 2008. GAO Report: International climate change programs at 6. November. http://www.gao.gov/new.items/d09151.pdf.
[7] New Zealand Ministry for the Environment. 2008. Factsheet 15, How the New Zealand emissions trading scheme works. September 2008. http://www.mfe.govt.nz/publications/climate/emissions-factsheets/factsheet-15.html.
[8] New Zealand Ministry for the Environment. 2008. Factsheet 21 Agriculture in the emissions trading scheme. September. http://www.mfe.govt.nz/publications/climate/emissions-factsheets/factsheet-21.html.
[9] New Zealand Ministry for the Environment. 2008. Factsheet 16, Major design features of the emissions trading scheme. Available at: http://www.mfe.govt.nz/publications/climate/emissions-factsheets/factsheet-16.html.

If offsets are used to comply with a national cap-and-trade program, they should be limited to a small fraction of required reductions. The total number of offsets should be limited to encourage industries to adopt practices that bring them within the cap. If offsets are not limited to a small fraction of reductions, regulated industries might choose to purchase cheaper offsets in place of reducing direct emissions. Because direct emissions reduction is a necessary step to effectively address climate change and because many offset programs lack standards and regulations, any cap-and-trade program should incentivize direct emissions reductions as a primary goal. Limiting offsets will encourage industries to invest in low carbon technologies more rapidly and will avoid a pattern of avoidance through offsets.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

Congress should reward transitions that will have measurable benefits, including conservation of both forests and agricultural landscapes that sequester carbon, as well as sustainable agricultural practices that reduce dependence on fossil fuel-intensive fertilizers, pesticides, and other agrichemicals.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

18) What should be the criteria for assessing offset projects?

Please respond in 300 words or less.

19) How should Congress design a system for verifying offset projects?

Please respond in 300 words or less.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?

Please respond in 600 words or less.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

There must be flexibility for ongoing evaluation and re-assessment of offset programs to ensure that standards and regulations are being met and that offsets will actually achieve the needed GHG emission reductions. The most important factors in establishing the duration of offsets include the offset's category or industry, whether the offset will meet—or has been meeting, in terms of subsequent evaluation—agreed-upon standards and regulations, and the number of offsets allowed.

Methane digesters, for example, should be a limited offset in both numbers and duration because, while they may be helpful in short-term emissions reduction, they are ultimately a component of an unsustainable practice that contributes to climate change in ways other than just manure emissions and should be reevaluated and increasingly limited. However, forest conservation should be a permanent offset because the need to encourage this activity will continue indefinitely, and forest conservation is not the product of an unsustainable practice (i.e., it does not create other environmentally harmful externalities).

The program must be created and enforced in such as way as to incentivize industries to invest in permanent offsets (e.g., shifting to wind energy), rather than encouraging activity in temporary, unsustainable offsets.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?

Please respond in 600 words or less.

At the beginning of a carbon offset program, a baseline measurement should be established for both GHGs and existing carbon sequestration. Activities that result in increased carbon sequestration or reduced emissions should be rewarded with credits to producers to give them an incentive to continue those practices and help them remain competitive. However, activities taken before the program began, before a baseline was established, should not receive credit because the value of their efforts in relation to the baseline cannot be determined. "Stacking" credits—measuring the other benefits of carbon sequestering or emission reduction strategies, such as habitat protection, improved water quality, and higher welfare for pasture-raised farm animals—should be allowed, in order to reflect the multiple goals and values that the United States aims to encourage.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

A one-size-fits-all approach will not be viable here. For example, a producer who cannot meet project goals due to natural disaster should not be penalized for events outside of his/her control. Moreover, an across-the-board liability system will discourage responsible experimentation with safe, innovative technologies that have not yet been fully tested. On the other hand, there must be sufficient liability to ensure that goals that must be met are in fact met. We therefore recommend a flexible system that requires identification of project goals and risks at the outset, continued and regular monitoring, evaluation of whether those goals are being met, and varying levels of liability for failure to meet goals within the control of the producer.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Congress should set the key goals and targets in terms of emissions reductions and should include in the legislation deadlines for agencies to finalize regulations so that implementation will begin soon enough to address climate change challenges effectively.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

No, existing programs are not adequate to the task, given the enormous crises we face if climate change is not addressed effectively. Congress must do much more to encourage forest protection internationally, recognizing the economic and political pressures that confront communities in developing countries.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

We are encouraged the Committee is seeking input on future GHG mitigation strategies and are hopeful that recent scientific evidence from the U.N. Food and Agriculture Organization (FAO) and the EPA regarding animal agriculture's role in climate change will be evaluated as legislation is implemented.

Animal agriculture contributes significantly to GHGs—more than 50% of emissions from agriculture and associated land use changes.[10] In 2006, FAO found the farmed animal sector is responsible for 18% of all GHGs, more than the entire transportation sector.[11]

Domestically, a substantial portion of agricultural GHGs come from CAFOs. Specifically, the EPA noted one reason for the overall increase in methane emissions is the shift towards confining farm animals in larger facilities that use liquid manure management systems.[12]

Additionally, the overall increase in nitrous oxide emissions is largely due to the concentration and intensification of the poultry industries—i.e., the shift toward litter-based manure

[10] Steinfeld H, Gerber, Wassenaar T, Castel V, Rosales M, and de Haan C. 2006. Livestock's long shadow: environmental issues and options (Rome: FAO, 2006).
[11] Steinfeld H, Gerber, Wassenaar T, Castel V, Rosales M, and de Haan C. 2006. Livestock's long shadow: environmental issues and options (Rome: FAO, 2006).
[12] U.S. Environmental Protection Agency. 2007. Inventory of U.S. greenhouse gas emissions and sinks: 1990 – 2005. Draft for public review, p. 6-7. February 20. www.epa.gov/climatechange/emissions/downloads07/07CR.pdf

management systems, confinement in high-rise houses, and the increase in the U.S. poultry population.[13]

There are various ways to reduce the animal agriculture sector's GHG emissions. Rotational grazing systems can sequester more carbon than feedlots where animals are raised on energy-intensive grain, and soils and pastures can act as "carbon sinks." A 2005 study found that pasture-raised animals require less operational fuel and less feed than do confined animals, and pasture-based systems could "tie up 14 million to 21 million metric tons of CO_2 and 5.2 million to 7.8 million metric tons of N_2O in the organic matter of pasture soils."[14]

Organic meat production typically uses less fossil-fuel energy, in part because thousands of transport miles for shipping feed may be eliminated,[15] and can also significantly reduce on-farm emissions. A 2006 life cycle analysis of three modes of Irish beef production—conventional, agri-environmental, and organic—found that both extensive systems generate less GHGs than the conventional system, with the organic system producing the least GHGs (17% less than conventional). The difference would be even more dramatic in comparison to U.S. conventional beef production, since Irish cattle are primarily finished on grass rather than grain.[16]

More research regarding GHGs from animal agriculture is required, including full life cycle analysis that measures GHGs during every phase of production from farm to fork, which would be crucial for better identifying which kind of production systems will reduce GHGs to better mitigate the effects of climate change.

Another area of needed study is the role of forests in mitigating climate change. Keeping forests and other carbon sinks intact may be one of the best ways for fast, cost-effective GHG mitigation. Protecting forests will also help protect wildlife jeopardized by climate change, as these animals depend on healthy, functioning forests for habitat and survival. Developing countries need U.S. financial assistance to protect their forests that are so vital to the entire world.

Federal legislation on climate change should also direct more funding toward species population monitoring, research on the impacts of rising temperature and more extreme weather events as a result of climate change on endangered species, and the development of potential climate change mitigation/adaptation strategies for wildlife.

The GHG-reducing potential of mitigation technologies—such as installation of large-scale anaerobic digesters at CAFOs or production of biofuels from farm animals' waste—should be critically analyzed. Despite some of the potential advantages of the production and use of biofuels under certain circumstances, these technologies can allow large-scale, industrial farm animal production operators to profit from the huge amounts of waste they create. As well, though the use of digesters may provide some environmental benefits, it is critical to recognize that the amount of manure is not substantially reduced and the many waste management issues already highlighted by EPA still exist. Bioenergy production from farm animal waste has the potential to

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[13] U.S. Environmental Protection Agency. 2007. Inventory of U.S. greenhouse gas emissions and sinks: 1990 – 2005. Draft for public review, p. 6-7. February 20. www.epa.gov/climatechange/emissions/downloads07/07CR.pdf

[14] Boody Get al. 2005. Multifunctional agriculture in the United States. BioScience 55(1):27-38.

[15] Kotschi J and Müller-Sämann K. 2004. The Role of Organic Agriculture in Mitigating Climate Change: A Scoping Study. Bonn, Germany: International Federation of Organic Agriculture Movements.

[16] Casey JW and Holden NM. 2006. Greenhouse gas emissions from conventional, agri-environmental scheme, and organic Irish suckler-beef units. Journal of Environmental Quality 35:231-239.

perpetuate the environmental problems[17] created by producing and storing massive quantities of manure, while giving animal agribusiness the opportunity to greenwash its unsustainable practices that jeopardize animal welfare and exact negative environmental and public health effects. Unlike the waste created on smaller, more sustainable farms raising both crops and animals, where manure can be utilized for fertilizer, factory-farm waste is produced in extremely large quantities and, when applied to cropland, can cause ground and surface water pollution from the manure's excess nutrients, as reported by the GAO.

Finally, Congress and the EPA should require CAFOs to measure and institute plans to reduce their GHGs, which they are not required to do currently. The EPA has indicated that it would like all industries, including animal agriculture, to begin measuring and reporting their emissions. Unfortunately, Congress' draft legislation thus far does not impose needed regulations on farm animal production.[18] As the impacts of climate change become more evident, the need to transition from industrial animal production systems to more sustainable farming that provides benefits to the environment, public health, and animal welfare becomes more urgent.

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[17] For more information, see "An HSUS Report: The Impact of Industrialized Animal Agriculture on the Environment" at www.hsus.org/farm/resources/research/enviro/industrial_animal_ag_environment.html.

[18] American Clean Energy and Security Act of 2009 discussion draft. 2009. U.S. House of Representatives, March 31, 2009. http://energycommerce.house.gov/Press_111/20090331/acesa_discussiondraft.pdf.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Manage forest conservation areas as carbon sinks	Excellent	Excellent	Low	
Reduction of logging in deforested areas	Excellent	Excellent	Medium	High
Fire control	Excellent	Excellent	Low	High
Erosion prevention	Excellent	Good	Low	High

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Rotational grazing	Excellent	Good	Low	High
Restore natural vegetation on degraded grazing lands	Good	Moderate	Low	High
Small-scale biogas digesters	Good	Moderate	High	High

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
ILLINOIS FARM BUREAU
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Chuck Spencer

Organization(s) you represent

Illinois Farm Bureau

Address
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Staff - Director of National Legislation and Policy Development

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Illinois Farm Bureau (IFB) members feel that science must govern climate change policies. Secondly, our members are opposed to a carbon tax. Thirdly, any cap-and-trade program should be voluntary.

Farm Bureau policy is consistent with the following views:

a. Congress should not enact legislation mandating emission limits that are not based on peer-reviewed scientific studies.
b. Any legislation designed to reduce carbon emissions should be formulated in such a way that the costs of such a program do not outweigh the benefits.
c. Congress should not enact a carbon tax.
d. We would support a cap-and-trade program only if it is voluntary for farmers.

As we reviewed reasonable options to address climate change, we recognized that a cap-and-trade approach would appear to be least harmful to the interests of agriculture, society and the environment. It is vital to the success of any cap-and-trade system that the full range of carbon reductions and sequestration that agriculture can provide be recognized and utilized in an offsets program. Agriculture can produce real and verifiable carbon reductions and sequestration at relatively low costs. This will result in lower costs of compliance for capped sectors, and thus lower costs passed on to consumers. Through producers' voluntary participation in reduction and sequestration offset projects, there will be carbon reductions that would not otherwise be achieved in a regulatory system. For example, carbon reduction and sequestration projects have environmental co-benefits such as soil erosion control, water quality benefits and enhancement of wildlife habitat.

A carbon tax does not provide these benefits.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Agriculture should not be regulated or capped under a carbon reduction program. The US EPA indicates that agriculture and forestry have the potential to sequester about three times the carbon these sectors emit, and there is no scientific or sound policy rationale for

capping these sectors. Capping or taxing these sectors will only limit the potential sequestration benefits that these sectors can provide, which should be achieved through a robust agricultural and forestry offsets program. The small amount of agricultural and forestry emissions come from thousands of producers, making any cap or tax very difficult to administer and enforce. Effectively, such producers will not be 'capped;' they will simply be driven out of business because they will not be able to survive economically.

Agriculture is particularly unique in that producers do not have the ability to pass along costs to their customers – farmers are price takers, not price makers. There is no scenario under a carbon emission reduction regime under which farmers, facing higher costs through mandated technology, altering agricultural practices, or refraining from certain production methods or growing certain commodities, could absorb such costs or build them into their product. In short, such an outcome would mean the cessation of certain agricultural activities – particularly if products can be grown or produced overseas in countries not facing the same strictures as the United States.

Agriculture and forestry respond better to economic incentives to reduce their greenhouse gases, rather than through a tax or a cap that would increase producer costs and limit sequestration opportunities -- which would create a loss of agricultural output and for individual producers. A robust agricultural and forestry offsets program would allow these producers to voluntarily reduce their emissions, provide meaningful and real reductions for other sectors, and allow producers to recoup a portion of their increased input costs. Over the past decades, improved agricultural practices like no-till cropping, targeted chemical applications through GPS technology, and methane digesters have reduced greenhouse gas emissions from the agricultural sector. Given proper incentives the agricultural and forestry sectors will reduce their emissions without regulation, as they have already demonstrated.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?

   Please respond in 600 words or less.

Agriculture and forestry should not be capped or taxed. If, by some eventuality, Congress were actually to include agriculture in a cap – an outcome which we believe would be disastrous – under no circumstances should any costs be attached to agriculture's allowances. In addition, there should be no limit to agricultural allowances. As to how allowances are distributed in other sectors, we believe the goal of Congress should be to hold down the costs of the program as much as possible. There seems little doubt that any carbon emission reduction legislation will involve not only hundreds of billions, but trillions, of dollars of costs. Maintaining America's economic vitality and ability to withstand such a changed world economy is absolutely critical and must be at the top of the congressional priority list. We note that a properly constructed system that distributes

allowances rather than sells them will lower the costs of compliance for everybody, and for agriculture specifically, which is important in these economic times.

There was discussion in legislation in the last Congress about making a certain portion of emissions allowances available to agriculture and forestry through USDA for carbon reduction projects. We do not address that issue in this answer.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

The federal program should preempt state and regional programs. Since GHG emissions are dispersed globally, any climate policy is better addressed at the national level rather than regionally. To the extent that state or regional markets allow agricultural and forestry offsets (e.g. Chicago Climate Exchange) those credits should be recognized in a mandatory cap and trade system, provided they meet federal offset requirements. In the event they do not, they should be given an opportunity to comply. Baselines for companies participating in a voluntary market like the CCX that have already voluntarily reduced emissions should reflect the voluntary cuts already made.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

Any cap and trade program should be administered by a currently existing government agency.

Any cap and trade program being implemented will be a huge undertaking that will impose very large costs on the American economy, particularly as such a program progresses and the limits on emissions tighten. The most critical aspects of such a program for Illinois Farm Bureau are those that have an impact on agriculture.

We believe that, regardless of what agency oversees the program, the U.S. Department of Agriculture should be the sole entity that determines agricultural offsets, how they operate, their attributes (e.g., the rate and terms of carbon sequestration), and their limits (that is, there should be no limit on agricultural offsets). USDA should develop and certify protocols for development, measurement and verification of agricultural and forestry offsets. In addition, one agency should have overall oversight for the program. That one agency should have some familiarity and expertise in administration of trading markets, such as the Commodity Futures Trading Commission.

We would strongly urge that the bureaucracy and expenses of such a program be kept to a minimum. There is no question that such an undertaking will impose enormous costs on farmers. Everything possible should be done to mitigate those costs so that the impact is minimal for agriculture.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

Yes, Illinois Farm Bureau believes that the CFTC is the appropriate regulator should a derivative of futures market arise in the wake of a cap-and-trade program. Not only does this regulatory agency have expertise in the oversight of derivatives and the futures market, it also has the advantage of working closely with Agriculture Committees in the House and Senate. We believe USDA and other agriculture organizations have a primary role to play in any such national program.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants. Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? Please respond in 600 words or less.

There should be sufficient transparency and information available to investors/participants to assure that there is no further strain on the financial marketplace and to ensure that investors/participants have the ability to make informed decisions.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

This question is of extreme importance for our members. To some extent, farmers and other rural residents will be more adversely affected than other areas or sectors. Farming is an energy-intensive industry that is always impacted by higher energy, fertilizer and fuel costs. Higher farm input costs cannot be passed on to consumers as in other sectors. Rural residents have to drive longer distances, so overall fuel costs are higher than in urban areas. The increased costs associated with a cap and trade program will especially affect the poor, who pay a higher proportionate share of their income to basic necessities whose costs will rise from the program Also, to the extent that related agricultural industries such as fertilizer producers, implement dealers and energy providers incur higher costs or go out of

business, producers will be adversely impacted. The issue is the extent to which producers might be able to offset increased costs by providing offsets to a market.

As an initial matter, the answer to this question depends to a large extent on how a cap and trade offset title is structured. For example, if early adopters are excluded from participation, they would suffer negative impacts from higher fuel, fertilizer and electricity costs. The perverse incentive is that those producers who have already adopted environmentally beneficial practices on their own may be hurt the most. Much depends on how a program defines additionality and permanence.

But even if all agricultural and forestry opportunities were realized, some producers would still not be able to fully participate. Federal land livestock grazers have very limited opportunities to generate carbon reduction projects, as do many tree farmers already subject to management practices through state forestry management laws. Producers and residents of coal dependent states (mostly in the inter-mountain West) will also be disproportionally impacted as the switch to other energy types occurs.

Various studies have substantiated the costs the Lieberman-Warner bill would have on the economy. Increased fertilizer costs for corn are part of these costs and they have been estimated by The Fertilizer Institute reported to Congress on a Doane's Advisory Service which found the legislation would add $6 to $12 billion to total crop production costs and a significant decline in farm income. .

Lastly, it seems highly likely that, under any scenario, domestic fertilizer production would cease. Effectively, the United States will be out-sourcing its fertilizer production – an outcome that is of tremendous concern to the agriculture community.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

We are concerned about recent reports that revenue generated from a cap and trade program might be used for a variety of other government programs. We believe any revenues generated from the program should be targeted to particularly vulnerable classes, like farmers, who simply cannot pass along their increased costs to consumers. In the absence of such critical assistance, there could be a real loss in production in the United States.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

It is imperative that all agricultural producers that are adversely affected, either directly or indirectly, by carbon reduction mandates should receive transitional assistance that must be accessible, reliable, and make the producers whole the greatest extent possible. Because

agricultural producers, unlike utilities or other manufacturers, cannot pass along to consumers the increased costs they will face, they must be among the first communities to have access to revenues and long-term assistance generated by this program.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

Public lands are mandated to be managed according to multiple use principles. Many farmers and livestock producers rely on federal lands in other states for forage for livestock, or for sources of water and other benefits. It is critical that the multiple use management of federal lands be maintained. To the extent that carbon benefits are consistent with existing multiple use management on federal lands, they should be explored.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

Under various scenarios, it appears that the market price for carbon will be derived from limits set by policymakers. Thus, although these prices are 'market-driven,' in fact they are derived from regulation. That is why the limits on carbon prices imposed by Congress should be first determined based on sound science. Limits set artificially low due to policy concerns that are not based on sound science should be rejected. Apart from these concerns, we believe carbon prices should be market driven.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

One important lesson is that agricultural and forestry offsets are necessary in any cap and trade program.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

A voluntary offset program would be the most effective approach and holds the potential for gaining the highest degree of sympathy from the agriculture community.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

No, the total number of offsets issued annually by the government should not be limited. We believe that market forces should determine the total number of offsets available.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

We believe the agriculture and forestry communities should receive highest priority for distribution of available offsets. Both sectors have tremendous carbon storage potential, have the least chances of passing along costs to consumers, and agriculture in particular is vulnerable to foreign competition of a national security item – our nation's food supply.

The Illinois Farm Bureau feels that a domestic cap-and-trade system should prioritize domestic reductions over international reductions, and allocations should be made accordingly. All agricultural and forestry producers should have the opportunity to provide offsets. Distribution of offsets for carbon reduction or sequestration projects should be done in a market-oriented way based on reduction potential of individual projects. We have some concern about the possibility of farmland being converted to forests through forestation projects if carbon prices reach very high levels. With the ever-increasing need to feed people in the U.S. and abroad, an offset program should help to minimize incentive for acreage shifts of productive farmland.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

We believe that all offsets should be real, measurable, verifiable and permanent (as described below). There are several factors within these criteria that are unique to agricultural and forestry producers, and will be discussed more fully below. There are varying criteria and protocols for measurement, verification and monitoring for sequestration and carbon reduction through livestock practices for which the costs are directly proportional to the accuracy desired. Any criteria and protocols need to be sufficiently accurate to ensure the desired quality of the offsets provided. USDA has knowledge and expertise in developing and testing these protocols. USDA understands agriculture and forestry, and has already done significant research on these criteria and protocols. We submit that USDA should be responsible for developing and certifying these criteria and protocols for the different types of offsets that agriculture can provide. We also believe that USDA should be charged with certification of commonly accepted criteria and protocols even before legislation is implemented, so that a certain number and type of offsets can be available when any cap and trade program might become effective. Measurement and verification are important factors, because carbon sequestration rates vary by soil type and locality. Such protocols should be sufficient to provide quality offsets.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Sound science must be the determining factor in assessing not only offset projects but in determining the risk of the emissions that are being offset. Offset projects should be evaluated on the basis of whether they will achieve the reductions they promise. For sequestration projects, liabilities from possible reversals should either be addressed in statute, or required to be addressed in contracts between offset provider and producer. USDA should set criteria and protocols for assessing offset projects.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

We do not believe it is the role of Congress to "design a system" for verification of offset projects. Our strong recommendation is that offset programs undertaken by agriculture should be designed, developed and overseen by USDA. Participation in such offset programs should be voluntary. Under such a voluntary program, USDA would develop specific guidelines to be followed and voluntary participants would self-certify their adherence to protocols developed by USDA. USDA could develop its own guidelines to oversee these programs but in no instance should such programs function as "permit" programs under which public participation, public hearings and citizen suit provisions might be involved. In all instances, participation should be voluntary on the part of a producer.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?

Please respond in 600 words or less.

A standards based approach would be more convenient and could make offsets more available on a timely basis by providing a more fluid process for certification.. A project-based approach would provide more accuracy. The goal should be to obtain high quality, accurate offset projects with the least red tape. For some types of offset projects, such as those relating to livestock management (digesters, lagoon covers, manure management), there is less variation in achievable reductions, and these types of offsets might be amenable to a standards approach. Soil sequestration projects vary by soil type and locality, and are more amenable to a project approach.

21) What should be the relationship between offsets and allowances?

Please respond in 600 words or less.

Legislation considered in the Senate last year would have proposed offsets and allowances both for agriculture and forestry. The allowances would have been administered by USDA to fund additional carbon reduction or sequestration policies that did not qualify for offsets. It is our belief that an offset program should fully recognize all of the benefits that agriculture can provide.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?

Please respond in 300 words or less.

This issue arises primarily in the case of soil sequestration. Several factors rise in prominence:

#1. Contractual terms, both in length and details, should be based on the best available scientific evidence relating to the carbon sequestration potential. Most research indicates that soils generally become carbon saturated within 20-30 years.

#2. Those protocols should be determined, designed and implemented by USDA.

#3. Farmers who enter into contracts should not be compelled to do so. Every relationship should be voluntary.

#4 Enforcement of any terms of a contract should not be subject to third-party lawsuits.

#5. If a farmer for some reason cannot meet the terms of the contract, the disposition of the contract should be addressed ahead of time.

#6 Contracts should provide for liability in the case of intended and unintended reversals where sequestered carbon is released from the soil. Unintended reversals might be handled through a reserve credit fund, under which a certain percentage of credits are held back to replace credits lost through natural processes or other unintended factors.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)? Please respond in 600 words or less.

Offsets under the Chicago Climate Exchange and other voluntary carbon markets should be permitted to become part of a mandatory cap and trade offset program, especially if the voluntary market is folded into or otherwise becomes a part of the new market. In order to promote uniform, fungible (to the extent possible) offset credits, any offset credits from other markets must meet the same criteria and protocols for measurement, verification and monitoring as required by the national market, or sufficient adjustments must be made to otherwise allow their participation.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

An appropriate definition of "additionality" is crucial if the role of agriculture and forestry is to be fully recognized and availed in a cap and trade program. Agricultural producers are among the most innovative environmental stewards in the world, and many have already adopted practices that are on the cutting edge of environmental protection. Definitions framed in terms of "business as usual" result in perverse incentives for producers to forego planned carbon reduction projects until a cap and trade bill is enacted. Similarly, early adopters would be encouraged to quit their practices so that they might qualify for offset credits in the future when a cap and trade program is put in place. This is especially true now, when such issues are being considered. Farm Bureau strongly believes that early actors should not be penalized simply for undertaking environmental initiatives before a cap and trade program is enacted. Foreclosing economic opportunities for those who have voluntarily initiated efforts would fly in the face of the entire premise of the legislation: if one accepts that GHGs are the causative factor for climate change, we should manifestly reward those who have first taken steps to help in mitigating the problem.

Formulations of additionality that use "business as usual" fail in two important respects. First, early adopters are not now obligated to continue the practices that result in carbon reductions. There is nothing to prevent them from ceasing these practices. Second, in many cases these early adopters can still provide future carbon reductions or sequestrations. They should be allowed to market offsets for these "additional" reductions or sequestrations to the same extent as other offset providers, but not rewarded for past reductions. The focus should be on the carbon reduced, not on when practices are adopted.

Many environmental practices have several different environmental benefits, including those related to carbon reduction or sequestration. No till practices control soil erosion, provide wildlife habitat and enhance water quality in addition to sequestering carbon. CRP practices are another example. All of these environmental co-benefits are societal benefits. To the extent that these different co-benefits can be quantified, there is no reason not to allow the stacking of credits. A practice that reduces carbon and is eligible for an offset market and also enhances water quality and can be traded in a water quality market should be allowed to participate in both markets. Because the environmental benefits are different for each market, this should not be considered "double dipping." The Office of Ecosystem Services and Markets within USDA was recently established to set market protocols and standards, among other things, and would be uniquely qualified to administer such a program.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

See answer above relating to stackable credits. Any legislative effort to reduce carbon emissions is an additional program; it does not replace ongoing programs under the farm bill that are operated as a safety net for farmers. Therefore, whether or not a farmer participates in other programs under the farm bill, either through cost share or technical assistance, should not affect that farmer's ability to capture economic gains stemming from carbon reduction activities (viz., carbon sequestration resulting from cost-share activities should also be allowed to participate fully in any other programs envisioned in a cap-and-trade program). The hallmarks of any such programs are that they be voluntary, be protective of agriculture, continue to provide farmers a secure safety net, allow U.S. agriculture to grow and thrive, permit farmers to be competitive with foreign producers, and adequately compensate farmers for undertaking efforts that are presumed to have an environmental benefit.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?

Please respond in 300 words or less.

A producer who has documented his adherence to protocols and procedures devised by USDA should not be held liable if it is later found that those protocols or procedures were in error. Liability should be allocated to those who have control of a situation. Producers following the project design and the standards and protocols developed for a particular project should not be liable in such cases. Liability for such failures might be assigned elsewhere, but it is unfair to hold the producer liable. Unintended reversals and other natural disasters that result in reversal can be addressed through insurance type mechanisms or credit reserve funds that are equitable for all parties. Producers should not necessarily be relieved of liability for intentional reversals, and should be liable for any breach of their agreement.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

As a general proposition, we do not believe it is the role of Congress to micromanage technical programs: it should outline broad policy goals within which agencies can operate. If a detail is wrong in statute, it can only be changed through further legislative action, a prospect which no one should welcome. A program that promises to be as complex as this should not detailed completely by Congress, but there are certain critical directives that Congress must set out.

Number one, Congress should be sufficiently clear in the legislation to assure that final determinations are not made by the courts – an outcome that is all too frequent in environmental law. In this connection, we would strongly oppose any citizen suit provisions or private right of action in the legislation.

Secondly, we believe it is critically important for the U.S. Department of Agriculture to be in charge of devising the protocols and procedures for any offset program affecting agriculture and forestry.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

With rare exceptions, agricultural producers are price takers, not price makers. The structure of the industry does not allow producers to pass along higher fertilizer, feed, seed, utility or energy costs. Thus, the principal obstacles faced by

producers are economic and financial. If practices, technologies or programs are imposed on agriculture that reduce net farm income or make American growers less competitive vis-à-vis foreign competition, the result will present a formidable and perhaps insurmountable obstacle to farmers. The surest way to guarantee success is to make sure that farmers' actions will result either in real returns in the marketplace that allow them to install technology, adopt new practices, or forego certain practices; or, alternatively, support from the government that permits these changes.

Another obstacle to producers is the threat that higher fuel, fertilizer and energy costs will make them less competitive in foreign markets with other countries that have not implemented similar carbon reduction policies. It is imperative that legislation provide trade equalization policies to protect American producers, and that such measures be in compliance with World Trade Organization rules. Such measures must be carefully considered—it does no good to mandate a measure that will be struck down by a WTO tribunal in a couple of years. For as much as American producers depend on international markets, this is an important consideration.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

Existing conservation and forestry programs were enacted to accomplish specific purposes, and specific funding has been allocated to carry out these programs. In many cases, carbon reduction or sequestration is an environmental co-benefit resulting from these programs, but the mission, scope and funding for these programs do not adequately encourage additional measures specifically for reducing carbon. Several options might be considered to speed up these practices. First, please refer to the discussion on stackable credits as one possible approach. Another possible approach might be to re-configure and unite the conservation programs using the stackable credit approach but also establish a new and complete conservation mission statement. The Office of Ecosystem Services and Markets within USDA might be used to coordinate and consolidate these markets.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

The Illinois Farm Bureau strongly urges the Committee to consider these following additional points as it considers this issue:

1. Institution of a cap-and-trade program will entail enormous costs for the U.S. economy – indeed, the program can only succeed in its goal of reducing carbon emissions if it makes carbon so expensive in relation to other forms of energy that those alternative sources are cost competitive. Farm Bureau does not advocate that Congress proceed on such a perilous course of action, but should it do so, then Congress must first do everything it can to mitigate the consequences. One critical component would be to ensure that our nation has a solid foundation on which to build a carbon-free or -reduced economy. We do not have that foundation now. Hydropower supplies less than 3% of America's energy needs, yet the same groups that clamor for cap-and-trade are doing all they can to dismantle hydroelectric dams (200 have been removed in the last decade). Electrical output from solar and wind power doubled from 2005-2007 and increased further in 2008 yet they now contribute barely 1% of the nation's electricity consumption.

   The most likely candidate for replacing America's reliance on coal or oil is nuclear energy – yet there is virtually no mention of this potential energy source in the cap-and-trade debate. That must change. Congress should not embark on a trillion-dollar safari without first having a map of where it is going. Nuclear energy must be a part of that map, and Congress should first establish that it will not mandate a transition to a lower-carbon economy until a certain mega-wattage of nuclear-generated electricity capacity has been approved and ground has been broken.

2. Illinois Farm Bureau has enunciated its strong opposition to the view that indirect land use should be used in calculating the carbon impact of ethanol. We urge the committee to reinforce this view. Only recently in one state (California), the use of such a criteria resulted in the anomalous result of favoring carbon-based fuels over ethanol. The committee should fight aggressively against such a perversion of Federal policy.

3. While we have spoken earlier about the impact on fertilizer of a cap-and-trade program, we urge the Committee to look broadly at the impact on agriculture of the policies they are about to consider. U.S. agriculture is vulnerable to trade – whether through labor laws, environmental statutes, energy policies or trade disputes. The accumulation of those pressures means that Americans in the future may be growing less, spending more and depending to a larger degree on foreigners for our food. It is critical that U.S. negotiators effectively represent U.S. interests in international discussions. Based on our experience on others issues (e.g., methyl bromide), we have been disappointed at the degree to which U.S. producers have been short-changed in their ability to utilize legal production methods. We are closely following how the issue of comparability and how U.S. negotiators represent U.S. interest. We will work aggressively to ensure that the ultimate outcome of such a plan is not to see U.S. agricultural production decline in the name of carbon emission reduction, only to see that production replaced by foreign-sourced products that are then sold to Americans or sold to consumers whom we formerly served. Any legislation will need to ensure that American producers are not put at a competitive

disadvantage as a result of enactment of carbon reduction legislation. The higher costs incurred by American producers need to be addressed in ways that will pass muster with the World Trade Organization. It is counter-productive to implement provisions that might be invalidated by the WTO through a trade complaint.

Additionally, unilateral action by the United States will have little environmental benefit if the other nations of the world do not adopt similar commitments. Greenhouse gases are evenly distributed throughout the world, so that a ton of greenhouse gas emitted in China has the same effect as a ton emitted in the United States. China is now the world's largest emitter of greenhouse gases. If emissions in the United States are regulated but emissions in China continue as before, the environmental benefits will be minimal.

Any program must preempt further regulation of greenhouse gases under the Clean Air Act. An Advance Notice of Proposed Rulemaking issued by EPA last year illustrated the severe economic impacts that such regulation could have on agriculture. Placing such regulation in addition to climate reduction legislation would place even more severe economic impacts on agriculture.

With respect to the chart on the last page:

We believe that the full range of agricultural and forestry practices that can reduce or sequester carbon should be recognized and available for participation in an offsets program. With appropriate procedures for measurement, verification and accounting for reversals, any such practice can be effective at reducing or sequestering carbon. Acceptable measurement and verification procedures are either developed or will be developed. There are many techniques available for each, with higher accuracy coming at a greater cost. The appropriate tool will be that which balances needed accuracy with acceptable cost. Costs and capacity will depend on the individual producer and the willingness to undertake practices to reduce or sequester carbon. Capacity is a function of approving an offset type protocol or methodology, designing an offset project and having that project approved.

We submit these general comments rather than list each type of practice that might be considered for offsets.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
IMAGETREE CORPORATION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Charles Gordon Anderson

Organization(s) you represent

ImageTree Corporation

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Vice President of EcoMarket Development and Officer of the Company

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

We strongly favor Cap & Trade legislation vs. a carbon tax. It has been proven that over time the market is more efficient at allocation of scarce resources than regulators.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Forests represent fully 20% of Green House Gas (GHG) emissions around the world. Thus, the potential exists to eliminate a significant portion of global warming by including them within the solution set. However, they are unique assets in many ways relative to other GHG offset classes and present a series of challenges which must be addressed if they are to be included as part of the global efforts to reduce GHG emissions. Among them, forests are ever dynamic in that they grow, die, burn, fall down, are harvested etc... In addition, measuring the initial carbon stocks and measuring change over time can be immensely problematic using traditional inventory techniques. There are also the challenges of transparency, permanence, leakage, and additonality. Each of these issues present key barriers to successfully creating fungible, quality assets within this marketplace. If these concerns cannot be addressed to the satisfaction of both the regulatory community as well as the financial markets, forests may be forced into the margins of this global challenge, when in fact they should be at the forefront.

Forestry should absolutely be included in cap & trade. They should also include a provision for international offset purchases to reduce deforestation and degradation. Sustainable forest management should also be allowed in any system.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

We may not understand the question properly. US forests are net sequesters of Carbon. In fact they sequester approximately 10% of current US emissions. Therefore there is no need for an allowance. In situations where there is a net deforestation rate through land

conversion or long-term overharvesting then there should be no allowances granted. This would create a market incentive for sustainable forestry

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

We would advocate for the development of a new standard that combines elements of the existing voluntary and regulated markets in the forestry sector. There is a bi-national forest carbon standards working group currently underway to develop the next generation of forestry protocols. This is a Canadian/US effort led by the American Forest & Paper Association and includes industry, governments, NGO's, Private Landowners, Project Developers, Regulators etc..

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

It would appear that EPA should regulate this program. We are not entirely qualified to answer this question.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

We are unqualified to comment

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

a) A. highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

Clearly cap & trade will require transitions from the old economy to the new one. Including sustainably managed forests in the solution set actually allows landowners to generate revenue for keeping their forests in forests. Additionally, the emerging field of precision forestry (combining remote sensing technology, scientific methodologies and field verification) to measure and monitor forests in an auditable, transparent and economically efficient manner will also create new clean tech jobs in this transition economy.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Much of the revenue should go toward funding the development of clean tech transition paths for displaced workers and industries. Funding scientifically credible and audit grade verification measurement and monitoring tools will be critical to the long-term viability of the cap & trade.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

Yes, if we kill our manufacturers in this process we will facilitate the unintended consequence of moving manufacturing off shore to less regulated environments. To reference a similar scenario, look at what happened to the US forest products industry when the Clinton Administration severely restricted logging in the Pacific Northwest. The demand for forest products did not stop; it was simply filled by producers in Indonesia and Brazil shifting production out of a highly regulated and sustainable market in the US, to the 3rd world. Today those two countries have the worst deforestation rates in the world and contribute to approximately 50% of tropical deforestation which equates to nearly 10% of GHG emissions globally. By putting too much onto US manufacturing, there will be significant movement of production to less regulated parts of the world

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

At least some portion of public lands should be used a buffer pools for carbon project developers. Public lands should also be managed for sustainable biofuel production as well.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

We believe that the free markets should be allowed as the most efficient and rational determinant of price over time. We do believe however that in the early phases of the market development there should be floor prices which can either be fixed or determined by reducing the number of allowances created thus increasing demand for offsets and the price.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

None other than the irrelevant and ineffective CDM aforestation program.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

Performance standards

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

Yes but not qualified to determine how much.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Unqualified to reply

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

In order to prevent the next "Enron" a credible, auditable and transparent system must be adopted in the forest sector. The program must require sub-acre, spatially explicit data-sets, hosted on a web-enabled common data platform (minimum of state level coverage). This system can be rapidly made commercially available from at least one vendor (ImageTree Corporation) and can provide statistical precision at the sub-stand, stand, property, county and state levels. Using a common platform of this type is the only way to credibly address leakage at the project, county and state level. In addition this Ecosystem platform approach allows for Biofuels assessment and monitoring as well as multiple ecosystem enabling service values.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Does the landowner have more total net tons of carbon in year n than they had in the baseline year? If the answer is yes they can sell the difference. If they have less than the baseline, they must purchase equivalent offsets to bring them back to base year. Please refer to the Terrestrial Carbon Groups approach to terrestrial carbon. http://www.terrestrialcarbon.org

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

There is a clear need for National-State-County-Project baseline: as this market has emerged, project developers and countries are being challenged to demonstrate that projects which reduce deforestation (for instance) in one area, are not being off-set by increased harvesting somewhere else in the nation. The result in this scenario would be zero (or negative) net benefit to the environment from the project. National baselines are also needed to measure a countries progress against its publicly stated goals in a scientifically credible manner. A proposed concept creates spatially explicit data sets which can be aggregated to project, county and eventually state and national inventories on the same platform.

Need for High Quality data: in order to create a fungible asset class and a tradable commodity, investors need certainty that the off-set they purchased actually exist in the real world. With the myriad of techniques currently being used to assess forest inventory,

determining the "true volume" in the forest is of significant concern. The present approach to address this concern is to create very large buffers (up to 50% of total tons) which essentially act as the alternative to assuring the client their tons are "really" in the forest. As a result, project holders are unable to monetize the full value of their assets which in-turn compress financial returns and reduces the net amount of forests being preserved.

Need for Platform technology: to create transparent, scalable and efficient markets, there is a growing recognition that a platform approach at a national level will be required. This will help ensure that monitoring can be done cost effectively and that transparency can be provided to the regulatory authorities and auditors in a way that enhances the credibility of the project, and the nation, state or county that the project exists within.

Non-carbon assets: Clearly, forests have a unique role to play in global warming for their carbon sequestration capabilities; however they are also extremely valuable for their biodiversity and watershed protection. As a result, forests can rarely be viewed for their carbon sequestration potential in isolation. They must be viewed in context with all of the ecosystem preservation potentials including as potential sources of additional revenue. The result is a growing need for tools and capabilities that will enable baseline and monitoring of these assets as well. The tools, technology and resources employed on this project will attempt to address each of these key issues. The project will require fusing science, technology, field verification techniques and organizational core competencies into a single process thereby leveraging the unique strengths of the participants of this partnership.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Field based approach is the only way to reward carbon sequestering activity

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Not qualified to reply

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

I believe that this issue can be resolved via insurance products and that the US federal and state lands can play a key role as the guarantors of the assets

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?

Please respond in 600 words or less.

Unsure how to reply.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Yes credible and verifiable activities should be allowed to be stacked into multiple revenue streams. None of the revenue streams by themselves will offset development pressure except in the margins. Stacked revenues will at a minimum have an incremental impact in preventing land converstion

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

unsure

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Natural disasters should be covered by an insurance product. Intentional over harvesting should require the landowner to purchase credits to get back to baseline year

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

This must be done at the federal agency level with appropriate funding provided by the legislature.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Lack of government sponsored initiatives to scale out existing technologies for monitoring and measuring of carbon stocks. The government should provide financial assistance to launch the capability in pilot phase and then let private capital do the rest once the standards and protocols have been finalized. This concept has been presented to the Staff of Senator Byrd (Caryn E. Compton), Rockefeller (Patrick T. Bond) and Congressman Mollohan (Julie Aronson).

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation? *Please respond in 300 words or less.*

Using the value of forest carbon credits to be placed into a tax free healthcare savings account accessible by the families if the landowner commits to 100 year non-development. Contact Catherine Mater of Mater Ltd. http://www.mater.com for the details of her innovative work.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Please contact Chuck Anderson VP of EcoMarket Devleopment for a copy of the proposal for an ecosystems services clearinghouse concept for monitoring and measuring forest carbon throughout the United States. This approach has been vetted by representatives of NASA, the World Bank, The United Nations and leading industry experts. You can contact me at [Redacted]

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Sustainable forest management	excellent	Needs new approach	medium	high
Aforestation	Excellent	Good	high	high

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
IMI GLOBAL, INC.
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

David Sechler

Organization(s) you represent

IMI Global, Inc.

Address
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Cap and Trade offers an enforceable total-emissions target, achieved through a market mechanism whose flexibility might ease the changes required in the industrial economy. The case against it is that it threatens to be complex to administer and is subject to abuses. Some economist have advocated a broad carbon tax as an alternative to cap-and-trade. The case for a carbon tax is that it may be a simpler and more durable policy, allowing big businesses and alternative-energy to adjust to a global-warming policy in a steady-state environment, motivated by price incentives, rather than regulatory incentives. However, a carbon tax would also be complex to administer and would also be subject to abuses. A carbon tax still requires monitoring and enforcement to determine taxable emissions and still has to address how to distribute costs and benefits. Either way there will be higher costs incurred. Ultimately the cap-and-trade experiment is already under way in Europe and should not be abandoned for sake of having a global standard. Also, a cap-and-trade system supports emission reduction certainty over cost certainty, so if the goal is to actually reduce green house gas emissions then cap-and-trade is the correct choice.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

The Agriculture and Forestry sectors should be covered under a carbon reduction program. Specifically in the agricultural sector there lies both the opportunity to generate offset credits and the need to reduce emission levels.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Emission allowances should be auctioned. Giving away allowances could yield windfall profits for the producers that received them by effectively transferring income from consumers to firms' owners and shareholders. If all of the allowances were distributed

for free to producers in the oil, natural gas, and coal sectors, stock values would double for oil and gas producers and increase more than sevenfold for coal producers, compared with projected values in the absence of a cap. If you didn't auction the permits it would represent the largest corporate welfare program that has ever been enacted in the history of the United States. All of the evidence suggests that what would occur is that corporate profits would increase by approximately the value of the permits. We should learn from the mistakes made in the EU-ETS. Additionally, the revenue created by auctioning the permits could help offset the higher costs incurred by lower income families and businesses.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Any legislation passed to reduce carbon emissions should take into account existing programs or registries that support high quality offsets such as CCAR or ACR. Such organizations can provide a framework for how a carbon reduction program might work and would avoid the wasted time of having to re-think the process from scratch.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

Any established cap and trade program should be regulated through existing agencies as opposed to creating new oversight. There should be interagency regulation as the EPA is designed to regulate pollution levels, the DOE is designed to regulate energy, and the USDA is designed to regulate the agriculture and forestry sectors. Because the agriculture and forestry production systems offer a wide variety of opportunities to reduce green house gas emissions, the USDA should maintain its regulatory role within that community and continue to develop the carbon reduction protocol and practices to be incorporated on our farms and in our forests.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

n/a

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

   Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
   Please respond in 600 words or less.

   n/a

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
   Please respond in 600 words or less.

Any carbon reduction program that is enacted should allow for all participants to be engaged in the process. Because of the potential danger of Farm Bill payments being replaced by payments for reducing green house gas emissions, certain sectors of the agricultural community such as feedlots, or those in arid areas that do not adequately sequester carbon would be left with no subsidies and no carbon credits to sell.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
   Please respond in 300 words or less.

Any carbon reduction program should offset potential negative impacts of permanency or duration by establishing a reserve pool of credits based on risk that is not released until the end of the contract period.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
   Please respond in 300 words or less.

Businesses that are affected by higher overall costs due to a carbon reduction program should receive transitional assistance based on the level by which adopting a carbon reduction program effects the profitability of that business.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

If a landowner is already in a lease agreement with the BLM, and properly manages that land to gain carbon credits, (is supporting best land management practices), then those credits should belong to that landowner.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

n/a

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

n/a

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

Because the agriculture community is diverse in those who can generate carbon credits and those who generate carbon emissions, there needs to be a unique approach to how the industry will be regulated in a carbon reduction program. A self-regulated trading mechanism within the industry allowing producers of carbon credits to directly trade with those who require carbon offsets seems like the most efficient and stream lined approach.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

n/a

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

n/a

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Non specifically, the criteria for quantification, verification and monitoring of offsets under a proposed carbon reduction program should follow those criteria set forth by the EU-ETS in order to have a common global standard.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Assessing the criteria for offset projects should follow 5 basic principles: The offsets should be real, they should be additional, they should be verifiable, they should be permanent, and they should be enforceable.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

n/a

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

A combination of a standards based approach and field measurement should be established to determine offset eligibility. Field measurement alone will be cost prohibitive, but is necessary in establishing appropriate baseline values for pre-calculated standards. Once the baseline values have been established, modeling tools and software should be developed to reflect the appropriate demographics and regionality of a proposed offset project. This ultimately allows for efficient and accurate information for quantification purposes leading to a high quality carbon offset.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

n/a

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

The identification of all possible activities or occurrences that can lead to leakage and negatively affect the permanency and duration of an offset project should be established. Furthermore, the contract length and reserve pool of credits should be addressed on a case- by-case basis given the established likelihood of leakage to occur. For example, the leakage for a no-till project is much higher than the potential leakage for rangeland sequestration and therefore should have to meet more stringent contract and reserve pool requirements.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

All existing offset markets or registries that support high quality, EU-ETS quality offsets should be maintained in any carbon reduction program enacted by Congress. Those markets or registries that do not support high quality offsets should not be allowed.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Early actors who have previously undertaken activities that sequester carbon should be given credit for those years that the practices can be documented. Specifically with rangeland credits, it is scientifically proven that the longer the carbon is stored in the soil, the more stable the carbon becomes in the soil and is less likely to have leakage. This deep pool of carbon in the soil represents a high quality offset that should not be prohibited based on loose definitions of additionality. Furthermore, if a rancher is incorporating best land management practices that have multiple environmental benefits, (i.e. carbon sequestration, air and water quality) that rancher should be able to get the maximum benefit for his actions. Stackable credits should be allowed.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

n/a

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

All offset projects should contractually obligate the producer of the offset to put aside a reserve pool of credits for the length of the contract to account for leakages, and potential natural disasters. This amount should be directly related to the determined risk of the offset project (re: #22). Any direct violation of the contract should not be tolerated and be punishable by future exclusion in an offset program.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

There are both regional and monetary obstacles faced by agricultural producers who want to implement carbon reducing practices and technologies. A ranch owner in New Mexico does not have the same ability to sequester carbon as does a ranch owner in Montana. Therefore he does not have the same incentive to incorporate best land management practices to take advantage of offset credits. Technology obstacles include the high costs of incorporating methane digestion or gasification.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

n/a

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Upon our review of the existing carbon credit trading mechanism we have found that the existing system lacks a consistent standard and regulatory system. In the agriculture industry we have found that there are both those who generate carbon credits and those who generate carbon emissions. In the current trading scheme, a producer of carbon credits will have to engage with a number of middlemen including a project developer, a quantifier, a verifier, an aggregator, and a registry. This process significantly whittles down the value of the credit by the time it gets to the end user or is retired. Also, based on regionality or monetary investment, not all individuals will be able to effectively generate offset credits and therefore would be excluded from participation in the program; possibly leading to an unfair assessment of those who are actively engaged in land stewardship activities.

Our "Verified Green" program supports the adoption of a more streamlined, closed loop approach to the carbon trading mechanism, which will allow for those who generate carbon credits to trade them directly to those in that industry who generate the carbon emissions. This approach allows for an industry to self regulate how it will conform to a carbon reduction program, avoiding the water-down effect of all of the middlemen. Additionally, "Verified Green" distinguishes those who are actively engaged in land stewardship practices regardless of the amount of quantifiable carbon reduction. Therefore, a rancher or farmer who may not be able to sequester carbon based on regionality still can add value to that operation by incorporating best management practices that are realized by the end user or consumer.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Rotational Grazing	Excellent	Moderate	Low	Medium
Nutrient Management	Good	Moderate	Moderate	Medium
Methane Gasification	Excellent	Excellent	High	Low
Anaerobic Digestion	Moderate	Moderate	High	Low
Renewable Energy	Excellent	Excellent	High	Low

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
No or low-till farming	Good	Moderate	High	Medium
Fertilizer Management	Good	Moderate	Medium	Medium
Buffer Zones	Good	Moderate	Medium	Medium
Bio-fuels	Good	Moderate	Medium	Medium
Erosion Control	Excellent	Moderate	Medium	Medium

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
INSTITUTE FOR AGRICULTURE
AND TRADE POLICY
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Jim Harkness

Organization(s) you represent

Institute for Agriculture and Trade Policy

Address
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

President

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?

Please respond in 600 words or less.

We support federal policy that will reduce GHGs in a verifiable manner. We believe a strong declining cap (in line with IPCC recommendations of achieving 80 percent reductions by 2050) and regulating domestic GHGs is essential for the long-term viability of the agriculture sector. Agriculture is already feeling the effects of global warming. We support assigning a cost to emitting greenhouse gases, which currently is valued at zero. But we do not support a cross-sectoral trading system that includes agriculture and forestry for several reasons. 1) Agriculture is a multifunctional enterprise. First and foremost it supplies our food, but it also helps manage ecosystems, including water, and is a vital part of our rural economy. Our agriculture system—and farmers' cropping decisions—should not be compromised or subverted to the goals of industrial polluters or volatile carbon markets. 2) Markets by their nature are subject to fluctuations, making a carbon trading system too unpredictable for farmers. Farmers need predictable payments that are high enough to reward GHG reductions. If that price is unpredictable and varies from year to year, it will reduce the effectiveness of GHG reduction efforts, and not bring long-lasting changes. 3) Your committee has identified the problems with speculation on agriculture commodity markets. A carbon market is equally vulnerable to excessive speculation. Instead, we support predictable and sufficient payments to farmers for implementing climate-friendly practices. Such payments would be incorporated within existing farm programs and would constitute a climate reduction program for agriculture, as outlined in ensuing answers.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

Please respond in 300 words or less.

Yes, agriculture and forestry should be part of a carbon reduction program as part of an overall sectoral reduction. However, agriculture and forestry should not be used as mechanisms to offset reductions in other sectors. Moreover, carbon reduction programs should be integrated with long term sustainability goals, with larger industrial agriculture emissions targeted. Carbon reduction programs should prioritize sustainable practices and should not include genetic modifications as a method for reductions. There are many opportunities to achieve a more climate-friendly agriculture that supports sustainable agriculture, rather than subsidizing chemical- and energy-intensive practices. But again, we believe efforts to reduce carbon in agriculture and forestry should not be part of a volatile carbon trading system that creates more uncertainty in agriculture markets already plagued by unpredictability. Any agriculture carbon reduction program must be based on sound

science and include co-benefits such as restoration of soils and degraded lands. We reject and do not support the use of genetically modified organisms and invasive alien species as a mechanism for carbon or other GHG reductions.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?

Please respond in 600 words or less.

We do not think agriculture should be part of a cap and trade system as mentioned above. If one were created for industrial sectors, we would insist on a 100 percent auction, with the proceeds going to offset higher costs for lower-income citizens; promotion of energy efficiency and distribution generation; and to help pay for climate-friendly agricultural and forest management systems. Even if a cap and trade system is enacted, large corporate industry should not be included in any allowances.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Please respond in 300 words or less.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

We oppose a derivatives or futures market for carbon. Allowing offset credits to be created and traded could undermine the incentive of permit buyers to lower their facilities' emissions. A November 2008 GAO study of the Clean Development Mechanism and the European Union's allowance for offsets in its cap and trade system shows a failure to certify net GHG reductions resulting from offset projects (http://www.gao.govnew.items/D09151.pdf). As the government reduces annually the number of permits available for trading, the market signals sent by the trading of fewer and costlier permits would be disrupted by offset credits, particularly if bankers "slice and dice" several offset projects to spread the risks of investing in any one project.

We believe that a new, independent agency with a far greater capacity in environmental economics than the CFTC is needed to calculate the auction price of emission credits and to analyze whether a cap and trade market could fulfill its statutory purpose to reduce GHG emissions. The new agency would consult with the CFTC and SEC as needed concerning implementation and enforcement of cap and trade rules in commodity exchanges, and with other agencies having authority to enforce other parts of the climate change legislation.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

A derivatives market for carbon should be avoided. While energy-based derivatives are traded both on public and regulated exchanges and Over-the-Counter, it does not follow that GHG derivatives should also so be traded. Regulators should aim to keep any carbon trading market as transparent as possible
In traditional commodity exchange markets, investors can induce volatility by the sheer weight of money and number of derivative instruments. In any GHG market, regulators should aim to minimize market volatility other than that which occurs as a result of fundamental factors. If the cap and trade system is perverted and operates like the commodity exchanges of the past two years, the price of market failure will extend far beyond damage to traders and investors. For example, in "Climate Change – the Cost of Inaction" (October 2006), Tufts University researchers Frank Ackerman and Elizabeth Stanton summarize studies that estimate average climate change-related damages globally at $26 trillion a year annually (in 2000 dollars) every year from 2000 to 2200. And those are real values, not Wall Street "notional" values.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

A carbon reduction program will result in major changes in agriculture and rural areas. But many of those changes will be for the better: greater energy efficiency, less dependence on foreign oil, fewer inputs and the strengthening of local food systems. Largely, rural communities could be spared the high cost of adaptation that would have otherwise been necessary from severe climatic shifts and changes in growing patterns. While prices and costs for some fossil fuel inputs will increase, the transition toward more low carbon farming will lower production costs and result in a more resilient farming system. That

said, there will be some negative, short-term economic impacts for rural, Native American and lower-income citizens, and these costs—and ways to mitigate them—must be considered in the development of a carbon reduction program

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Support should go for energy efficiency measures in low-income communities, on the farm and for more climate-friendly agriculture practices. Support for the infrastructure to build more localized food and energy systems would help create jobs and strengthen the resilience of rural communities.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

In the case of agriculture, farmers should be supported in their transition toward climate-friendly practices.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

Public lands should be managed in ways that reduce greenhouse gas emissions while meeting other necessary functions, such as improving water quality and providing habitat. But public lands should not be included as part of a carbon offset program.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

Payments to farmers for climate-friendly agricultural practices should be set at the appropriate level that incentivizes participation without overwhelming other production and conservation priorities. This requires that payment levels are not set by the market, but through a government-led process that is transparent and inclusive of farmers, land owners and other stakeholders.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

The ETS system has been a disaster in terms of GHG reductions. It is a perfect example of why agriculture does not want to get involved in a messy, complicated, volatile and ultimately ineffective system.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

We believe that performance standards for agriculture and forestry are the appropriate mechanism for promoting carbon reductions in these sectors. To reach these standards, farmers should be paid directly for climate-friendly practices, separate from a cross-sectoral carbon market. Ideally, this would come through existing farm programs, such as the Conservation Stewardship Program.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

Agriculture should not be part of an offset program.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Agriculture should not be part of an offset program.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Agriculture should not be part of an offset program.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Agriculture should not be part of an offset program.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Agriculture should not be part of an offset program.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Agriculture should not be part of an offset program.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Agriculture should not be part of an offset program.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Agriculture should not be part of an offset program.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Congress should not address existing voluntary offset programs, as these could continue to function alongside a government-led carbon reduction program. However, farmers and landowners that are participating in the Chicago Climate Exchange or other voluntary markets should be provided with a clear path for transitioning to participation in a federal carbon reduction farm program if they so choose.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Avoiding confusion over "additionality" is one of the key reasons that we feel carbon markets are not the appropriate mechanism for promoting more climate-friendly farming practices. All farmers, including those who are already using climate-friendly farming

practices, should be supported, so we believe that these "early adopters" should be rewarded by being immediately eligible for climate-friendly payments, potentially through a revised CSP program.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

The difficulty in determining who "owns" the multiple benefits (water quality, soil health, wildlife habitat, carbon sequestration) that result from many of the state and federal farm conservation programs is part of our rationale for supporting carbon payments as part of the federal farm program. We believe practices and overall agricultural systems (i.e., grazing) should be assessed, prioritized and valued based on the expected multiple benefits they provide.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Liability issues are yet another reason why offset programs are ultimately bad for agriculture. The science around best agricultural practices for carbon reduction is still evolving, and we need to retain some flexibility for farmers to shift without penalty if different practices are discovered that would result in greater carbon reductions. At the same time, making a farmer liable for carbon emissions that are caused by natural disasters or other events outside of his/her control is likely to reduce farmer interest in participating in a carbon reduction program.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Again, a highly complicated offset program with inexact enforcement will not work and create more problems, more paperwork and more bureaucracy. Instead, a carbon reduction payment program should be led and administered by the USDA and other relevant agencies.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Currently, costs are a major obstacle, especially as many of the practices and technologies require major (and in some cases, long-term payback) shifts in current production systems. This is why the predictability of government-supported climate-friendly payments is the best solution for producers making the transition as input and other costs rise.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

No, there are not sufficient incentives currently to promote adoption and implementation of carbon reduction practices in conservation and forestry programs. However, one existing program—the Conservation Stewardship Program—may be best suited for administering a carbon reduction program. It was designed for the whole farm, for working farms and for all types of farmers, so if carbon reduction practices were included in CSP, it may be an appropriate delivery vehicle for most farmers.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Rotational grazing	excellent	excellent	Medium initial costs; low ongoing costs	Variable, depending on resource base
Composting of animal manure	Excellent	Excellent	Variable	variable
Increasing diversity of species in pastures	Excellent, if more deep-rooted perennials are included and if management is appropriate	Excellent	variable	

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Organic management systems	excellent	good	variable	
Cover cropping	Excellent	excellent	variable	
use of compost as soil amendment	excellent	excellent	variable	
Perennial cropping systems	excellent	excellent	variable	

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
INSTITUTE OF FOREST
BIOTECHNOLOGY
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Adam Costanza

Organization(s) you represent

Institute of Forest Biotechnology

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

President

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Carbon taxes and fees because it is easier to get an initiatl allocation of 'credits' under a cap wrong. In the end, it should not matter since consumers will end up paying either way.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

I would suggest an opt-in type situation similar to how the Chicago Climate Exchange addressed this question. So no as a general rule, but allow discrete activities to opt in.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

I do not have enough knowledge on proper initial allocations to answer this question.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

No, those programs have lessons to learn from, but they are inherently flawed because they cannot address leakage as a national program could.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

I do not have enough knowledge on regulatory agency capacities to answer this question.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

I do not have enough knowledge on the Commodity Futures Trading Commission to answer this question.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

I do not have enough knowledge on derivatives markets to answer this question.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

I do not have enough knowledge on these communities and the effect of such a program to answer this question.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

It depends on the negative impact, obviously, but I would expect the revenue to be set aside from other governmental programs, and used specifically for enforcement, improvement, and assistance for those negatively affected.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

Yes, to a degree that they are not being subsidized to exist beyond what would naturally occur through natural market forces if the tax/cap did not exist.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

As big a role as possible. Additional research funding should be directed at making public lands a paradigm of carbon sequestration in the U.S.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

I believe that a carbon tax is preferable to carbon prices to avoid this problem.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

I do not have enough knowledge on the ETS to answer this question.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

I do not have enough knowledge on the options posed to answer this question.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

I believe that a carbon tax is preferable to carbon prices to avoid this problem.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

I believe that a carbon tax is preferable to carbon prices to avoid this problem.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

The GHG Protocol

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

I believe that a carbon tax is preferable to carbon prices to avoid this problem.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

I believe that a carbon tax is preferable to carbon prices to avoid this problem.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.
Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
INTERNATIONAL DAIRY FOODS ASSOCIATION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Connie Tipton, President and CEO

Organization(s) you represent

International Dairy Foods Association

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

International Dairy Foods Association
Milk Industry Foundation
National Cheese Institute
International Ice Cream Association

April 10, 2009

The Honorable Collin Peterson
House of Representatives
Washington, D.C.

Dear Mr. Chairman,

Thank you for the opportunity to comment on issues in our industry related to climate change legislation that will be considered by your Committee.

The International Dairy Foods Association represents about 250 companies that produce fluid milk, cultured products, cheeses and ice cream as well as another 200 companies who supply goods and services to the dairy industry. Our membership ranges from small and regional dairy processors to large multi-national corporations that produce a broad variety of food products including dairy. Due to the wide variety of business entities that comprise our membership, it would be difficult, and we have not attempted, to develop an industry position regarding most of the questions that you outlined in your letter.

As food manufacturers, our members are very concerned about the economic and regulatory impacts of climate change legislation. Their facilities use relatively large amounts of energy to both heat and refrigerate products. In addition, they rely on large transportation networks to collect milk and to deliver finished products to distributors and retailers. Although we believe that most of these facilities will not emit sufficient amounts of greenhouse gasses to be included as a covered entity under any cap and trade system, based upon a cap of 25,000 metric tons of CO_2 equivalent, some may be included depending upon definitions that are adopted.

It is important to note that IDFA is working together with National Milk Producers Federation and others in the dairy industry to focus specifically on sustainability for the dairy industry. One of the initial tasks of this effort is to conduct a life-cycle assessment of carbon emissions of fluid milk from farm to consumer. We expect this assessment to be completed in the next few months and peer reviewed by the end of this year. A similar analysis is planned for cheese.

When available, we will be glad to share this information with you. But, it is clear from early analysis that the primary source of greenhouse gas emissions in the production and sale of dairy products is methane emissions at the farm level. Greenhouse gas emissions from processors

account for less than 20% of the total of the dairy life-cycle, divided between emissions due to energy, either purchased electricity or onsite fuel, consumption at our facilities and emissions due to the transportation of our products. Nonetheless, the farm to table fluid milk industry has committed to a goal of reducing its greenhouse gas emissions by 25% by 2020.

As legislative efforts to reduce greenhouse gas emissions will almost certainly increase energy costs, many of our members are already conducting inventories and determining how to reduce their carbon footprint. Dean Foods, for example, has identified several opportunities to increase energy efficiencies in their plants and is investing in equipment and technology to improve the efficiency of their distribution network. They have set a goal of reducing their carbon emissions by 20% by 2013. Such efforts, however, must be combined with carbon reduction efforts at the farm level in order to truly reduce carbon emissions from the entire dairy industry.

The unique and common denominator for IDFA's membership is that our primary input is milk, making our industry highly dependent upon receiving a consistent supply of milk at a fair price from dairy producers. We thus largely agree with the comments provided by the National Milk Producers Association that climate change legislation should be structured to avoid adding costs to dairy farmers. Such costs will inevitably be passed on to dairy processors and ultimately dairy consumers. Congress should instead encourage investments into technologies and practices that will help reduce or offset greenhouse gas emissions while sustaining viable and competitive dairy producers.

Given that methane from dairy farms is the most significant source of greenhouse gasses from the dairy industry in general, we particularly agree that any climate change legislation should encourage the use of more methane digesters. Although the technology is available to capture and utilize methane, it is not currently in wide spread use in the United States. Congress should encourage investment in this technology by allowing offset credits for methane digesters and direct or indirect financial assistance to establish on-site projects.

We thank you again for this opportunity to participate in this process and to provide some perspective from our industry.

Sincerely,

Connie Tipton

Connie Tipton
President & CEO

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
INTERNATIONAL SWAPS AND
DERIVATIVES ASSOCIATION,
INC.
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Robert Pickel

Organization(s) you represent

International Swaps and Derivatives Association, Inc. (ISDA)

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Robert G. Pickel is the Executive Director and Chief Executive Officer of the International Swaps and Derivatives Association, Inc. (ISDA). Previously, Mr. Pickel was the general counsel of ISDA, serving in that capacity since November 1997.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
   Please respond in 600 words or less.

Incentive-based environmental regulation has been demonstrated to effectively and efficiently achieve emissions reductions while encouraging technological innovation. Both a carbon tax and a cap and trade (CAT) approach promote these benefits; however, a CAT approach is preferable for several reasons.

Certainty of Carbon Reductions: The purpose of regulating greenhouse gases (GHG) is ultimately to achieve actual reductions in emissions. A tax does not ensure that any reductions would actually occur. Given the prevalence of carbon emissions in every major sector of the U.S. economy, a tax that prices GHG emissions too low could result in an economy-wide inflationary effect, but have little effect on actual emissions. Fixing a tax at a high price is more likely to incentivize behavioral changes; however, actual reductions are still not guaranteed. In contrast, the "cap" in a CAT approach ensures that the overall amount of pollution emitted by the regulated sector is limited, providing some certainty that the goals of the regulatory program will be achieved. In addition, the establishment of an appropriately stringent cap in the beginning of a CAT program will ensure market demand for pollution reductions and help to avoid the problems faced in the first phase of the European Union Emissions Trading Scheme (EU ETS) and the initial allocation of the Title IV Acid Rain Trading Program (i.e., an over-allocation resulting in a collapse in the price of allowances).

Lower Cost Reductions: Different emitting sources face different actual costs for reducing pollution depending on variables such as size, age of facility, location, etc. Under a carbon tax approach, a uniform standard is applied to an industry regardless of those variable costs, whereas a CAT system provides regulated sources with the flexibility to adjust for those differences. For example, polluters with high costs of abating pollution may prefer to pay for allowances, while polluters with lower costs may implement control mechanisms if they can do so at a cost that is less than the cost of allowances. As a result of such decisions, a CAT system can lead to significantly lower total costs of compliance relative to a carbon tax regime and can achieve the same (or more) total reductions in pollution.

Carbon emissions are prevalent across sectors of the U.S. economy. Essential goods and services are more likely to become unduly expensive in a regulatory environment that mandates a specific approach or result rather than encouraging the adoption of the least costly solutions. As a result, a CAT approach should ensure that any adverse impact on the economically disadvantaged will be minimized.

International Cooperation/Linkage: The Kyoto Protocol and the European Union Emissions Trading Scheme utilize a CAT approach. Linking these programs with a U.S. program is likely to increase market liquidity and achieve the most efficient pollution reductions by opening markets to innovative practices and market participants. These benefits would not exist under a carbon tax regime if it were eventually linked with an existing CAT program.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Clear standards for quantification and verification of emissions reductions in the agriculture and forestry sectors have not yet been established. Therefore, regulatory certainty will be better achieved if carbon reductions in these sectors are incorporated in a CAT program in the form of offsets. International efforts are underway to reach consensus for treatment of these sectors under an international CAT program. Conformity with approaches developed pursuant to these mechanisms will provide opportunities for linkage of a U.S. program and international programs. Linkage across programs will not only permit U.S. businesses to take advantage of lower cost reductions occurring in developing countries but also create new export opportunities for the U.S. agricultural and forestry sectors.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

No answer submitted.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Any federal program should supersede and pre-empt relevant state or regional programs. Clear federal preemption will ensure the integrity of the market and create a fungible product leading to increased liquidity and market efficiency. However, any federal program should take account of and incorporate existing mandatory CAT programs at the state and regional level as appropriate in order to promote continued constraint on emissions and increased technological investment in reducing emissions. For example, hundreds of millions of dollars have been invested in programs such as RGGI. Therefore, any mandatory CAT programs that have been implemented by local and regional

governments should be transitioned into any federal program in order to ensure the integrity of the existing government-sponsored regimes and avoid market disruption or collapse. The administration of the underlying local or regional program should be phased out so as to avoid unnecessary regulatory complexity; however, the allowances created pursuant to these programs should be incorporated into a federal program.

In contrast, linkage between a mandatory federal program and existing private and voluntary programs is likely to present substantial challenges. The methodologies for verifying emissions reductions under voluntary/private programs do not conform to the stringent standards required under a mandatory program. Inclusion of these programs could significantly undermine the cap of a CAT program if it were to result in flooding the market with allowances that do not represent actual reductions in pollution. Therefore, participants in voluntary programs should only be considered for early action credit if they have achieved verifiable emission reductions.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

No answer submitted.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

Administration of a CAT program should be distinguished from regulation of GHG derivative markets. The CFTC should maintain its current regulatory authority over derivatives, including the derivative GHG market, and should use its authority to protect against market manipulation and abuses. The CFTC has the experience and mechanisms in place for monitoring emission allowance futures trading. In addition, the CFTC already regulates emissions futures markets, including RGGI futures and options contracts traded on the New York Mercantile Exchange and the Chicago Climate Futures Exchange.

The CFTC's large trader reporting system effectively monitors large market positions for evidence of position concentration in one entity, or related entities, and other indications of market power. Market data from these sources should be sufficient to enable the oversight authority to monitor participant behavior to determine if there is improper conduct. A transparent marketplace permits market participants to make informed decisions, while providing the government regulator with needed information to prevent undue price volatility and manipulation.

Regardless of which regulator is ultimately chosen, clear lines should be drawn so as to avoid overlapping or duplicative regulatory authority. Currently many energy markets are potentially subject to overlapping regulation by FERC, the CFTC, and in some instances the FTC. Such a regime creates confusion and undermines the certainty necessary for market participants to be willing to invest the significant financial resources necessary in a new market for GHG. Any GHG regulatory regime ultimately adopted by Congress should clearly distinguish the regulatory obligations of any regulator in order to streamline the system and encourage participation.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

   Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

A pre-requisite for the success of a CAT system is permitting full recourse to market-based risk management practices. The scale of investment required to transition to a low-carbon economy requires a broad suite of carbon price and risk management approaches. Bilateral, over-the counter contracts are an essential element of a functioning emissions market.

In order to secure financing for power plants and offset projects, infrastructure developers often must demonstrate that they have managed to hedge GHG price risk over the term of the financing (likely 7-10 years in duration). Therefore the existence of GHG risk management products of this duration are essential to the successful functioning of the market and deployment of capital. However, these products are not available through exchanges because they cannot be standardized. Currently project developers manage fuel price risk to secure financing for today's conventional power projects through long-term bilateral contracts—not exchange-traded products—because there are no exchange-traded fuel products of sufficient duration. The benefits of a market-based approach to achieving GHG reductions cannot be fully realized without similar recourse to long-term, non-standardized contracts for GHG commodities.

Furthermore, standardized contracts are traded in pre-determined minimum amounts. For example, a typical exchange-traded contract might trade in minimum 100-unit increments. Smaller market participants will not be able to effectively hedge their risks and are thus put at a distinct disadvantage compared to larger participants.

Financing for the transformation of our national energy infrastructure either will be unavailable or vastly more expensive if carbon and fuel risk cannot be effectively controlled through bilateral hedge contracts. In addition to the impracticality of looking

to exchanges for long-term, large-scale commodity contracts, collateralizing such contracts with a second lien, as is commonly done today, is simply impossible on an exchange because exchanges, rightly, require cash or cash-equivalent securities (e.g., US Treasuries) as collateral.

A related concern is the practicality of "clearing" of OTC carbon derivatives through a clearinghouse. In practice, clearing presents significant obstacles since the carbon derivatives needed to effectively hedge the emissions risk of new power plants will vary substantially from project to project, thus making the virtually instantaneous risk assessment required by a clearinghouse to calculate margin nearly impossible. In addition, the inherent illiquidity of second lien collateral further complicates clearing for carbon derivatives. Clearinghouses must require cash or cash-equivalent collateral to effectively manage the risk of default of one of the parties to a transaction. To effectively manage its systemic risk, a clearinghouse must also be able to immediately judge the risk inherent in the transaction it is attempting to clear and to hold extremely liquid collateral (i.e., cash or cash-equivalent instruments) to manage that risk.

Carbon market participants will likely use exchanges for a large portion of spot trades, forwards, futures and options as well as secondary or issued offsets. However, many carbon offset transactions and structured allowance trades are non-standard and cannot be listed as contracts on a commodity futures exchange.

For these reasons, we strongly recommend keeping standardized contracts on formal exchanges while allowing non-standardized contracts to be traded off-exchange. Mandating all carbon offset and allowance trades to be cleared and transacted on a designated exchange platform would result in significantly fewer clean energy and carbon-reducing projects being developed and impair the ability of companies to customize contracts to suit their compliance needs.

We support legislation that would require exchanges to register with an appropriate regulatory authority. Proper training and licensing of carbon traders may be appropriate for certain activities. Designated contract markets offering environmental commodities are already required to be registered with the CFTC. If a market participant fails to duly register with the CFTC or operates without required training, it would be appropriate for the CFTC to impose those sanctions applicable to similar circumstances in established commodity markets—such as permanent injunctions, civil monetary penalties, rescission of all related transactions, disgorgement and restitution.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

   Please respond in 600 words or less.

No answer submitted.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

No answer submitted.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

No answer submitted.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

No answer submitted.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Price discovery and a strong carbon price signal are a fundamental benefit of a CAT program. The ability to value carbon monetarily will incentivize emissions reductions. Ensuring that market participants can be confident that the price is accurate will drive investment in the CAT program. Artificially low prices imposed by price controls would undermine both of these objectives. The costs of bringing new technologies to market are often higher in the initial stages; as a result, artificially low prices may not provide the incentive necessary to overcome this initial hurdle. Plus, if prices are too low, markets are more likely to simply absorb the additional costs, potentially resulting in higher prices of essential consumer goods or economy-wide inflation. Further, artificial price caps undermine a CAT system by preventing the market from recognizing increased demand and responding to scarcity.

Technological innovation is usually driven by market forces. A number of technologies for reducing, capturing and/or storing carbon emissions are currently under development. Setting a stringent cap and permitting the market to function freely will move these technologies more quickly from laboratories to the public domain.

However, concerns about cost containment are legitimate and can be addressed through market-based mechanisms such as the use of high quality offsets, banking of allowances

and linkage across CAT programs. Offsets can provide real, verifiable and permanent reductions while containing costs and avoiding significant economic dislocation.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Accuracy of Data: It is essential that Congress and the EPA have an accurate emissions baseline against which to determine the appropriate cap. An inaccurate baseline may lead to an over-allocation of allowances, which in turn will flood the market and undermine the market incentive to reduce emissions. The accuracy of the baseline will be enhanced by early and accurate reporting of company/installation-specific emissions.

Handling of Data: It is also essential that government regulators handle emissions data with due regard to potential market impact. Verified emissions data is central to market pricing, and the environmental compliance regulator must handle such information with the same care that financial and securities regulators handle sensitive proprietary information. Program administrators should take great care to ensure that data gathered on actual emissions, allowances issued and surrendered, etc., are handled in a manner that ensures all market participants have access to the collected data simultaneously. The U.S. Department of Energy's handling of aggregation and release of natural gas storage statistics could serve as a model.

Stringent Cap: Program design must ensure that the amount of allowances issued is actually lower than historical emissions. For example, there was an over-allocation of allowances in the first phase of the EU ETS, so the intended "cap" on emissions actually resulted in the issuance of more allowances than there were emissions during the covered period. The emissions registry currently being formulated by the EPA should ensure this problem is not repeated.

Banking: Allowances in the EU ETS did not carry over from Phase I to Phase II – i.e., they were not "bankable". As a result, the price of Phase I allowances collapsed at the latter end of the Phase I compliance period. If the allowances had not expired, and instead could have been carried into the second phase, this price collapse would not have occurred. Program design should avoid any variant where allowances expire (i.e., it should allow appropriate levels of "banking"). Taking this approach will reduce price volatility, which in turn will increase investor certainty and encourage early emissions abatement.

Regulatory Clarity: With respect to offsets, any carbon reduction program needs to signal clearly what types of activities will generate offsets. By providing adequate time for project development and verification of offsets prior to the initial compliance deadline, a CAT program will better ensure that offsets can be used to mitigate price volatility in the

early phases of the program. Without such clarity, investments will be limited and the full benefits of offsets will not be realized.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

No answer submitted.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

No answer submitted.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

No answer submitted.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

No answer submitted.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

No answer submitted.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

No answer submitted.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Congress should use a standards-based approach for offset regulation and approval. Experience with the Clean Development Mechanism under the Kyoto Protocol demonstrates that the project-based approach has both structural and bureaucratic flaws that make achieving necessary requirements overly costly and difficult. In addition, as a practical matter, sectors such as agriculture and forestry have offset opportunities that are more suitable to a standards-based approach. Nonetheless, verification of actual carbon reductions should occur before offsets are granted or allocated by the program administrator. In some instances this approach may require a graduated allocation whereby offsets are awarded periodically pursuant to the continued success of the project creating the offsets.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

No answer submitted.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

No answer submitted.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

No answer submitted.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

No answer submitted.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

No answer submitted.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

A provision calling for the return of revenue will likely impede the development of a robust carbon reduction program and market. A strict verification regime should better address situations in which a project does not sequester carbon or reduce emissions as anticipated. In particular, the institution of a reserve margin or appropriate offset replacement obligations can help to address the impact of a natural disaster or uncontrolled event.

For example, with respect to potentially non-permanent project types like forestry, offsets should only be granted retrospectively based on sequestration reserved and subject to a reserve margin. The reserve margin may vary from place to place according to the riskiness of the specific project site. The reserve margin offsets could then be pooled together, diversifying the permanence risk from a single source, with the intention of covering any carbon released from a specific project.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

No answer submitted.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

No answer submitted.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

No answer submitted.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

No answer submitted.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
IOWA FARM BUREAU FEDERATION;
AGRAGATE CLIMATE CREDITS CORPORATION

Committee on Agriculture
U.S. House of Representatives

Name:	**David Miller**
Organization(s) you represent	**AgraGate Climate Credits Corp** **Iowa Farm Bureau Federation**
Address	[Redacted]
Email	[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Chief Science Officer, AgraGate Climate Credits Corporation
Director, Research & Commodity Services, Iowa Farm Bureau Federation

Who we are

Iowa Farm Bureau Federation is a unique and highly successful organization with more than 153,000 member families because it's in business to serve members. The organization's services, programs and benefits are developed based on the causes, concerns and needs important to members based on their beliefs and values – from leadership development, savings on preventative health care services and farm marketing seminars to programs to help young farmers thrive and prosper.

By reflecting the values of Iowans and its members and holding true to its mission of helping farm families prosper and improving their quality of life, Farm Bureau continues to grow stronger. Membership continues to grow, proof that Farm Bureau is offering the kind of programs and service that Iowans have come to expect and value.

Individually, each Iowan's effort is important. But when we put our efforts together, we can make amazing things happen for Iowa. The Iowa Farm Bureau has been proving this for nearly a century. And we will continue this spirit of cooperation for the century ahead. We continue to support and speak out for Iowa farmers and their families. We continue to champion our youth and everything that they have to offer Iowa's future. We continue to support and provide communities with the resources they need to be better places to live and work. We strive to keep health and wellness programs affordable for all Iowans. And we continue to promote the rural heritage that is Iowa. We are the Iowa Farm Bureau. We are the people, progress and pride within all of Iowa

AgraGate Climate Credits Corporation is a wholly-owned subsidiary of the Iowa Farm Bureau. AgraGate was created to expand the Iowa Farm Bureau Federation Carbon

Credit Aggregation Program, which began in 2003. With nearly 5 million acres aggregated from American farmers, ranchers and private forest owners in 30 states, AgraGate is the nation's leading supplier of carbon credit aggregation services to agriculture. We're committed to helping producers take advantage of the new market in four ways. AgraGate does this by:

- Providing essential services that educate farmers, ranchers and forest owners about the financial opportunities available to them through carbon credits.
- Providing a means for participants to easily register their credits.
- Managing the trading program in a way that will provide superior results for participants.
- Managing a credit database system that provides highly reliable credit tracking, reporting and certification.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why? *Please respond in 600 words or less.*

Farm Bureau members believe that market-based incentives, such as pollutant credit trading, are preferable to government mandates. Our members prefer the development of a practical voluntary market-based carbon credit trading system. To encourage this new market, we also support a USDA pilot carbon credit trading project to develop trading criteria, standards and guidelines. We believe that farmers should be compensated for planting crops or farming practices that keep carbon in the soil and that emission offsets that sequester carbon through agricultural practices should be fully recognized in any cap and trade system and should not be limited to a percentage of total offsets.

Reductions in greenhouse gas (GHG) emissions from mobile sources are best addressed by market-based solutions rather than by establishment of state or federal limits on vehicle emissions.

We also support providing incentives to industries seeking to become more energy efficient or reduce emissions of identifiable atmospheric pollution and the means of preventing it; (2) Providing incentives to individuals seeking to reforest fragile lands that are currently in agricultural production; and (3) Research that identifies the advantages and disadvantages of carbon credits as it relates to carbon sequestration;

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We oppose imposition of carbon taxes. We also oppose mandatory restrictions to achieve reduced agricultural greenhouse gas emissions; (2) Mandates relating to GHG policies, that would adversely impact agriculture; (3) Any attempt to regulate methane emissions from ruminant animals under the Clean Air Act or any other legislative vehicle; (4) Emission control rules for farming practices, farm equipment, cotton gins, grain handling facilities, etc., and urge EPA to re-evaluate the imposition of standards on farm and ranch

equipment and other non-highway use machinery; (5) Unilateral mandatory state or federal GHG emission reduction requirements;(6) Including the carbon impacts resulting from indirect land use changes in other countries in the carbon life cycle analysis of biofuels; and (7) The imposition of carbon emission related taxes or fees on horsepower of vehicles and equipment used for agricultural production.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

No. Agricultural and forestry resources exist under a wide variety of environmental and resource management conditions. A top-down regulatory approach is unlikely to produce the desired benefits sought if these sectors are included under a carbon reduction program – i.e. under the cap. The most efficient way to stimulate resource-specific responses of agricultural and forestry units is to allow them to voluntarily select into a cap & trade program through offset protocols. This would allow private, local resource managers to make decisions that are best tailored to that particular resource. The cap & trade program should facilitate stimulation of carbon-reduction activities in the unregulated sectors, but does not need to impose direct limits on emissions from natural resources that are part of the agricultural and forestry sectors.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

While Farm Bureau does not have specific policy on the distribution of emission allowances to entities that would be regulated under a cap & trade program, Farm Bureau recommends strongly that any carbon policy be implemented in a way that does not harm the agricultural sector. Many of the utility providers for farms and ranches would experience significant cost increases if all allowances were to be auctioned. Thus, it is likely that the least disruptive approach to emission allowance distribution would be to distribute a large portion of the allowances to utility generators and distributors, fertilizer producers and other entities that would be "under the cap."

The distribution of emission allowances will affect nearly everyone. Existing entities and the individuals that receive services from those entities will have the least impact if allowances are freely given to such entities. Likewise, entities that compete primarily in global markets will be hurt if they have to purchase allowances or offsets for all emissions. Full auctioning of allowances will require that such entities pass through the cost of the auctioned allowances to their clientele and some of these domestic entities will not be able to do so in the global market place. New entities would favor full auctioning since it will "level the playing field" with established businesses. And, as a revenue

source for government, auctioning provides a much greater source of revenue than would provisions for distribution of free allowances.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Carbon policy should be established at the national level and once established should preempt any and all state or regional carbon reduction programs. The national program should fully recognize all allowances and offsets from all of the state and regional programs and should also recognize the early-action reductions and offsets from the domestic voluntary carbon reduction programs such as the Chicago Climate Exchange, California Action Registry, The Climate Registry. Early actors should be rewarded and encouraged by the establishment of a federal program, not excluded or penalized for taking such bold and innovative steps in the public's interest. Recognition of early action, whether in organized voluntary programs or through state/regional programs, is a "cost" of transition from the current programs to a federal regulatory program that prevents perverse and unintended consequences from occurring during the transition periods and allows for the smoothest transition to a national program.

While there may be some criticism that these early programs may not be as rigorous the nationally-developed program, to a large degree, it is the knowledge and experience that has been gained because of the pioneering efforts of these early actors that will enable an effective and efficient national program to be developed. These efforts should be fully recognized and the allowances and offsets that are registered as a part of these programs should be grandfathered in to the national program and the contracts for early offsets should be recognized for at least three years after the establishment of the national program so that these projects and efforts are not perversely incented to discontinue so that they can enter the national program.

Many federal conservation programs already have the reputation of "ignoring early adopters and rewarding the bad actors." For a program that is likely to exist for 50 years or more to accomplish its goals, the amount of early action activities will represent a relatively small percentage of total effort, but is vitally important to send the signal that solutions to greenhouse gas reductions are needed from the regulated and non-regulated sectors.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

It is neither necessary nor desirable that a new federal agency be developed to regulate and operate a federal cap and trade program for greenhouse gases. Regulation of the capped sectors should be done within either the Department of Energy (DOE) or The Environmental Protection Agency (EPA). We would highly recommend that the USDA

be the primary authority for oversight and administration of agricultural and forestry offsets. USDA, which includes the Forest Service, has the expertise and sufficient regulatory knowledge and administrative infrastructure to set the rules for offsets from biological resources such as agricultural lands, forests and methane digesters. USDA could establish a registry for such offsets that would be fully fungible with the allowance and emission registry program that would be established by DOE or EPA.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

As is being demonstrated by the early action programs, carbon can and is becoming a commodity that can and will be traded just as other commodities. The experience of the Chicago Climate Exchange is proving that markets for carbon can and do work. This market is operating as an exempt exchange. Based on the requirements of the regulated carbon market, contracts and services are being developed to supply projects and products that meet market requirements.

The CFTC should continue in its role as the regulator of derivatives, futures and options contracts associated with carbon trading. Derivatives, futures and options on carbon contracts are not fundamentally different than other derivatives, futures or options contracts. The oversight and regulation provided by the CFTC is adequate for these markets. Similar to corn, soybeans and other agricultural commodities, the transactions between farmers, ranchers and forest landowners should be exempt from direct regulation by the CFTC. There is sufficient state contract and business law to govern these transactions.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.
Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

Yes. The carbon market will function best if it is treated the same as any other commodity. However, the actual registry and retirement of allowances and offsets should be done on regulated, open, transparent markets.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition

programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

If properly designed, agriculture and forestry may gain from climate policy just as climate policy benefits from the participation of agriculture and forestry. Biofuels for electricity production represent a very large new market for agricultural and forestry products and payments for eco-system services such as soil management and afforestation represent a new source of revenue. Some estimates of the economic gain to agriculture suggest that revenues could *double* due to a combination of higher prices for existing commodities, new markets for biofuels, and payments for soil management and afforestation. The benefits will not be evenly distributed because some sectors can expect a very large increase in the demand (and price) for their product or a new revenue stream by selling offsets while other sectors will face increased costs of certain inputs to production without a corresponding increase in revenue. Some estimates indicate crop production expenses alone could increase by $6 to $12 billion under a cap & trade program.

Whether or not there are negative impacts from the enactment of a carbon reduction program on a regional basis, or on selected special interest groups involved in agriculture and forestry is highly dependent on the nature of the carbon reduction program that is established, how allowances are allocated within such a program, and the ability of regions to adopt low-carbon energy production technologies. The upper Midwest, for example, has very good wind resources that could be developed as low-carbon technologies. Much of the Southwestern US has good solar capabilities. Some areas of the country have significant biomass resources or can participate in carbon sequestration projects. Such technologies, however, may not be viable options in other regions of the country. In such cases, there could be substantial negative economic impacts from the implementation of carbon reduction programs.

The enactment of a carbon reduction program will result in increased energy prices and that will impact many of the inputs for agriculture such as fertilizer, fuel, and feed. While low-carbon technologies and production options are likely to be developed over time, it is highly likely that the enactment of a carbon reduction program will increase energy related prices and the prices of all products and goods for which energy is a significant input.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Farmers, ranchers and rural residents will likely be best served if any revenues generated under a carbon reduction program are used to mitigate the increased costs of electricity, fertilizer, fuel and other essential elements of crop and livestock production. Refundable tax credits based on energy use or would be an effective way to distribute such funds to affected persons. In addition, grants could be used to help farmers, ranchers and rural

residents do energy audits and install new technologies that would result in reduced carbon emissions or energy use.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

Yes. Affected business should receive assistance in dealing with the higher costs that are likely to occur due to a carbon reduction program. Failure to include businesses in programs to mitigate higher costs will result in a loss of jobs in both urban and rural areas. Refundable tax credits and transitional grant programs would be an effective means of providing such assistance.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Public lands such as federal grazing lands can be used to demonstrate sustainable management practices and provide examples of practices that ranchers can use on private lands. Likewise, federal and state forest lands can be exemplary sites for sustainable managed forestry practices and reforestation. The federal government already has the authority to establish environmental standards for use of such lands by private entities and should take the lead in environmental performance.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Market forces are likely to establish carbon prices that will best allocate resources to the function of carbon reductions. However, in the early stages of market development, the federal government could provide a level of stability to the market through allowance allocation and auction policy as well as through offset policy. The existence of a robust offset development sector will provide substantial stability to the market. The federal government should be a market leader by taking actions to reduce or offset the emissions from its activities.

Highly variable carbon prices will discourage or delay some of the capital investments that will be required to achieve the carbon reductions necessary to stabilize atmospheric greenhouse gas concentrations. One of the most effective ways to assure that carbon prices do not go "too high" is to authorize a wide array of carbon offsets including those from agricultural practices and forestry. If the government determines that some level of minimum carbon prices is desirable, then the federal government could increase its level of reductions by purchasing more offsets. Strict price limits established by legislation are not desirable. This would include either a price floor or a price ceiling. If prices go "too high" Congress could grant the regulating agency the authority to issue more allowances.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

The lack of agricultural and forestry offset protocols is a great weakness of the ETS. The absence of recognition for these carbon emission reduction and sequestration options results in higher than necessary costs for carbon reduction results within the ETS and little stimulation of carbon reduction by these sectors in Europe. The Province of Alberta has implemented offset protocols for agriculture and forestry within their carbon emission reduction program. Existence of agricultural and forestry offsets provides more liquidity in the market and helps reduce the cost of carbon emission reduction.

The Chicago Climate Exchange (CCX) has provided the greatest example of how to structure and operate an affective and efficient carbon reduction program. The experience of the CCX shows that offset protocols must be allowed to be modified and improved as new technologies develop and as new scientific data is discovered and documented. The CCX experience also demonstrates the capability of agriculture and forestry biological sequestration projects to deliver quality offsets from large, aggregated areas that guarantee performance according to statistically performance standards. Fields and forests are not pipes where a single measuring point can be attached. But, large aggregations of fields and farms, by definition, will produce carbon emission reductions at the mean (or average) for the area. Highly controlled research plots operated by the Land Grant Universities provide high quality data about the average carbon emission/sequestration response of biological resources to various production practices. Requiring individual farms to do field sampling of carbon levels in the soil provides the "illusion of accuracy" but, in reality, will not change the actual results that are being achieved by large-scale participation by many farmers over thousands (or even millions) of acres.

Part II: Carbon Reduction Program Administration and Implementation
The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

Agriculture and forestry resources exist within a wide diversity of environmental and ecological conditions and are managed with a wide variety of management practices. It is likely that the greatest amount of greenhouse gas reduction can be accomplished in the

agricultural and forestry sectors through the use of a combination of approaches. Establishment of workable offset protocols is likely to achieve the greatest results with respect to carbon emission reductions or sequestration from agriculture and forestry. Offset protocols should require that offsets be real, verifiable, enforceable and meet appropriate levels of duration and additionality. The offsets of the Chicago Climate Exchange provide valid examples that meet these requirements. But, there are a number of agricultural and forestry production practices that can result in reductions of carbon emissions, but may either be difficult to document and verify or for which the scientific knowledge is yet insufficient to grant offsets. For these types of activities, a program similar to the Conservation Stewardship Program (CSP) may be the most effective way to stimulate and reward such actions.

We urge caution in establishing performance standards for segments of the agricultural and forestry sectors that would be imposed on all producers or landowners. The reality is that such standards are likely to have a number of perverse, unintended impacts on agriculture and forestry producers. The nature of biological resources is such that local, adaptive management that is initiated by the person with an economic interest in the asset will result in the greatest utility for both individual farmers, ranchers, and landowners as well as for society.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

No. We do not support establishment of a limit on the issuance of offsets nor the amount of offsets that can be used to satisfy compliance requirements. Market forces will adequately control the amount of offsets that will enter the market. Artificially limiting offsets will only serve to increase the costs of carbon emission reductions and result in dis-incentives for maximum development of emission reduction activities in the non-capped sectors. Full fungibility of allowances and offsets will result in the most effective and efficient environment-wide carbon reduction program. The focus of the cap & trade program needs to be on total improvement on the environment, from both capped and uncapped sectors, not just on how much of the improvement comes from the capped sector.

Establishing limits on the amount of offsets that agriculture and forestry can provide within a cap and trade system, sends the signal that such offsets are inferior to other actions that may be taken, and therefore of lesser social value. It is our belief that the offsets available through agriculture and forestry can provide significant, immediate reductions that can help stem the rate of atmospheric carbon build-up. The protocols of the Chicago Climate Exchange provide statistically-valid quantification methodologies that farmers and ranchers are adopting now. We urge policy makers to support and encourage these measures and to provide the necessary public support to develop additional protocols and quantification methodologies that those involved with the land can employ.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Congress does not need to "distribute" offsets nor should it restrict the use of offsets in the compliance market. Congress simply needs to authorize a full set of offset opportunities and then allow the market to work. This will allow offsets to provide the maximum environmental benefits at the least cost and serve as a safety valve on overall program cost. Congress does need to determine how allowances will be distributed.

We believe the agriculture and forestry sectors should receive highest priority for eligibility to supply offsets voluntarily. Both sectors have tremendous carbon storage potential, have the least chances of passing along costs to consumers, and agriculture, in particular, is vulnerable to foreign competition of a national security item – our nation's food supply.

As a general commodity organization, IFBF feels that a domestic cap-and-trade system should prioritize domestic reductions over international reductions, and if eligibility of offsets to be used in the regulatory market is to be restricted, then allocation of access should be done in a way that provides a preference for domestic offsets. All agricultural and forestry producers should have eligibility to provide offsets. Distribution of offsets for these projects should be done in a market-oriented way based on reduction potential of individual projects.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Offsets must be real, verifiable, enforceable and meet defined levels of duration so that they do not compromise the integrity of the cap-and-trade program.

1. Real – Offsets must represent actual emission reductions and not artifacts of incomplete or inaccurate accounting. The effects of a project on GHG emissions must be comprehensively accounted for, and "leakage" in emissions must be factored into the quantification of emission reductions, although leakage determinations may be done as a sectoral assessment rather than at the project level. Conservative assumptions should be used where there are uncertainties in quantifying emission reductions or removals.
2. Additional – To be eligible for offsets, offset projects cannot be required by law or regulations, and must exceed baseline criteria. The baseline should use standardized criteria (including but not limited to, performance standards, financial feasibility criteria, market penetration, and project start date) that serve to exclude "business as usual" projects from eligibility. Receipt of government revenue should not inherently disqualify project on the basis of additionality. While certain types of government programs are adequate to tip the scales in favor of project development, or require actual project development, this is not true for all programs. Therefore, offset project evaluation criteria should be responsive to these differences, and should consider the actual nature of the government program when determining whether to reward, discount, or disapprove projects for offsets.

3. Verifiable – Offsets must result from projects or programs whose performance can be readily monitored and verified, and whose effects can be measured with reasonable precision and certainty.
4. Permanent – For emission reductions or sequestration activities that can be reversed, adequate safeguards should be established to minimize the risk of reversal, or a mechanism should be provided for the replacement of those tons. As a general matter, offset projects should result in the permanent reduction, avoidance, or sequestration of greenhouse gases. However, since no biological process is permanent, it is imperative that it be acknowledged that there may be an interest in pursuing project types for which it is not possible to ensure the permanence of the sequestration. Offset projects involving biological sequestration should utilize reserves, insurance or guarantees.
5. Enforceable – Offsets must be consistent with regulations and administrative rules that define their creation, provide for transparency, and meet defined standards of ownership to avoid double counting.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

We recommend the adoption of a standards-based approach to offsets. Under a standards-based approach, protocols for evaluating whether a project meets the Carbon Offset Requirements are established up-front. This is in contrast to a project-based approach such as that employed by the Clean Development Mechanism (CDM), whereby applicants propose their own offset protocols. The standards-based approach front-loads the administrative burden allowing projects to be reviewed more quickly than under a project-based approach. Furthermore, a standards-based approach offers greater certainty to potential project developers before they begin the application process.

To jumpstart the offsets program, we recommend that initial offset project categories and evaluation criteria be established before program launch. We also recommend providing a mechanism to incorporate additional categories and evaluation protocols over time to encourage innovation in the marketplace, and thus reduce program costs.

Proposals should initially be reviewed and modified as appropriate by a Technical Committee comprised of subject-matter experts. Technical Committee membership should change from protocol to protocol to ensure that the appropriate subject-matter experts are on staff. Those proposals that are approved by the Technical Committee should be reviewed by a Scientific Committee. The Scientific Committee is a standing body of scientists and experts with an in-depth understanding of climate science and offset program principles and implementation challenges. The Scientific Committee would accept, reject, or suggest modifications to the offsets protocol that is reported out of the Technical Committee.

In developing these protocols, the Technical and Scientific Committees should consider the offset program design principles, offset requirements, and other guidelines or requirements established by Congress. Protocols for quantification of emission

reductions/removals and for project monitoring should be as standardized to the extent possible, while ensuring accuracy. In the interest of promoting transparency, protocols approved by the scientific committee should be made available for public comment.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

We do not believe it is the role of Congress to "design a system" for verification of offset projects. Congress only needs to set the broad parameters in which the offset program should operate. Our strong recommendation is that offset programs undertaken by agriculture should be designed, developed and overseen by USDA. Participation in such offset programs should be voluntary. Under such a voluntary program, USDA would develop specific guidelines to be followed and voluntary participants would certify their adherence to protocols developed by USDA. USDA could develop their own program provisions to oversee programs or they could establish a system of independent verification by certified third party service providers. Such verifiers could be approved by a private company such as an ISO Registrar or an organization approved under the USDA Guide 65 Program. Oversight could be provided through an annual quality audit. Aggregators would continue to hire verifiers from a group of approved companies that compete for business based on cost and services provided.

In no instance should such programs function as "permit" programs that all producers would be required to participate and under which public participation, public hearings and citizen suit provisions might be involved. In all instances, participation should be voluntary on the part of a farmer, rancher or landowner.

If USDA chooses to establish an audit system using Independent third-party verifiers, they should meet the following requirements:
(a) Minimum financial requirement as demonstrated through
 (i) Net worth; or
 (ii) Performance bond
(b) Evidence of adequate technical expertise and capability through
 (i) background, education & training; and
 (ii) experience; or
 (iii) performance history; or
 (iv) certification by a certification agency approved by the regulatory agency or accredited by the USDA under their Guide 65 program

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

A standards-based approach that relies on solid scientific underpinnings and aggregation of offsets from large land bases will provide the most accurate assessment of the full basket of offsets from agricultural practices and other activities designed to result in sequestration of carbon in the soil.

A quantification method shall: (a) Determine net change in primary greenhouse gases in accordance with prevailing conventions for accuracy, precision of measurement and statistical validity. The quantification methods shall be robust to operate over an appropriate range of soils, cropping practices and environments, and scalable over the scope of the carbon offset. The methodology shall be replicable and thoroughly documented; and (b) Be validated by an approved domestic or international body, which shall include those organizations that can demonstrate no conflict of interest and whose work processes are accredited by appropriate national and/or international accreditation agencies. The methodology for quantification shall conform with prevailing principles of quality management.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

There should be full fungibility between offsets and allowances. Any "discounting" of offsets should be done within the process of quantification of the offset through the imposition of an implicit reserve or the requirement for and explicit reserve of registered offsets. Capped entities should be allowed to meet compliance requirements with either allowances or offsets. Offsets that are registered and available to the market should have full fungibility and accorded full compliance value.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

For emission reductions or sequestration activities that can be reversed, adequate safeguards should be established to minimize the risk of reversal, or a mechanism should be provided for the replacement of those tons. As a general matter, offset projects should result in the permanent reduction, avoidance, or sequestration of greenhouse gases. However, since no biological process is permanent, it is imperative that it be acknowledged that there may be an interest in pursuing project types for which it is not possible to ensure the permanence of the sequestration. Offset projects involving biological sequestration should utilize reserves, insurance or guarantees.

Offset projects involving annual crop production practices should have a contract length of 5 years. Offset project participants should be fully accountable for any intentional reversals that occur during this 5-year period and should be required to hold 10 percent of registered credits in an explicit reserve to mitigate such reversals during the contract. An implicit reserve of 20 percent of the scientifically-established crediting rate should be sufficient to account for system-wide reversals that might occur after the expiration of the contract.

Forestry offset projects should have a contract length of 15 years with full accountability for any intentional reversals within the contract period. An implicit reserve of 10 percent of the scientifically established crediting rate should be sufficient to account for system-wide reversals that might occur after the expiration of the contract.

An additional explicit reserve of 10 percent of registered credits should be held by the offset registry until the end of the contract period to account for catastrophic or unintentional reversals. If these were to occur, the offset project holder would forfeit the explicit reserve offsets which would be retired by the offset registry to account for such reversals.

The use of implicit and explicit reserves for offsets based on biological sequestration should provide sufficient certainty that registered offsets can be treated on an equal compliance basis with allowances.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

The national program should fully recognize all allowances and offsets from all of the state and regional programs and should also recognize the early-action reductions and offsets from the domestic voluntary carbon reduction programs such as the Chicago Climate Exchange, California Action Registry, The Climate Registry, etc.. Early actors should be rewarded and encouraged by the establishment of a federal program, not excluded or penalized for taking such bold and innovative steps in the public's interest. Recognition of early action, whether in organized voluntary programs or through state/regional programs is a "cost" of transition from the current programs to a federal regulatory program that sends the prevents perverse and unintended consequences from occurring during the transaction periods and allows for the smoothest transition to a national program.

The CCX is a U.S.-based voluntary emissions trading system for GHGs. Participants take legally binding commitments to reduce their emissions and can do so through the purchase of carbon offsets certified under CCX protocols. The types of offset protocols that are related to agriculture and forestry sectors are: manure management (agricultural methane), agricultural soil carbon, forestry carbon and rangeland soil carbon.

Most of the CCX's protocols are standardized. For example, there are pre-specified crediting rates for eligible projects. The CCX has developed standardized rules for issuing Carbon Financial Instruments (i.e. emission allowances) contracts for the following types of projects: agricultural methane, coal mine methane, landfill methane, agricultural soil carbon, rangeland soil carbon management, forestry, renewable energy and ozone depleting substance destruction. Other project types, to be approved on a project-by-project basis, may include: energy efficiency and fuel switching and any eligible projects under the Clean Development Mechanism. Permanence for forestry projects is addressed by requiring a commitment to long-term maintenance of carbon stocks, as well as setting aside a 20 percent buffer to compensate for reversals. A similar insurance buffer or reserve pools are applied to soil carbon projects for any cases of loss of previously credited carbon storage, but the owners of projects need to commit for five years.

Additionality requirements are primarily performance-based. Additionality criteria are incorporated into the eligibility criteria of the project types. The CCX requires that projects are new, beyond regulation and involved in highly unusual "best in class" practices. The baseline methodologies for calculating emission reductions are defined for each project type. All projects are subject to independent verification by approved verifiers and the overall offset registration process is audited by FINRA.

While there may be some criticism that these early programs may not be as rigorous as the nationally-developed program, to a large degree, it is the knowledge and experience that has been gained because of the pioneering efforts of these early actors that will enable an effective and efficient national program to be developed. These efforts should be fully recognized and the allowances and offsets that are registered as a part of these programs should be grandfathered in to the national program and the contracts for early offsets should be recognized for at least three years after the establishment of the national program so that these projects and efforts are not perversely incented to discontinue so that they can enter the national program.

Many federal conservation programs already have the reputation of "ignoring early adopters and rewarding the bad actors." For a program that is likely to exist for 50 years or more to accomplish its goals, the amount of early action activities will represent a relatively small percentage of total effort, but is vitally important to send the signal that solutions to greenhouse gas reductions are needed from the regulated and non-regulated sectors. We recommend that offsets be bankable forward for at least 5 years in any national program and would suggest that offsets from programs such as the Chicago Climate Exchange be recognized for a similar time frame.

Companies that have undertaken emission reduction activities as a part of these early action voluntary actions should not be penalized for "doing good." Any reductions that they accomplish as a part of these programs should become the basis for additional allowance allocations to reward and recognize early action.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

The issue of additionality as posed in this question is really one of baseline definition. The practice of continuous no-till is a relatively rare practice. While some reports indicate that 35 to 40 percent of land is no-till annually, the amount of land that is in continuous no-till is likely to be less than 10 percent of the 350 million annual crop acres. In Iowa, for instance, survey data indicates that about 45 percent of the land is no-tilled

each year. But this is because about 90 percent of the soybeans acres are no-tilled and about 10 percent of the corn acres. Continuous no-till is between 8 to 12 percent of the land. We believe that early adopters of the eligible practices that would be the basis for offsets should not be prevented from participation in the offset program. They should be encouraged to participate and should be held up as the example to get others to participate.

Strict additionality is neither necessary nor desirable for agricultural and forestry offsets. It is desirable for producers to get some experience with a practice like no-till before they make multi-year commitments to the practice in a contract. Strict additionality would result in much more risk of failure of the offsets and would discourage carbon reduction activity rather than encouraging the non-capped sectors from participating.

Stackability refers to the concept of receiving funding or credits for multi-functional practices. We believe that renewable energy credits should not be stackable with carbon credits. Likewise, we would suggest that carbon credits not be stackable on credits from a low carbon fuel standard or credits for renewable fuel standards since both of these programs are specifically designed to result in lower carbon emissions.

We would support stackability of carbon credits with traits such as wildlife management, nutrient management, water quality and with the assortment of USDA and state cost-share programs. The use of grants or cost-share funding for installation or adoption of technologies and/or practices that reduce carbon emission or increase sequestration should be encouraged rather than penalized.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

We believe that the source of funding for a project in the non-capped sector should be irrelevant to the eligibility of that project for carbon offset crediting. Many agricultural practices have multi-functionality and it would be a nearly futile, and unnecessary, activity to try to correlate the funding sources to the many economic and social functions that can arise from practices and projects that result in carbon emission reductions. We believe that additionality tests that try to ascertain the reasons why a project is undertaken have little relevance and are fraught with problems. They are based on assumptions that what a producer has done in the past will dictate that the producer will do those practices in the future. Most such assessments are exercises in justification and not valuable for determining qualifications for offset crediting.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

First, we believe that soil offset projects should use crediting protocols based on practices and not on field level sampling which is fraught with significant error due to sampling variability and the problem of detecting annual changes with limited samples. Second, we believe that soil offsets should have full accountability for carbon reversals during the required contract period and that the protocol should use implicit reserves to account for any post-contract reversals that might occur on a sector-wide basis.

Explicit reserves should be required for soil and forestry projects during the term of the contract. Reversals due to natural disasters and other unintended reversals beyond the control of the producer should be mitigated through these reserves. The liability of producers for catastrophic events and unintended reversals should be limited to the credits set aside in the explicit reserve. We recommend a 10 percent explicit reserve for handling these catastrophic losses. The experiences to date of the CCX would suggest that a 10 percent reserve is more than sufficient.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

The protocols and procedures for the offset program should NOT be detailed in the legislation. The legislation should authorize the offset program and establish general guidelines for offset program performance. We believe that USDA should be delegated the authority to develop the offset program for agriculture and forestry.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

The primary impediments to implementation of practices and technologies that reduce carbon emissions or sequester carbon are economic barriers, local resource adaptability, contract length, and sufficient confidence in the carbon-reducing practice or technology. Some carbon reducing practices and technologies are perceived to reduce net farm income due to reduced yields or the costs of implementing the technology are greater than the potential revenues from the project. In some cases, the local resource is not well suited for carbon reducing activities. Hydric soils, for example may be too wet to effectively sequester carbon. Some soils are prone to compaction and need intermittent tillage to enable proper root development. Other soils may be in areas where insufficient rainfall exists for significant carbon sequestration. The requirements for multi-year commitments to practices when most farm land is leased on annual rental agreements injects more risk that most farmers are willing to accept.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change

impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Existing conservation and forestry programs provide some incentive for some producers to adopt and implement practices that mitigate climate impacts, sequester carbon or reduce greenhouse gases, but they are insufficient for the vast majority of farmers, ranchers and landowners to adopt the practices that result in the greatest amount of carbon mitigation. Many, if not most, agricultural producers use some level of conservation tillage for their annual crop production. Research shows that continuous production systems that utilize some amount of tillage, albeit much less than was common 15 to 20 years ago, results in no net loss or gain in soil carbon. It takes adoption of the more stringent continuous no-till production regimes to end up with actual increases in soil carbon. Cost-share programs and programs like the CSP are helping to get these technologies adopted. Afforestation cost-share and the ability to do afforestation and reforestation under CRP programs are effective for some farmers and landowners, but it will take much higher levels of incentives for most cash-tent farmers to make the changes that would result in the most reduction of greenhouse gases.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

It is important that the Low Carbon Fuel Standard (LCFS) be careful in its regulatory approach if it is to fulfill its expectations of fostering sustainable fuel production. The argument in favor of including Indirect Land Use Calculation (ILUC) in the LCFS is based on the belief that biofuels have significant indirect land use impacts The argument against including ILUC in the LCFS is based on the belief that direct quantification of ILUC is by its very nature impossible, and that indirect impact modeling in general – is too uncertain to use as the basis for regulation at this time.

The public policy decision to extend the scope of the LCFS from direct to indirect, market-mediated effects is a monumental one. This is true for land use change, or any other indirect effect. Direct impacts are relatively certain, verifiable and attributable to specific types of fuels. This is true because these effects are directly related to and traceable to the production, transportation and combustion of those fuels, including upstream land use change attributable to fuel production, such as the conversion of pasture to corn or other biofuel feedstock.

Indirect impacts, on the other hand, occur as a result of a combination of drivers that may be market-related, policy-related, or as a result of a myriad of societal variables that have no connection to biofuels policy. They are, in essence, the ripple effects of any, and all, given decision in the global economy. It is arrogant and capricious to assume that

cropping decisions in the United States which may occur in response to U.S. biofuels demand are responsible for cropping and land use decisions that have negative environmental impacts in foreign lands. Sovereign nations control land use decisions within their borders. While it may be appropriate to hold U.S. biofuels accountable for indirect land use changes within the United States if an accurate appraisal of such changes can be determined, it is totally inappropriate for the LCFS to ascribe land use changes in other sovereign nations to U.S. biofuels.

Indirect impacts have not been enforced by any regulatory agency against any product in the world. Indirect impacts, whether applied to biofuels or any other fuel, occur as a consequence of a myriad of nested, policy and socio-economic variables. An article published in *BioScience* magazine captures the complexity of indirect effects, as they relate to deforestation: "[a]t the underlying level, tropical deforestation is … best explained by multiple factors and drivers acting synergistically rather than by single-factor causation, with more than one-third of the cases being driven by the full interplay of economic, institutional, technological, cultural and demographic variables."

While it may be possible to model these impacts over time, the fact is that there is no model today that comes close to capturing the interplay of economic, institutional, technological, cultural and demographic variables inherent with quantifying the indirect impact of any fuel. In fact, the economic equilibrium models being offered as the mechanisms to enforce ILUC in the LCFS were not designed for regulatory use – i.e. to assign specific compliance metrics to specific fuels. They were designed to analyze the impacts of policies in more general terms and the discovered impacts are a result of model design and the limited choice of variables used within the model.

The fundamental assumption of the current ILUC argument – that using an acre of land in the U.S. for fuel will require almost an acre of crop development somewhere else – produces questionable results when applied to "good" public policy initiatives. For example, under the same assumption it is possible that setting aside land for the Conservation Reserve Program (CRP) creates more carbon emissions, because it takes agricultural acreage out of domestic food and feed production, which results in grassland and rainforest cultivation abroad. It is possible that other land protection policies, including national parks and wilderness areas, also fail the "zero sum" land use assumption because they take timber and agricultural land out of traditional production.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
IOWA SOYBEAN ASSOCIATION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name of respondents:
John Heisdorffer, President
Ron Heck, Board member
Ray Gaesser, Board member
Carol Balvanz, ISA Staff

Organization you represent:
Iowa Soybean Association

Address:
[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

John Heisdorffer: elected volunteer, currently serving as ISA President
Ron Heck: elected volunteer, former ISA and ASA President
Ray Gaesser: elected volunteer, former ISA President and current ASA board member representing Iowa.
Carol Balvanz: paid staff member—Director of Policy, Producer Outreach and Resource Development

April 9, 2009

Dear U.S. House of Representatives Committee on Agriculture members:

The Iowa Soybean Association very much appreciates the invitation to respond to questions about climate change and carbon reduction principles. These appear to be issues that will impact production agriculture, and need input from farmers who have experience with crop and livestock production. We believe agriculture can reduce and sequester green house gas emissions through voluntary land-based solutions. We thank you for this opportunity to provide our views.

We have studied the questionnaire you provided, and rather than answer each question individually, we have summarized our main points under three questions.

1. What benefits and detriments do you see for Iowa farmers if the U.S. Congress creates a program that uses carbon taxes, a cap and trade program or some combination to regulate greenhouse gas emissions?

If Congress acts on a climate change program, we favor an offset program with no cap for agriculture. We oppose a tax regime for carbon. We believe that only those offsets that are science based and provide legitimate, long-term reductions in GHG's should be included. We also believe that the offset program should focus on private working lands and that the program is written in such a way that those lands are not retired from food production by current landowners or purchased by regulated industries and then retired from food and feed production in order to produce offsets.

We have concerns that costs for farm inputs will continue to rise, especially as agriculture carbon inputs such as fertilizer become more expensive under this type of program. Any carbon reduction program must recognize agriculture's increased costs and allow farmers to recover those costs in addition to payments for sequestration. Otherwise, this program could adversely affect U.S farmers' ability to compete in world agriculture markets.

While U.S. agriculture increases productivity to meet the demands of a growing world population by harvesting surface crops, agriculture's ability to sequester carbon with increasing carbon root systems increases. . Given the wide variety of sizes and distribution of farms, it would not be feasible to enforce an emissions cap. We believe the offsets provided by agriculture are a very cost effective way to mitigate the adverse impacts the emissions cap will have on other industries.

2. How should Congress address the existing agricultural projects or credits that have been established through voluntary systems? In other words, what credit should agriculture receive for current and ongoing practices?

Existing agricultural programs that reduce atmospheric carbon should be recognized and strengthened. We view current discussions to reduce funding for conservation and environmental programs in the Farm Bill as counterproductive to any carbon reduction effort. We believe early actors should be fully eligible for future government allowances and offset markets. We think farmers should also be allowed to utilize credits in multiple ways if the practices apply to other environmental markets. Farmers have developed many valuable conservation practices including no-till, rotational grazing and placing highly erodible land into CRP. These practices have multiple benefits for the landscape in addition to their ability to sequester carbon, and farmers should receive credits for all those efforts. Producers should be eligible to market carbon offsets, even if federal or state assistance was provided for the original project, and even if the original intent was not green house gas reduction. Early actors should be rewarded for their efforts.

We believe USDA should be responsible for verifying agriculture offset projects.

3. What is your opinion of developing a futures market for carbon reduction in the event that a cap and trade program is developed?

We believe there must be an avenue to establish the value of carbon credits/offsets and to communicate those values openly. We would prefer that the initial trading price for carbon be established by the federal government. Farmers have long-term experience with futures markets and options, so we naturally look to that terminology to explain how "carbon trading" would work. We believe carbon markets will require a high level or transparency since they may be subject to a number of variables from both production choices and weather events. Once the initial carbon reduction value has been set for agriculture, trading rules and delivery verification rules will need to be developed. All commodity and financial markets require regulation, and those details will be crucial to the system succeeding. The CFTC would be Iowa Soybean producers' preferred exchange for carbon trading.

We realize there are many more issues involved within the development of carbon reduction programs than we have spoken to here. We also know that with this program, "the devil will be in the details." We welcome the opportunity to continue to communicate with the House of Representatives as you work through the multiple issues involved.

We believe this program is something agricultural producers need to be involved in developing, as we see agriculture as a major part of the solution to carbon reduction.

Thank you again for inviting us to respond.

Sincerely,

John Heisdorffer, Iowa Soybean Association president
Ray Gaesser, Iowa Soybean Association board member
Ron Heck, Iowa Soybean Association board member

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
IZAAK WALTON LEAGUE OF AMERICA
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

William Grant

Organization(s) you represent

Izaak Walton League of America

Address
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Associate Executive Director

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

The Izaak Walton League supports implementation of a cap and trade program. Cap and trade provides environmental certainty through the declining cap while using the power of a market-based system to keep compliance costs as low as possible. Cap and trade has been used successfully to solve other environmental problems, most notably in controlling sulfur dioxide emissions associated with acid rain. By auctioning most or all of the allowances created under cap and trade, significant revenues will be generated that can be used to fund investments in clean energy, support efforts of wildlife and land managers to address critical habitat and ecosystem adaptation needs, and ameliorate energy bill impacts on workers and lower income Americans.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

We support a cap and trade program that covers as much of the economy as administratively feasible. Administrative feasibility turns on whether there is a point of regulation that covers the majority of the economic sector in question. We do not believe that such a point of regulation exists with respect to the agriculture and forestry sectors. Therefore we conclude that these sectors should not fall under the cap.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

We support the auction of all allowances to be distributed. However, we recognize that full auctioning may not be possible in the early years of a cap and trade program. In that event, legislation should provide for the transition to a full auction within a specified time frame not to exceed 9 years (i.e., at the end of the third compliance period). To the extent that some allowances are not auctioned in the early compliance periods, they should be distributed at a low, fixed price. Since we would recommend that agriculture and forestry would not fall under the cap, there would be no need to distribute allowances to these sectors.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

We expect that a federal cap and trade program will replace existing state and regional programs. However, states and regions should not be preempted from setting more stringent reduction targets than required by the federal program.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

N/A

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

N/A

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

N/A

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

Carbon constraints may translate to higher energy costs for consumers. However, the agriculture and forest product sectors may see new revenue opportunities through the

provision of qualified offsets to entities covered by the cap. In fact, many of the carbon sequestration practices that could generate offset revenue have multiple benefits including improved soil quality and water quality, which would redound to the benefit of farmers and the forest products sectors. Other rural residents faced with higher energy costs may be eligible for energy bill relief as discussed above.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Revenue generated should be directed to: speed adoption of energy efficiency and other emission reducing renewable energy technologies; provide assistance to low income energy consumers; provide transitional assistance to communities and workers disadvantaged by the shift away from polluting technologies; funding programs to help wildlife and habitat adapt to changing climate and to preserve natural resources and ecosystem benefits for future generations.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

Yes, see above.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Public land areas will play a key role in carbon sequestration through practices such as afforestation, wetland mitigation, and peatland retention. Public lands may also become hosts to renewable energy development as Interior Secretary Salazar has advocated.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Carbon prices should not be limited or artificially controlled. Doing so would limit the ability of the marketplace to find the necessary pollution reductions in the most cost effective manner. However, to the extent that a carbon price ceiling is imposed there should be a corresponding price floor or reserve price to assure market stability.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

N/A

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

To the extent that offsets are allowed under a cap and trade program we believe there must be a well-regulated set of performance standards in place to assure that offsets are real, surplus, verifiable, permanent and enforceable.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

Yes. As tradeable credits from reductions made outside of capped sectors, offsets have the potential to undermine the environmental integrity of a carbon reduction program and to greatly multiply a program's administrative complexity and monitoring requirements. In general, if an emitting sector can provide a significant amount of low-cost emission reductions that can be reliably quantified, it is preferable to include that sector in the carbon reduction program, as opposed to being a provider of offsets. Any use of offsets must be quantitatively limited. Offsets should make up only a small portion of the total allowances traded.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Offsets should be distributed, but will be available for purchase by entities covered by the cap from a well regulated pool of offsets created as described above.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Please see response above to # 15 regarding the importance of minimizing the use of offsets and ensuring that the overwhelming majority of annual emission reductions come

from sectors covered under the carbon reduction requirements. If any offsets are allowed under a carbon reduction program, in order to maintain the integrity of the pollution cap, they must truly represent real, verifiable, permanent and enforceable carbon reductions that would not otherwise have occurred. In addition, limits must be established on: the quantity of offsets; the types of allowable projects; and the geographic scope of allowable projects. To the extent that capped sectors are allowed to use offsets to claim the benefit of reductions in uncontrolled sectors, the overall cap should be adjusted downward so as to ensure that economy-wide reduction targets are met. Offsets associated with changing agricultural or forestry practices have many important benefits related to land, water and wildlife conservation. However, it is especially difficult to quantify their carbon impact and ensure their permanence, making them generally unsuitable as offsets. While it is important to pursue these carbon-reducing agriculture and forestry practices, they should be pursued using other policies that do not have the effect of allowing additional greenhouse gas emissions under the cap. Many states are already counting heavily on reductions associated with their forestry and agricultural sectors in order to meet their greenhouse gas reduction targets. Care must be taken to assure that offsets generated for other purposes not result in double-counting.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

See above.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

N/A

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

N/A

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

See response to question 17 above.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

N/A

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

If past criteria have been established that comport with any new offset standards, some partial credit for early action should be allowed. The challenge will be matching the validity of offsets allowed under an existing program with a new program.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

As noted above, the League supports credit for early action where such action has been sufficiently documented to prove additionality. To the extent that markets emerge to support other environmental activities, the League supports desegregation of offset credits to be sold in multiple markets.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

N/A

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

We would expect insurance instruments to be developed to guarantee offset value to offset holders. Premiums would likely reflect the risk of force majeure events.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

N/A

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

There is likely to be a high degree of uncertainty in the use and application of agricultural offsets in the early years of the program. This uncertainty will make it difficult for landowners to make investment decisions due to lack of clarity as to allowable practices, monitoring requirements, and anticipated revenue streams.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

No. Without a price on carbon, investments in carbon reduction activities will be suboptimal. Implementation of a cap and trade system with a well-specified offset program will provide a needed boost to adoption and implementation of these measures.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

The League believes that a fully functioning cap and trade program must be supported by complementary policies in market sectors where a carbon price signal may not be enough on its own to spur innovation and carbon reductions. A good example of this is the transportation sector. A carbon price on transportation fuels will almost certainly be passed directly to consumers. This may have the effect of reducing vehicle miles traveled and increasing auto fuel efficiency standards. However, it is unlikely to lead to needed innovation in the biofuels sector or other non-fossil fuel alternatives (e.g. electricity for plug-in hybrids, hydrogen fuel cell vehicles, etc.) A low carbon fuel standard places an additional obligation on providers of transportation fuels to lower the life-cycle carbon intensity of transportation fuels being sold to the market.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
N/A				

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
N/A				

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
N/A				

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
KANSAS BLACK FARMERS ASSOCIATION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name Edgar Hicks

Organization(s) you represent Kansas Black Farmers Assoc.

Address
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

President

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less. yes.
This seems like the one economic function the minority farmers can come together ones as economic force

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not? Forestry and no-till yes!
Please respond in 300 words or less.
Southern Land-owners (Forestry) can come together as united to address climate change

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less. ? (not sure)
While we want the small farmer to benefit from cap + trade — we don't want to penalize other members of the under-served community.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why? Not sure —
Please respond in 600 words or less.
We have been looking at the Chicago Climate Exchange — but are open to suggestions

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less. If sure doesn't seem like we need ANY new government agency (?)

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain. I am a student of the futures industry.
Please respond in 300 words or less.
I don't see ANYone at the CFTC speaking on behALF of the under-served community. (representing)

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.
Currently have no issue — but the grain derivative market is archaic to small minority farmer

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products. Don't think so — But people we respect are raising concern
Please respond in 600 words or less.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts? Education on market functions at workshops at 1890 Land-Grant Colleges 1994
Please respond in 300 words or less.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less. Education on how markets work

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.
Credits used as resource for Low income

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less. Would like to see (free) market work if small farmers have knowledge and can participate (utopian)?

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less. Price volatility can work against the unknowing small farmer

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less. Not sure as it relates to small farmer

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less. Not sure as it relates to small farmer and minority consumer

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less. not sure

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less. not sure

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.
Our interest is in the participation of the black farmer where he/she is not left out like the laissez-faire grain industry

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less. ?

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less. ?

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.
Would like to see minority Landowners identified credits that are verified

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less. ?

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.
Our concern is that minority Landowners are far behind the curve and again will have to pay (play) catch-up

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e, cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.
I know this MANNA has not FALLEN ON SMALL minority Landowners

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less. Yes

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.
Make it so that the Little guy is treated equally. IN the grain trade the Little guys are Exposed

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less. not enough time to Answer this tonight!

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.
Not. sure .we are qualified to give realistic answer

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
KANSAS DEPARTMENT OF AGRICULTURE
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Adrian Polansky

Organization(s) you represent

Kansas Department of Agriculture

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Secretary of Agriculture, Kansas Department of Agriculture

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

The agriculture and forestry sectors can provide offsets to reduce total US emissions by 15-20 percent annually. The use of these reductions is absolutely necessary to achieve reduction goals. These offsets are provided at a low cost with currently available technology that has been quantified. Soil carbon saturation will take 30-50 years, and therefore will provide a cost-effective solution until others become available. These offsets have no known negative environmental impacts and actually provide several, more permanent, positive impacts to the environment beyond carbon reduction; these additional environmental incentives have made agriculture offsets 'charismatic'. "Agriculture's 'charismatic' credits thus additionally benefit society by helping to keep the cost of compliance low for sectors and businesses that must reduce their emissions. In this way agriculture can provide the 'carbon bridge' to the future, enabling the U.S. to reduce its GHG emissions efficiently and effectively while technologies to reduce emissions from fossil energy are developed."(Rice and Reed, 2007)

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

Several energy markets will be impacted by a mandatory carbon reduction program, creating increased costs for the agriculture community through increased input costs. In the summer of 2008, increases in energy costs greatly increased the input costs for many sectors, and resultantly, for the end consumer. By including agriculture offsets or credits as part of a reduction program, many of these negative impacts could be lessened as additional income opportunities will be created. Consumers as a whole will also benefit from the reduced cost of agriculture offsets in comparison to more expensive technological alternatives.

There is another challenge that will be created under a carbon reduction program concerning absentee landowners. Producers who lease land could be negatively impacted with increased input costs, with no alternative means to take advantage of the offset payment. Without a means for these producers to sell their offsets, many producers will be harmed. The agreements or leases between the landowner and the tenant would have to be comprehensive to address any offset sharing or compliance concerns under a carbon reduction program.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Early actors should receive credit for implementing carbon practices. If there is no credit offered to the early actor, there will likely be a false incentive to plow up soil carbon to re-sequester it for money under a carbon reduction program. The CCX avoided this temptation by offering credit payments for prior 'good actors'. With regard to 'stacking' credits, each activity could be weighted based on environmental benefits. However, if there is payment for GHG offsets under a reduction program, producers should be credited for practices that reduce GHGs. If multiple GHG reductions are accomplished with one practice, the producer should be compensated with those reductions in consideration.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

No-till farming practices have been in the United States for several decades, but the adoption of the technology has been slow. Farmers are aware of the benefits, but often choose not to adopt the practice due to yield, planting dates, and other concerns. The implements are costly for a producer to obtain. Educating producers of all the benefits of conservation farming practices will also be challenging. Compensation to these producers will greatly assist in increasing interest and educational discussion of these practices. Concerns over yield reductions and additional pesticide costs could be appeased by education.

USDA has reported that nearly half of US farmers are likely to retire in the next decade. This will create an obstacle to adopting new technology. The incentive would have to be very high for a producer that is close to retirement to change his or her production practices.

Absentee landowners also become a significant challenge in this framework. Tenants may want to adopt the practice and the landowner may not allow it. There would also be policy construction challenges on who should receive the payment for the credit. There is another social challenge to overcome in the Midwest region with government having a hand in production choices of the producer. There will be some degree of monitoring necessary to ensure that practices are being done in accordance with offset agreements. Many producers may be uncomfortable with the government monitoring their farming operation.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon

and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
LAND O'LAKES, INC.
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Steven Krikava

Organization(s) you represent

Land O' Lakes, Inc

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

As Director of Government Relations, I work with the members of the cooperative to determine our position on major food/ag/co-op issues.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Within our cooperative, many of our members are skeptical about the 'reality' of global warming and even more skeptical about the ability of humans to reverse recent trends in climate changes. Despite that view, the majority of our members favor participating in the debate over climate change legislation in order to represent agriculture's interests and protect American farmers from adverse legislation or regulation. Our cooperative members have not taken a position on carbon taxes. On cap-and-trade, we strongly believe that agriculture should not be a regulated sector and that agricultural practices for sequestration of carbon should qualify for earning carbon credits.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Agriculture should not be a regulated industry under a cap-and-trade program. Sec. Vilsack has noted that agricultural emissions represent only 7% of greenhouse gases in the U.S. but that agricultural practices could generate 20-25% of the offsets. Clearly agriculture is more valuable as a source of offsets than as a regulated industry. Our members also maintain that livestock operations should not be regulated for greenhouse gas emissions under the Clean Air Act. We would favor a provision in any climate change legislation that would explicitly prohibit regulation of greenhouse gas emissions under the Clean Air Act.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Our members have indicated a preference for allocating a minimum of 5% of the total allowances to agriculture. They do believe that ag allowances should be allocated at no cost.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Our members prefer a single national program rather than separate state or regional programs. Consistent with that preference, Congress should consider integrating any existing programs into a new federal program.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

It would be appropriate for EPA to be in charge of overall administration of a federal cap/trade programs. However, we feel that USDA should have primary responsibility for approving ag practices that generate offsets and for administrating carbon credits for those offsets.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

No position on this question.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

No position on this question.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

The ability to generate offsets and earn credits notwithstanding, our members (farmers, ranchers, rural residents) are very concerned about the potential that a carbon reduction program will result in higher energy costs and higher costs for construction materials and

other inputs. For example, either a cap/trade system or a carbon tax likely would result in higher electrical costs for farmers served by rural electric cooperatives (which as a group generally are more dependent on coal). There also is a concern that a carbon reduction program may affect fertilizer manufacturing and result in higher fertilizer costs.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

No position on this question.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

To the extent that farmers or cooperative processors are so affected, we would support transitional assistance.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

No position on this question.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Carbon prices should be determined by market forces. Part of the reason why the current voluntary program is not getting more participation is because carbon prices are too low. The expectation is that a mandatory system will result in higher market prices for carbon. Our members have not considered the implication of carbon prices being too high.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

No position on this question.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

A voluntary offset program would be most consistent with our members' goals.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

Our members did not address this directly. However, in order to get farmers engaged in practices that generate offsets, it seems like it would be counter-productive to limit the total offsets. It seems unfair to award offsets to one farmer who adopts no-till farming or installs a methane digester and then deny offsets to another simply because some arbitrary maximum has been reached.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Offsets should be prioritized on the basis of effectiveness in reducing GHG emissions and permanence.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

We don't have any specific input to this question at this time, only to say that this is the type of activity that USDA should have authority to administer.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Effectiveness and permanence should be the main criteria.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

I'm not sure that Congress should 'design' the system for verification. That seems more like an Administrative function, i.e. USDA in conjunction with EPA.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

No position.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

No position (not clear on what you're looking for with this Q.)

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

No suggestions at this time.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

There ought to be a system for transitioning participants in the voluntary market to the new mandatory system. Credits earned for practices under the voluntary system should be eligible for trading in the mandatory system on a going-forward basis.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Our members feel very strongly that early actors should not be penalized under a new federal offset program. Early actors who implement practices that result in reductions in GHG emissions or sequestration of carbon should be allowed to earn credits when the new carbon reduction program is put in place. We also support stacking of credits. Individuals who take actions that support multiple public interest priorities should be rewarded for their efforts.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should

those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

As a matter of fairness, it seems as though there ought to be some kind of discount for activities that have received government assistance to implement. Even if the activity was not specifically for carbon sequestration or GHG reduction, if it has those benefits, the activity should qualify to earn offsets.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

The integrity of the carbon reduction program has to depend on generating actual results. There ought to be some kind of recourse for projects that fail to deliver the expected reduction. However, in the event of a natural disaster, if the failure could not have been prevented, then there should not be recourse against the farmer. (At the same time, poor or inadequate design should not be a defense in the case of a natural disaster.)

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

The details - protocols, procedures, etc. - should be established by an Administrative body. Our members favor giving USDA authority to administer ag-related offsets and allowances while recognizing that EPA probably ought to have the overall authority for the carbon reduction program.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Most agricultural producers want to do what's 'right' for the environment. There is a huge educational gap about the significance of carbon emissions in the environment. More farmers need to be convinced of the impact of GHG emissions before they will become willing participants in programs to reduce emissions. We have a very long history that demonstrates that farmers will respond enthusiastically to incentives, but they will vigorously resist efforts to force them to do things unwillingly (i.e. thru regulations). Most farmers have the attitude - "I've been raising my crops or tending my livestock this way for decades. If it was good enough before, why should I change now? But once they understand why they need to change, they will do what's necessary, especially if it's in their financial interest to do so.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

No, I don't think existing programs will get the job done. I don't have any specific suggestions, only to say that new programs should be specifically designed for the goal of mitigating climate change impacts. The incentives and/or assistance should be directly related to the expected reduction in GHG emissions or sequestration of carbon.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

In the questionnaire below, I mentioned a corn/alfalfa rotation as a potential practice. We need substantially increase research on a whole variety of practices that could produce incremental reductions in carbon emissions and/or short-term or temporary sequestration of carbon. Corn ground that is periodically rotated into alfalfa benefits from nitrogen fixation from the alfalfa, reduced erosion, and reduced GHG emissions at least until the land is tilled to replant to corn. It seems that practices like this, that create environmental benefits, ought to be encouraged, even if the practice creates only temporary benefits for carbon reduction.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Methane digester	Excellent	Excellent	High	Low
Methane capture (by capping lagoons)	Excellent	Good	Low	Medium
Enteric management (animal feed/ration	Good	Moderate	Medium	Excellent

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
No-till	Moderate	Moderate	Medium	Low to medium, varies by region
Corn/alfalfa rotation	Moderate	Moderate	Low	Medium

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
LAND STEWARDSHIP PROJECT
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

George Boody

Organization(s) you represent

Land Stewardship Project

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

I am the executive director of the Land Stewardship Project (LSP). We do not work with forestry systems and therefore do not include them in the discussion.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
   Please respond in 600 words or less.

Even with aggressive action by industrialized and developing countries, the United States will need to cut its emissions by at least 80 percent from 2000 levels by 2050 (Cleetus 2009). The Next Generation Energy Act passed in Minnesota similarly put into law cutting the state's greenhouse gas emissions (GHG) 15% below 2005 base levels by 2015, 30% by 2025 and 80% by 2050. This will take swift, effective action along with a commitment to long-term change. Whether we do nothing or take action now, our economies are going to change. The US has an opportunity now to plan and ease the pain for low income people and for businesses that reduce energy use in their processes. Katrina and the current economic crisis showed that waiting and reacting is foolhardy, much more costly and leads to a more injustice across society.

Significant economic and ecological change will probably require a hybrid approach between cap and trade and carbon taxation, coupled with policies requiring much greater energy efficiency throughout society. A well-designed cap-and-trade program would need to put a price on carbon emissions that reflects the true costs of global warming. A carbon tax could also be part of the solution. But, it would not guarantee the necessary level of emissions reductions without an emissions cap in place (Cleetus 2009). A progressive reduction in caps is also likely to be necessary.

Stronger efficiency standards, incentives, and public investment in clean technologies and infrastructure will also be needed. The latter includes sustainable agriculture approaches that significantly reduce fossil fuel energy used in inputs into agriculture and food.In addition, policies encouraging smart growth are likely to be needed to protect farm and ranchland from development and control wasteful energy use.

It would be a huge mistake to think that agriculture can benefit from these policies without having to make significant adjustments within the sector. Even absent this strong signal from climate change legislation, powerful changes to industrial farming systems will be driven by major disruptive forces caused in part by climate change. These changes threaten the ability to continue to produce large amounts of food and energy with current approaches. Kirschenmann (2009) identified three sources of disruption: the end of cheap concentrated fossil fuel energy, depletion of fresh water reserves, and the loss of a period of relatively stable climate for which the dominant agriculture was designed to function.

Hatfield et al. (2007) reviewed research on potential impacts of higher temperature and carbon dioxide levels on agricultural production in the U.S. and constructed mathematical

response functions where possible. They predicted varying responses, depending on the species of plants. Irrigation needs in the U.S. were predicted to rise by 35% for corn and 29% for alfalfa at the same time as water supplies are getting tighter and energy will cost more. Outbreaks and northward migration of a wide variety of weeds, insects and pathogens are likely. It is notable that few horticultural crop and pasture studies were available to evaluate the effects related to global warming.

The dominant monocultural agriculture systems and related conservation systems were designed for what the National Academy of Sciences called an abnormal period of stable climate (NAS 1975) that we no longer have. Scientists at the USDA's National Soil Tilth Laboratory worry that the intense rainfalls brought on by climate change will wipe out the benefits created by practices such as no-till agriculture, if they are not part of a more complex conservation system (DeVore 2005).

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Agriculture's share of US GHG comes from nitrous oxide (60 percent), primarily related to nitrogen (N) fertilizer applications and manure management, and methane (31 percent) primarily related to enteric fermentation and manure management. Large scale monocultures of annual row crops (corn or corn/soybean rotations) in the Corn Belt require significant levels of N fertilizers and other GHG producing and costly off-farm inputs. This applies to varying degrees to monocultural crop production systems.

The largest industrial agriculture operations causing GHG emissions should face a price for those emissions (Metcalf and Reilly 2008). Including them in the mandated reductions with only a small amount of compensatory offsets for these operations are needed to induce innovations such as use of cover crops and dispersal of animals back on the land. Definitions for large industrial crop farms could be based on the percent land cover in monoculture annual crop by a landowner relative to the average size of farms in a given geographic area. Large confined animal feeding operations (CAFOs) are already defined by the Environmental Protection Agency to have at least 1000 animal units. Methane emissions from dairy cow and pig manure have increased by 50% and 37% respectively between 1990 and 2005, due primarily to the adoption of liquid manure systems of the type used in CAFO systems (EPA 2007).

2. There are significant opportunities for agriculture (and forestry, too) to reduce GHG emissions and store carbon in the soil through voluntary offsets. For example, the Rodale Institute found a 15-28% greater organic matter accumulation in organic systems as compared with conventional fields (Pimentel et al. 2005). Similarly, comparative studies at universities have found reduced energy use, soil carbon improvements, and lowered cost of production by including cover crops and resource conserving crop rotations and integrating crops and livestock on the land in pastures (Boody et al. 2009).

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Cleetus (2009) and Metcalf and Reilly (2008) believe allowances should be auctioned not given away. Auctions allow the marketplace to set a price. Giving away allowances could distort the market and result in windfall profits to favored polluters. This would be the wrong signal to send to these polluters. Industrial agriculture operations such as large CAFOs that by their design rely on heavy use of fossil fuel-based inputs and rely on N fertilizers for feed crops such as corn should be subject to these costs.

Grass-based livestock operations with animals on the land consuming pasture that require little in the way of fossil fuel-based N fertilization. These may or may not be Animal Feeding Operations. Grass pastures that are well managed and store carbon over many decades should not be disadvantaged through a GHG emissions reduction program.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

States or regions should be allowed to have stronger programs. It is critical that a US program support regional efforts or international efforts by allowing limited offsets to be traded with other uncapped sectors or regions or countries without GHG caps (Cleetus 2009.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

The Environmental Protection Agency could be the lead agency with strong cooperation from USDA's Natural Resources Conservation Service, Agricultural Research Service, Economic Research Service and the research arm Agriculture and Food Research Initiative. It is important to learn from the recent past. The Government Accountability Office (GAO) found that combining substantial regulatory and technical assistance roles in one agency like Natural Resources Conservation Service (NRCS) can be problematic at the level of field staff and mission focus (GAO 2003). More specifically the GAO found that NRCS was inconsistent in enforcing violations of the swampbuster and sodbuster compliance provisions written into the 1985 Farm Bill and beyond. They also found that the Farm Services Agency often waived the noncompliance findings and did

not withhold subsidies for those found in violation of swampbuster and sodbuster provisions (GAO 2003).

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

The program should be transparent and not rely on Wall Street or other financiers using arcane instruments that are primarily focused on making money through financial instruments that do not directly tie to GHG reductions. Whatever agency regulates this should rely on holistically formulated scientific judgments from teams of economists, climate scientists, ecologists, agricultural scientists and sociologists about whether the use of such instruments will actually contribute to GHG reductions. If not the agency must be able to block the use of proposed instruments. Such expertise and willingness to act may not be housed in the CFTC or other financial regulators at this time.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

No comment

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

The poor and working poor in rural or urban communities, who because of lack of investment in transportation alternatives are now forced to rely on cars for transport, could suffer disproportionately. However, a recent MIT analyses (Paltsev et al. 2008) estimated a $340 average annual cost for a family of four in the US to achieve 80% reductions of GHG emissions in the US by 2050.

The costs of doing nothing will lead to more dramatic impacts over time that foreclose the options for the poor and vulnerable in society more than for those in higher economic strata.

Critics of LSP's recommendations might assert that including large industrial agriculture crop and livestock operations in GHG programs could result in reduced production, thereby exacerbating world food shortages and increasing prices to consumers. Reducing GHG production and fossil energy for agriculture and its inputs might reduce the total production of certain commodities such as corn, soybeans and large CAFO produced livestock products. That does not necessarily mean less food will be grown.

A University of Wisconsin 13-year trial comparing high input specialized livestock or grain systems with limited input integrated grain-livestock systems found that once the transition was complete, yields of corn, soybeans, and winter wheat in organic systems were 90% of the levels of their conventional counterparts. Organic forage crops yielded as much dry matter as conventional crops and with sufficient quality to produce as much milk in dairy cows (Posner et al. 2008).

A University of Minnesota study, similarly showed corn and alfalfa yields of over 90% of conventional, soybean yields of over 80% and equivalent oats yields to those of conventionally managed plots (Porter et al. 2006). Organic and reduced input systems also resulted in better overall soil quality than zero or high input systems. The organic systems were equally profitable to the conventional systems when no organic premium was included, and more profitable with a premium (Porter et al. 2006).

Stepped up research is needed on farming systems based on resource conserving crop rotations and integrated crop and livestock operations, and sustainably managed fruits and vegetables. Food production needs to be maintained or increased while making sure such systems are resilient in the face of drought and excess rainfall, warming temperatures, increasing atmospheric carbon dioxide levels and related impacts. The Rodale Institute has developed a system that uses cover crops and a roller to create weed-suppressing soil-saving mulch in organic fields –essentially organic no-till (Hepperly et al. 2008). That may help boost organic yields in wet spring periods.

The government will need to track the impacts on low income Americans to be able to properly ameliorate the increased costs of GHG reduction.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Investment of some of the proceeds from sale of allowances in energy efficiency, green jobs in sustainable agriculture and community-based food and energy systems could provide new job opportunities in rural and urban areas. Paltsev et al. (2008) and Metcalf

and Reilly (2008) found that the revenues from auctioned allowances could be used to relieve the burden on lower income households (and by extension small and mid-sized farms).

LSP encourages investments of revenue from sale of allowances and/or carbon taxes in significantly expanded research on sustainable farming systems, rural job creation through development of community-based food and energy value chains, expanded public transportation and high speed internet links, and rebates or other approaches to care for lower income people who can not manage the increased costs related to GHG reductions throughout the economy. Some of those rebates may need to be specifically targeted to food assistance programs for the purchase of high quality food.

Changing food habits may reduce health care costs over time. Clancy (2007a,b) points to possible links between improved human health and healthful fats in grass-fed cattle and pasture-raised hogs and poultry.

Income to farmers and ranchers may be able to be maintained or improved by shifting from high production to production of high quality food without antibiotic or pesticide residues.

Indeed for many years the certified organic marketplace has been the fastest growing segment of the food marketplace. That is backed up by other consumer surveys and that show a significant portion of the population is willing to pay more for healthful food grown with high levels of stewardship and that supports family farmers. For example Welle (2001) conducted a random statewide mail survey in Minnesota to learn if and what people were willing to pay per household for reductions of 50% in soil erosion, 25% in small to moderate flooding, and 20% in GHG, and a 50% increase in wildlife habitat. On average, the 394 respondents indicated they were willing to pay $201 annually per household above what they already paid for agriculture and food programs through their taxes.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

A level playing field in agriculture created by not continuing to subsidize energy inefficient industrial farming systems and associated input supply and marketing businesses. New businesses will arise to take the place of those that can not adapt to significantly reducing GHG emissions and sequestering carbon for the long term.

With regard to employees of those businesses it might be helpful to offer educational retraining, e.g., in sustainable agriculture, solar or wind power engineering, community-based food value chain development and engineering, etc. See our recent report Industrial Livestock at the Taxpayer Trough: How Large Hog and Dairy Operations are Subsidized by the Environmental Quality Incentives Program (December 2008).

Change
Programs to assist rural community development and whole systems research that integrate ecological, economic and social considerations and integrated crop and livestock and organic systems should be expanded in USDA. Community assistance programs such as Beginning Farmer and Rancher Development Program , Value-Added Producer Grant Program and micro-enterprise loans that support value-chain development should be significantly expanded. Research on small institutional or community-scale energy systems that utilize cellulosic biofuels from deep-rooted perennial crops could be quite helpful.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Public lands must be used to sequester carbon whenever possible and reduce GHG emissions. They should be retained or planted to deeply rooted perennial cover through mixed species grasses, forests or wetlands. McLauchlan et al. 2006 estimated that establishing perennial grasslands can increase soil organic carbon to levels of unplowed prairie in 55 to 75 years. Public lands can also be used for high quality management intensive rotational grazing and possibly mixed species perennial biomass production.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Prices should be allowed to go up or down according to market forces within the context of a well regulated cap-and-trade program. There will likely need to be decreasing GHG caps over the years.)

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

No comment. See MIT and Union of Concerned Scientists for analyses

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

Mandated caps for large industrial crop and large CAFO operations were discussed above. Compliance offsets should be tightly controlled as mentioned above to induce GHG reduction in those operations.

Other agricultural producers that adopt farming systems that reduce GHG used in production and store carbon over the long-term should be encouraged to participate in the compliance offsets and also voluntary offsets.

Land Stewardship Project (LSP) believes that GHG offsets from agriculture should be analyzed as part of the potential ecosystem services they provide in a given geographic area--a multiple benefits approach. Key ecosystem services that might make a given GHG credit worth more in a given area include reduced N use, reduced P use, increased water storage, native biological diversity enhancement or protection, and decreased direct fossil fuel use. See Boody et al. 2005 for a fuller discussion of this approach.

A GHG program should move over time toward a performance based system. Payments would be linked to realized or predicted results. Such a program could (1) improve environmental consequences of conservation practices, as well as their cost-effectiveness, (2) provide a foundation for both green payment programs and non-point source trading programs, and (3) maintain farmer options for participation.

Keeney and Boody (2005) proposed the following components of a performance based system:
- A baseline must be established at some reasonable point of time.

- Payments That Are Fair To Taxpayers and Farmers
If farmers are reducing the number of marketable products they can sell while they increase the number of public benefits, then compensation should reflect that exchange. As new private markets develop it is an appropriate government role to assure those markets are verifiable, quantifiable, enforceable and have an equitable price structure for small and moderate sized farms and avoid unintended impacts that concentrate farm ownership.

- Continuous Progress
Standards such as those promulgated by the Food Alliance are based on the idea of continuous progress. Similarly, performance systems need to be created in a context where farmers, their technical and financial advisors, researchers, agency staff and the community work together to redefine acceptable outcomes as we learn more. It may be premature to provide blanket protection from further regulations, which implies that we have found long-term solutions to given problems, despite rapidly changing circumstances. Yet, it is important to acknowledge good faith efforts.

- Assurance of Improvements and Continuing Performance
Agro-ecological and social systems are dynamic. Farmers need flexibility to adjust to changing circumstances. However, benefits such as carbon sequestration in soil can be lost if practices are not continuously maintained. That has to be taken into account in the program design.

- Graduated Payments Commensurate With GHG and other Multiple Benefits
The higher the public good provided for GHG reduction along with other environmental co-benefits the greater the payment should be.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

UCS proposes that voluntary offsets should not be limited. If farmers adopt pasture-based systems or resource conserving crop rotations that at a minimum reduce off-farm N purchases and GHG emissions, and those systems are documented and maintained, they could be paid for contributing to reductions. The equivalent value of those voluntary offsets in terms of GHG or carbon sequestration would then be removed from the pool of allowances available to capped entities (See Cleetus 2008).

Compliance offsets should be limited in order to induce GHG reduction in the operations that already have high GHG emissions.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

LSP believes we need to keep working farmland working. We favor keeping offsets for small and medium sized farmers that adopt resource conserving crop rotations, organic systems, management intensive rotational grazing systems with perennial pastures, integrated systems with diversified crops and livestock on the land, conversion of annual row crops to mixed species perennials in sensitive areas for biomass energy production, agroforestry systems and adoption of continuous living cover in annual crops.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Criteria

1. The systems reduce GHG emissions or reliably store carbon over the long-term based on quantified estimates. Information should be based on valid studies that verify and monitor changes over time on-farms or at nearby experimental sites.
1.a. Conversion of annual crops to perennials or continuous living cover does sequester carbon.
A recent study by University of Minnesota scientists reviewed the literature to estimate the potential for carbon sequestration by different changed land uses to address Minnesota's official goals of reducing greenhouse gases by 80% by 2050 (Anderson et al. 2008). Converting cropland to forests and grasslands was estimated to lead to high levels of carbon sequestration (rates of > 0.9 Mg C ha-1 yr-1). Conversion of annual crops to perennial grassland was estimated to increase soil C by mean rates of 0.99 Mg C ha-1 yr-1. The study concluded that no-tilling row crops did not reliably sequester carbon, but that adding cover crops into rows did at a mean rate of 0.49 Mg C ha-1 yr-1. They determined that the conversion of row crops to pasture/hayland increased soil C by a mean rate of 0.25 Mg C ha-1 yr-1. However, Conant et al. (2003) found that RG led to the greatest soil C content among different management intensive rotational grazing (MIRG) grazing treatments in Virginia, averaging 0.41 Mg C ha-1 yr-1 and substantially higher rates of as much as 2.9 Mg C ha-1 year-1 on new pastures.

1.b. High levels of added fertilizer N should be reduced to reduce carbon loss from the soil in cropping systems and reduce nitrogen oxide gas emissions.
A long-term study by University of Illinois scientists followed soil carbon in corn-corn, corn-oats (followed by corn-soybeans starting in 1967) and corn-oats-hay rotations over 100 years beginning in 1904. They found that despite massive inputs of residue carbon (ranging from 81 to 277 Mg C ha-1 yr-1) and high NPK fertilizer rates over 40-50 years there had been a net decrease in soil organic carbon in all rotations between 1955 (or 1967 for the previously corn-oats rotation) and 2005. On the other hand, the corn-oats and corn-oats-hay rotations with added manure, rock phosphate and limestone fertilizers prior to 1967 or 1955, respectively, increased soil C in the plow layers up until high NPK fertilizers were used (Kahn et al. 2007). De Gryze et al. (2009) modeled alternative management systems for GHG and carbon sequestration in California and compared the results to monitoring. They found that alternative systems with cover crops and manure instead of fertilizer performed well in reducing GHG and increasing SOC in both predicted and modeled situations.

1.c. Tillage by itself is not a good measure for carbon sequestration
Some believe that widespread adoption of conservation tillage within United States could sequester a lot of carbon. However, Baker et al. (2007) noted that many estimates of carbon sequestration from no-tillage systems were based on shallow sampling. In studies with deeper sampling (> 30cm) the majority of studies they reported on found similar levels of soil organic carbon in no-till and conventional tillage systems. The authors believe there is not compelling evidence for carbon sequestration in reduced tillage systems.

2. Quantify when possible or qualitatively analyze impacts on other ecosystem services to related to local or downstream ecological goals preserve the ability of the land to produce for generations into the future. See Boody et al. (2005) and Santelmann et al. (2004) for

examples. A GHG program should not make it more difficult to address total maximum daily loads, regional conservation plans, clean air standards or maintain existing wetlands, prairie or pastures.

18) What should be the criteria for assessing offset projects?

Please respond in 300 words or less.

The following chart offers a set of criteria for assessing offset projects that could be modified to include locally important criteria and regionally appropriate studies. In this approach criteria should include at least a medium confidence in the mean and a high certainty that carbon sequestration is greater than zero and that fuel use and GHG reduction is greater than zero. The analysis and table below is adapted from Anderson et al. (2008) in a report submitted the Minnesota Department of Natural Resources to the Minnesota Legislature called: "The Potential for Terrestrial Carbon Sequestration in Minnesota" (described above).

The best projects will also be those that provide mostly moderate or high additional ecological functions for a given area.

Carbon and GHG benefits						Environmental co-benefits			
Land use/cover change	GHG Emission ↓	Fuel use ↓	Soil C seq. rate Mt/ac/yr	Level of Certainty In C Seq. Mean	>0	Soil loss qual. ↓	Inputs ↓	Habitat ↑	H20 ↑
Annual row crops to pasture/hay	+/- + or >for MIRG	++	0.1	High	High	+++	+++	++	++
Annual row crops to perennial grassland	+++	+++	0.4	Low	High	+++	+++	+++	+++
Annual row crops to agroforestry	+++	++	1.5	High	Very High	++	++	++	+++
Prairie pothole (wetland) restoration	+/-	+++	1.2	Low	High	+++	+++	+++	+++
Cover crops in annuals	+	+/-	0.2	Medium	High	++	++	+/-	=

Conventional to conservation till	+/-	+	0.1	Low	Very low	++	++	-	=

Legend Symbols refer to comparison of multiple benefits for each land use with previous practices: +++ High ++ Moderate + Low = No Difference - Decrease.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

A new approach to landowner compensation based on performance-based conservation payments requires several components.
1. It requires an explicit goal or outcome by which to measure performance against for the program and a specific allowance or offset.
2. Indicators of GHG reduction or carbon storage are needed. Casey and Boody (2006) noted that measuring the performance of a program is different than measuring and outcome. A GHG program should move toward performance based systems for achieving stated environmental goals.
2.a. One proxy indicator that is particularly relevant to GHG reduction and carbon sequestration is the amount of continuous living cover, along with records of fossil fuel-based inputs used (Glover 2003, Cox et al. 2006) The cost of indicator generation will be lower than conducting periodic biological surveys or using process models.
2.b. The second general type of indicator is the output from "process models". Process models usually take on-farm land management and production practices, and then "predict" soil parameters, pollutant loss from the system. It is critical to have correct inputs or assumptions for the process models that are predicting GHG or carbon storage in agricultural systems. Boody et al. 2005 made several adjustments to the Agricultural Drainage and Pesticide Transfer water quality model to accurately estimate the effects of management intensive rotational grazing systems that maintain high canopy cover in pastures.
2.c. The results of the environmental processes models must be verified. For example recent soil carbon studies that have shown that in soils under no-till, SOC gains from no-till that are based only on near-surface samples disappear when deeper samples are also included (Baker et al 2006). However process models usually predict high SOC under no-till.
3. On farm observation and citizen science can be helpful. Organic certification, Conservation Stewardship Program application requirements, and the Monitoring Team (2001) suggest possibilities.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

More than likely it will have to be some combination of both that varies by area of the country and depending on the availability of new tools. Minimum standards for entry will likely be necessary. However a GHG program needs to be more adaptable than a strictly standards approach might allow.

Project based approaches might utilize on-farm prediction tools.

The Soil Management Assessment Framework (SMAF) could be developed to give a robust analysis of GHG implications. It is a tool that land managers, conservationists, and producers could use to better understand the multiple interactive effects that their soil management decisions are having on the resource. It examines biological, chemical, and physical data independently or when combined. The goal of the SMAF model is to improve soil assessment efforts by evaluating the impact of soil management practices on soil function. This tool allows researchers to continually update and refine the interpretations for many soils, climates, and land use practices, thereby making it more conducive for use as an indicator on which to base a performance-based payments. Soil carbon storage and GHG emissions are a function of soil quality, including biological life in the soil and soil management including inputs, crops, tillage, and water. The SMAF has been implemented as part of the Conservation Effects Assessment Project (CEAP). Combining the SMAF and a CEAP survey approach appears to be a successful method for identifying soil quality risks at the watershed scale. (Andrews et al 2004).

Currently NRCS uses a number of tools to analyze farm applications to the Conservation Stewardship Program. For example the Soil Conditioning Index (SCI) predicts the effect of cropping systems and tillage practices on Organic Matter (OM). One significant drawback with the SCI is that it undervalues organic farming by focusing only on tillage. The SCI is currently used is an applicant screening tool and is not yet employed as an indicator to measure performance.

Public on-farm participatory research is needed to the adaptive management of a GHG trading or carbon tax program.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

As mentioned earlier, a cap-and-trade program should be designed to encourage the voluntary renewable energy market and GHG reduction market. For instance, if individuals or businesses voluntarily install solar panels or other renewable energy systems on their property, or adopt sustainable agriculture systems such as resource conserving crop rotations, organic systems, grass-fed livestock raised outside, pasture raised hogs or poultry operations with minimal or no mechanical ventilation in structures, or organic high tunnel production, then amounts representing equivalent emissions reduced through these projects

should be removed from the entire pool of allowances available to capped entities. This in effect, lowers the total emissions cap and spurs further investment in clean energy and lower energy use agricultural and food system technologies.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Agricultural GHG emissions can be curbed by increasing soil organic carbon, decreasing nitrous oxides and methane emissions and decreasing fuel use by field equipment and livestock housing.

Fang and Easter (2003) found that longer-term practices (10-20 years) were more effective than short-term annual practices for predictable P reductions that could be used in trading. Certainly that will be even more critical in the case of GHG and carbon storage for the purposes of permanently reducing global warming potential. Grass-based livestock and organic production, and conversion to other perennials are generally long-term investments that can maintain production over time (Cox et al. 2006). Carbon storage from reduced tillage and cover crops, however, is reversible when the soil is plowed again (De Gryze et al. 2009). In any soil system there will also be a limit to how much carbon can be stored and that will have to be considered as well.

De Gryze et al. 2009 pointed out that reduction of nitrous oxides through reductions in nitrogen applications are avoided emissions from that period and are therefore permanent. Resource conserving crop rotations, organic production systems and pasture-based systems could reduce GHG emissions compared to conventional approaches (Pimentel et al. 2005 and Boody et al. 2005, 2009). Fossil fuel use, despite additional tillage in organic systems, can nevertheless be reduced (Pimentel et al. 2005).

Durability. A farmer should be allowed to swap equivalent practices from one field to another on the same farm as long as equivalent amounts of GHG reductions or carbon storage is maintained. Also a farmer could perhaps be part of a county level or coop structure that would guarantee the pledged units for the pledged period of time even though those practices might shift from farm to farm. This could be for a reduced "rental" contract for the given duration.

Paying farmers to maintain existing perennial cropping systems makes sense because the lower GHG emissions continue as long as the system is in place.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Existing voluntary programs such as the CXC will need to be scrutinized on a case by case basis to determine if they meet regulatory program guidelines. For example those being paid through these markets for carbon sequestration from no-till practices may not have been sequestering much carbon, according to Anderson et al. (2008), Baker et al. (2007) and others. It will be important to review each program with a system similar to Anderson et al. 2008 with both quantitative and qualitative indicators where only high confidence that the means are greater than zero and those with significant added multiple benefits are used in this program. See table above
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24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

A program could be patterned after the Conservation Stewardship Program with the following features:
- A producer would need to meet a stewardship threshold for GHG, carbon and possibly other natural resources. This threshold could be set by Natural Resources Conservation Service for improving the long-term sustainability of the natural resources on the farm and in a given locale.
- A plan for additional conservation above the entry level could be part of the "additionality" for at least the length of the contract. For example a pasture-based operation could add species into the pasture or otherwise improve its ability to add to the carbon storage.
- Payments for a high level of stewardship such as resource conserving crop rotations, pasture-based livestock systems (for cattle and other species to the degree that grasses can make up all or part of the diet) should receive the highest payments of the program. A resource conserving crop rotation is a system that reduces erosion, improves soil fertility and tilth, interrupts pest cycles, reduces depletion of soil moisture and the need for irrigation in some regions and includes at least one resource conserving crop such as hay or alfalfa. Reducing GHG and increasing the potential for carbon storage could be added for the purposes of this program.

It is important, despite the need for additionality, to reward existing performance of those who are committed to high levels of stewardship. Protecting existing high functioning systems has to be a priority so that the principle of additionality does not cause the public to have to pay instead for reclaiming recently added GHG gases that could have otherwise been maintained if a perennial system were maintained. Payments would help farmers address forgone income for maintaining a systems or set of practices that if changed to more intensive production could fetch more income from commodity markets.

The CSP approach begins to address stacking credits by including multiple resources of concern in the program. Farmers should be allowed get additional payments if practices for GHG reduction also produce wildlife habitat or protect water quality, etc., or vice versa.

In addition to the CSP, the Minnesota based Reinvest in Minnesota-Clean Energy payment structure might provide another model. While based on the number of species in the following such an approach could be patterned after the number and amounts of GHG emissions that are reduced + the added carbon sequestration potential +other benefits.

EMV	Payments for a 20-yr Easement Based on estimated market value (EMV)
80%	Base payment – one native/cultivar grass or woody species
+5%	Second species
+3%	Third species
+2%	Fourth species
+5%	Diverse prairie of >15 species
Up to +10%	Additional local factors if two or more species planted

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

If the federal government paid a cost-share for the implementation of a farming system or set of practices, a farmer might also be eligible for GHG or carbon storage payments if they keep maintaining a practice or add additional GHG reductions.

Those that put in a practice on their own after a certain baseline period should be eligible on the same principle.

If a state based program did not pay for carbon or GHG then an additional payment should be allowed.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

If producers sign up for the program or have to reduce carbon, it is important that they follow through with needed reductions or carbon storage. As mentioned above we believe a farmer should be allowed to swap equivalent practices from one field to another on the same farm or with other collaborating farmers as long as equivalent amounts of reductions or carbon storage is maintained.

If those practices are not able to be maintained and produce the anticipated reduction levels, there should be a cost to the farmer or operation related to the value of the promised offset. If appropriate farmers could be given an opportunity to repay the cost through additional reductions.

Disaster payments in relation to GHG could have unintended impacts. Farming systems that are based on monoculture crops or large CAFOS should not receive disaster payments year after year if the inherent weaknesses in these industrial systems are not also addressed and changed. Ongoing or periodic disaster payments of this kind could block changes leading to reduced GHG and decreased carbon sequestration.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

If too many protocols or procedures are detailed in the legislation, that possibility to create a program that can be managed adaptively to respond to new information and real time effects on GHG and social and economic impacts is less likely.

The cap-and-trade or carbon tax program must itself be adaptively managed to integrate new scientifically derived information about what works or does not work on the land in relation to changing weather and other conditions so that it is able to effectively GHG or store carbon from agriculture on a long-term basis

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

Training, technical assistance and incentives (or the removal of disincentives) are crucial. LSP believes the Beginning Farmer and Rancher Development Program is an example of a program that can help incoming farmers plan for low GHG emission farming.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

Present U.S. conservation programs operate within the much larger system of income- and commodity-support programs focused on maximizing production. The current commodity support system works against expanded sustainable grass farming by creating a risk management system with price supports, insurance, and the related research and market subsidies for only selected annual crops (GAO 2007). For example, from 1983 to 1997, 0.68 Mha in South Dakota were enrolled in CRP while 0.74 Mha were converted from grassland to cropland. Paying farmers who recently intensified production before the new GHG program to then reduce those emissions does not make sense for taxpayers.

To move toward sustainable agriculture and low GHG emissions from agriculture, "joined up" policy will be needed. Joined-up policy refers to agriculture policy that supports public goods, does not distort markets treats all farmers (small or large) equitably and where income support for farmers does not overwhelm conservation-oriented program goals. Rather than supporting commodity production, government policy could be changed to support agricultural diversification to enhance nonmarket ecosystem services. Farm programs should be fundamentally reformed to reward farmers for environmental benefits, provide appropriate safety nets for farmers, and offer incentives to help restore vibrancy and diversity to the working landscape and rural community economies. These policies could integrate across ecological, food, and energy goals to develop a more holistic program to deliver the multiple benefits of agriculture.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Renewable energy that involves farmers and rural landowners, either in direct production of energy on the land, as with wind turbines, or in the growing of crops to produce

energy, or in the disposition of animal wastes from livestock must be sustainable. LSP therefore supports the following principles:
-Conservation and energy efficiency should be the keystones of all U.S. energy policy.
- Wind, solar and plant-based biomass should be given priority as sources of renewable energy through incentives for research and development.
- Plant-based biomass systems for energy production should provide the environmental benefits of sustainable agriculture. Key considerations should be given to
    - the diversity of native perennial species integrated into rotation systems,
    - the siting of perennial biomass systems on highly erodible lands,
    - protection of soil, water and biodiversity.
- Animal-based biomass should be governed by the highest sustainable use principle, ensuring net environmental benefits and safeguarding animal, human and community health.
- Renewable energy systems should be locally controlled and address the economic needs of rural communities and family farmers.

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Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Management intensive rotational grazing--including organic (manure and land mgmt)	Good to Excellent	Good	Low capital cost	Medium with assistance
Hoop house/pasture hog production (manure)	Good	Good	Low capital cost	Medium with assistance
Continuous grazing	Moderate	Moderate	Low capital cost	High
Large CAFO with digester (manure mgmt only)	Good	Good	High capital and operating	Low

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Resource conserving crop rotations	Good	Excellent	Low	High with training
Organic crop production	Excellent	Excellent	Medium	Medium with training
Conversion to multi-species perennial biomass	Excellent	Good	High	Low
Adding cover crops to annuals	Moderate	Moderate	Medium	Medium

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
LANGE-STEGMANN COMPANY
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Michael D. Stegmann

Organization(s) you represent

Lange-Stegmann Company

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

President; Lange-Stegmann Company is a fertilizer wholesale distributor, selling fertilizer for agricultural applications within a 150 mile radius of the City of St. Louis.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

The United States Congress cannot unilaterally enact any legislation regarding carbon taxes/fees or a cap and trade program and expect to reduce overall greenhouse gas emissions. Industry will follow the path of least resistance and relocate where regulations are least. What ever type of legislation is passed it must be similar to that passed and enforced in any country or region. The playing field must be level. It must be recognized that a ton of greenhouse gas emissions has the same affect no matter where on this earth it is generated.
The goal of any legislation should be the reduction of greenhouse gas emissions with least harm to any economy. Legislation should be based on incentives encouraging conservation and reduction in greenhouse gas emissions through tax credits. It must be recognized that additional costs associated with a carbon tax or cap and trade system will be borne by the consumer.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Agricultural and forestry sectors should remain outside of the covered economy – so that they are not required to buy emissions allowances – but to encourage them to reduce their GHG emissions by making them eligible for an offset program provided that the technical and scientific issues surrounding measuring reductions can be resolved. Under such a program, a farmer can receive saleable offset allowances if he or she is able to isolate and measure emissions from a particular source on the farm (e.g., livestock, manure), and then institute a practice that reduces those particular emissions in a measurable, verifiable and non-reversible way. An offset program can produce significant reductions in agricultural and forestry emissions even though those sectors are outside the covered economy and are not part of the cap-and-trade system. See response no. 14, below.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

A cap-and-trade program will involve considerable complexity. It will be important not to add to that complexity in the allowance allocation process. Accordingly, the available emissions allowances for a given year should be allocated in just two steps: (1) industries that are eligible for transition assistance because they sell energy-intensive commodity products in a global market should receive a sufficient number of no-cost allowances to shield them from the net incremental costs of the cap-and-trade program (see response no. 10); and (2) the remaining allowances for a given year should be sold at an auction in which each covered entity is allowed to bid for a number of allowances no greater than the number required to cover its own emissions in the prior year. A single market-clearing price will be established, and all of the auctioned allowances will sell at that price. No speculators will be permitted to participate in the auction, and no covered entity will be permitted to buy an excess quantity with the intention of trading.

This allocation system will limit complexity and reduce opportunities for fraud and profiteering. It will provide emissions allowances to those who need them for compliance purposes. It will assure that 100% of auction revenues flow to the U. S. Treasury. And it will lead to an open debate on the use of auction proceeds. If Congress wishes to use those proceeds to assist low-income consumers or sponsor low-carbon energy projects, it will remain free to do so – but the financing will occur in the normal appropriations process. This is far more honest and straightforward than providing those groups with their own separate allocation of saleable emissions allowances.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

Any federal program should include language that specifically preempts all other state or regional GHG emissions programs in the United States. Entities should not have to separately monitor and comply with additional state and regional programs.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Please respond in 300 words or less.

The U.S. Environmental Protection Agency may be best-suited to the task of insuring that covered entities have the required number of allowances by annual deadlines; however, the EPA has no particular expertise in allocating emissions allowances, conducting auctions, or regulating the subsequent commerce in those allowances. It is not clear that any existing federal agency has this expertise. It will be necessary to build this expertise in some new or existing agency, whether it is the EPA, the Federal Energy Regulatory Commission (FERC), or the Commodities Futures Trading Commission (CFTC).

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

Yes. Enactment of a carbon reduction program of any kind will produce significant increases in costs for the farm community. To take just one example, a $30 per ton charge for CO2 would translate directly into a $49 increase in the production cost of nitrogen fertilizer (see response no. 10). But even apart from the potential impact on the price of fertilizer, the program also will directly increase the price of gasoline and diesel fuel used in farm machinery, natural gas used for drying and heating, and electricity used throughout the farm – as well as the price of propane, heating oil and any other fossil fuel that may be used. These direct impacts are in addition to the many indirect impacts that will certainly occur, as manufacturers of farm supplies and equipment attempt to pass through their own cost increases. In short, a carbon tax or cap-and-trade program will impose a heavy burden on the farm community.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Any carbon reduction program will operate as a tax on the economy. When a "covered entity" pays the government for an "emissions allowance" that entitles it to emit one ton

of CO2, it is paying a tax to the government – regardless of whether people wish to use that terminology or not. All of the revenues received by the government from a carbon tax or cap-and-trade program will be in addition to normal tax revenues. Accordingly, the government should use these new revenues to reduce other taxes, so that the overall tax burden on the economy does not increase. This means that the government should not keep and spend the new revenues, but it should continue its existing support of energy efficiency programs, renewable energy, CCS technology and smart-grid development, insofar as these programs are financed from existing tax revenues.

In considering which taxes to reduce, the government should determine who has borne the greatest burden from its carbon reduction program. As a general rule, this group will consist of those fossil fuel end users who do not have the ability to pass increased costs along to a downstream customer – in other words, either individual consumers or manufacturers of energy-intensive commodities whose price is determined in a global market. These persons and businesses may need assistance in the form of reduced taxes or some other transitional assistance.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

Yes. Energy-intensive industries that sell commodity products in a global market will suffer a severe impact. These industries – iron, steel, aluminum, fertilizer, cement, glass and certain basic chemicals -- will incur dramatically increased costs (through either a carbon tax or an emissions allowance requirement), but they will have no ability to pass these costs through to their customers. The price of their products is set in an international market, characterized by competitors from countries without comparable climate change regimes. If domestic manufacturers are saddled with an additional cost disadvantage, they will face pressure to either close their operations or move them abroad. In either case, the domestic production will be replaced by imports from other countries, and there will be no net reduction in global GHG emissions.

Nitrogen fertilizer is an example of the problem. The basic building block of all nitrogen fertilizers is ammonia (NH3), which is produced in a chemical reaction involving nitrogen from the air and hydrogen from the methane (natural gas) molecule (CH4). Because natural gas is used as the essential chemical feedstock in the process, it represents an enormous share of the overall production cost – somewhere between 70% and 90%, depending on the current gas price. Policies that increase the domestic price of natural gas therefore produce a significant impact on domestic nitrogen fertilizer manufacturers. However, these manufacturers have no ability to pass their increased costs to their customers, because they face competition from international suppliers who do not face similar costs. The U.S. currently imports approximately 55% of its nitrogen fertilizer needs, and 82.7% of these imports come from countries with no climate change policies.

Transition assistance is necessary to level the playing field. Using a combination of tax rebates, grants and/or no-cost emissions allowances, Congress should ensure that energy-intensive commodity industries do not incur a cost disadvantage that could force them to move or shut-down. The amount of assistance should equal the net incremental

costs that are attributable to climate change policy, including (1) the additional costs associated with the increasing price of electricity; and (2) the direct costs incurred in paying carbon taxes or purchasing allowances related to fossil fuel use. If assistance is not provided and U.S. fertilizer manufacturing is reduced as a consequence, additional imports will become necessary to fill the deficit – increasing GHG emissions from the U.S. transportation sector and displacing U.S. jobs.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

Custodians of public lands (such as the Bureau of Land Management, the U.S. Forest Service and the U.S. Department of the Interior) should agree to receive proposals from those who wish to develop offset projects on those lands (see response no. 14, below). If the proposals survive an appropriate review and comment period, the project developer should be permitted to proceed with the project, while sharing any offset allowances with the federal government. This will provide the government with another opportunity to earn revenue from public lands. In addition, it will allow the government to hear important ideas on reducing the emissions from forest fires, decaying wood and other problems that occur on those lands.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

A danger associated with a cap-and-trade system is that the economy-wide caps will be set too low, with too few emissions allowances available in the annual auctions, so that allowance prices begin to skyrocket toward ruinous levels that force American businesses to shut-down or move abroad. To address this danger, some of the early cap-and-trade bills contained a "safety-valve", which assured that covered entities could pay a fixed price per ton of CO2 equivalent ($25-$30 per ton) in the event that the price of emissions allowances soared above this level. These "safety-valve" provisions are very important to the continued health and growth of American industry, and they should become a part of any cap-and-trade program.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

The European experience is that cap-and-trade programs are enormously complex endeavors that do not always produce the desired results. Problems with the allocation of emissions allowances caused the price and value of those allowances to precipitously decline, and there is now a serious question as to whether the program has actually

produced any reduction in GHG emissions. It is likely these exact same problems would reoccur in the United States, the European experience does confirm – once again – how difficult it is to predict the behavior of complex systems. This serves as yet another argument for a simple carbon tax.

If Congress decided to proceed with a cap-and-trade approach, the European experience would have value in one other way -- by illustrating the importance of a staggered implementation schedule. Because unexpected issues and problems always emerge during the implementation of complex systems, it makes sense to provide a schedule for periodic review and modification prior to full-scale implementation. The EU had the foresight to do this, and they now hope to correct the deficiencies of their original program.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

In considering activities that should earn offset allowances, Congress should focus on farm and forestry projects which can reduce, sequester or avoid GHG emissions without reducing U.S. cropland or food supply. These areas include the following: (1) livestock and manure management; (2) forestation of acreage other than existing croplands; (3) practices that increase the efficiency of fertilizer use; and (4) projects to plant grasses, perennial vegetation, or establish wetlands on reclaimed surface mines. At the same time, Congress should not award offset allowances to projects that take croplands out of service or reduce crop yields by curtailing fertilizer use. Both the U. S. and the world need a secure food supply, and U.S. climate policy should not get in the way of that goal.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

No. As long as the offsets are scientifically-verified and professionally-audited, there should be no limit on the number issued. The purpose of climate change legislation is to reduce GHG emissions – and if offsets are actually doing that, then there is no logical reason to limit their number. Moreover, as successful offset projects come on stream and receive offset allowances from the government, the project developers can sell those allowances into the market as an alternative to the government-issued "emissions

allowances". This will help reduce prices and limit the overall cost of the climate change program.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

There should be no need for any prioritization. All eligible and qualified projects should receive them. In the event that some limit was required, projects from the agricultural sector should have the very highest priority, as this is the best way to secure reductions in GHG emissions from the sector (see response no. 2).

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Quantification should be done by USDA under protocols approved by the USEPA. Verification and monitoring should be done by 3rd party aggrigators.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

The offset projects must be real and verifiable.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Congress should allow USDA and the USEPA to design a system for verifying offset projects.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Congress should allow USDA and the USEPA to establish a standards-based approach with pre-calculated values or a project based approach that measures field results for establishing eligible offsets under the program.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

The offsets and allowances should be equal; one carbon offset should be tradable for one carbon allowance. In addition all greenhouse gas emissions should be convertible to carbon offset equivalents and should be tradable in a similar manner; one methane (CH4) allowance equals 15 carbon dioxide (CO2) offsets and one nitrous oxide allowance (N2O) equals 310 carbon dioxide (CO2) offsets.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

The recognition that each activity, practice or offset project may have a different length of time for permanence. Flexibility may not be an option, unless a natural disaster or act of God occurs to destroy the benefits of the activity, practice or offset project.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Existing projects must meet standards of the regulatory agency(ies).

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Landowners should be allowed to stack credits. As to additionality, those landowners are not looking for credit for what they have done in the past, but in the future. A landowner currently using a conservation practice such as continuous no-till should be able to participate in a carbon sequestration as his/her practice will continue to sequester carbon. After all the goal is reduce greenhouse gas emissions to the environment.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Regardless of the funding source, there should be no difference in the manner in which activities are treated. The goal is to sequester or reduce greenhouse gas emissions so it should not matter if an activity or practices was specifically implemented to reduce greenhouse gases in the environment. If it reduces or sequesters greenhouse gas emissions it should be credited accordingly.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

A producer should be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions. In the event of a natural disaster or act of God liability should be waived.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Legislation would be too cumbersome. USDA and the USEPA should have the authority to develop offset program protocols and procedures.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Agricultural producers and landowners are not always the same people. It will take communication between involved parties who at times may be separated by thousands of miles, come from different cultures and may not be familiar with agriculture or new technologies. All parties are going to have to have an equal amount of interest to succeed.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Yes, the budgetary priority might not be high enough to provide meaningful assistance to all those wanting to participate.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Before considering the design of a carbon reduction program, Congress should carefully assess whether a program is necessary or justified. These programs will impose significant additional costs on a struggling U.S. economy, but they may produce few

genuine benefits. Indeed, without coordinated action on an international level, the programs may produce no benefits at all. The costs, however, are very real – and they will fall most heavily on the energy-intensive industries of the U.S., including the nitrogen fertilizer industry. This could threaten the health of the entire agricultural sector and jeopardize its ability to meet the nutritional needs of a growing world population. Accordingly, Congress should proceed with caution as it considers a carbon reduction program, making sure that it protects U. S. agriculture from unwarranted new burdens.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
DANA LIMPERT
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Dana Limpert

Organization(s) you represent

MD DNR Natural Heritage Program

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Ecologist, climate change issues

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?

Please respond in 600 words or less.

My view and preference would be to have a cap-and-trade program instead of a carbon taxes/fees program. The bottom line is that any program enacted must be geared towards changing human behavior of a global audience in order to be truly successful. Taxes are not effective in changing behavior. Taxing cigarettes, for example, has not been successful in getting people to quit smoking or deter future smokers despite health warnings. A cap-and-trade program (provided it's enacted soon enough and is not overly complicated to implement) has the potential to be linked to global carbon markets, which is the most effective way of meeting a global environmental goal at the lowest environmental cost. The legislation must address all major emitter sectors in the structure of this program. Market approaches such as cap-and-trade are also sensitive to economic trends unlike a tax which potentially would have to be cut during hard times. Cap-and-trade with cost containment would also narrow price uncertainty. Finally, the annual auction of the allowances would generate revenues that could be dedicated to public purposes, including the conservation of wildlife and other natural resources damaged or threatened by global warming. Whatever is eventually decided needs to be transparent and not regressive in its impact on lower socioeconomic classes.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

Please respond in 300 words or less.

Agriculture and forestry sectors should be covered under a carbon reduction program in some fashion because they can greatly contribute to carbon sequestration and be compensated for it. However, it would also be important to recognize which management practices are better for carbon sequestration and compensate accordingly. These sectors would be able to take advantage of the alternative energy markets as well. These practices can also dovetail with sustainable, water quality improvement, and wildlife conservation programs.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?

Please respond in 600 words or less.

Auctioning allowances gives reducing emissions a cash value that can be an efficient method of distribution and yields revenue for the government or some other trustee.

Revenue from an allowance auction could be used for a variety of purposes including providing incentives for cleaner technology and energy conservation or to compensate consumers who bear much of the cost of greenhouse gas policy. The value of allowances is thought to be at least four times the cost to society of reducing emissions, suggesting that allowance distribution is a potentially important source of compensation. Allowances should be prioritized according to direct reduction of greenhouse gas emissions. Those entities that don't reduce as much don't get as much allowance. Agriculture and forestry sectors should be treated no differently than homeowners and other businesses and gain allowances solely on their emission versus carbon sequestration ratio.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

Linkages to other carbon reducing programs are helpful as it matters not where the polluters are located. Carbon reduction can be accomplished far more efficiently and quickly if as many global players are engaged and participating as possible, especially because cost of reduction differs among countries. It is more expensive for the US to reduce emissions than China for example. If programs are compatible, they should be linked.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Please respond in 300 words or less.

Ultimately, a new agency should be created with representatives from the countries actively involved in reduction of global emissions. That way the politics of any one nation cannot influence the decisions made by the agency without the consent of the majority. But, in the context of US legislation, there should be a new agency on Sustainability that would encompass climate change science as well as being in charge of administering the cap and trade program.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

With proper oversight and supervision, the Commodity Futures Trading Commission (CFTC) would be better suited than the Federal Energy Regulatory Commission (FERC) as it already deals with overseeing commodity markets and some carbon markets already. The head of FERC has been quoted as being "less than enthusiastic" about taking on the responsibility of carbon markets which potentially could become the largest commodity market in the world.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

Based on the way this question is worded, I would opt for the "highly structured instruments on regulated, transparent future markets accessible to anybody and anyone" and leave it at that. "B" and "C" type markets are what got us into the current credit problems.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

There will be negative impacts unless there are alternatives in place that are cost-effective and cannot result in regressive hardships in conjunction with the development of any cap-and-trade carbon reduction program. Incentives can go a long way to changing behavior especially if it is more cost-effective to reduce emissions, sequester carbon, and to increase energy efficiency overall.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

The revenue generated would be best used to direct conservation efforts towards those habitats that have been negatively impacted from climate change and global warming, and ensuring that biodiversity conservation and ecological functioning will be maintained or increased in those affected areas. Revenue also needs to be directed towards the development of carbon reduction technologies to replace carbon emitting technologies.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

Those businesses should be given some time to adjust (transitional assistance) but have a hard and fast deadline to adhere to.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

Federal, state, local, and certain NGO lands should be given incentives to change their management if necessary to sequester carbon or reduce greenhouse gas. They should be models of climate change land stewardship and provide education to the private sector. Mature forests sequester far more carbon than forests managed for timber production. Green certification programs of forests such as those encouraged by the USFS are excellent examples of programs which can be implemented at the state level and which would support carbon sequestration.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

I believe the free market works if it is truly free, transparent and open to everyone to participate. It does not work when there are a few that control everything because that results in an unequal distribution of resources. If the system is truly free, then there will be no need to limit carbon prices. If it's not, then there will be a need to set limits.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

The EU ETS is a good example of this type of policy, however, Europe is not the US. Europe is a far more compact system of countries with an excellent public transportation system but a higher reliance on nuclear power plants. Until we have a sufficient means of disposing of nuclear waste, this option is not tenable for the US and has the potential to do far more harm in light of a nuclear accident.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

The only option that would help change behavior would be the agreed upon performance standards for segments of the agriculture and forestry sectors. Voluntary programs are fine but they must be structured so that it would be foolish not to participate.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

I don't see any reason why you would want to limit the total number of offsets as long as they are legitimate.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Offsets should be available to all, especially to those entities that are the biggest provided that their actions warrant the offset.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Everyone who qualifies should get them and should be monitored on a yearly basis to ensure compliance.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

That really depends on the project. However, the criteria should ensure that the offset project truly results in carbon reduction.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

There should be a centralized office that interfaces with other appropriate federal agencies that in turn work with the state and local levels and make use of programs that are already doing verification for compliance of other programs rather than be a stand alone effort.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

It depends on how complex the values can get. A project-based approach that measures field results may make the most sense in the long run because it might be hard to come up with all the standards up front.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

There should be more offsets than allowances and allowances should be reduced over time per entity.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

There should be flexibility built in for unexpected delays, however, the offsets should apply for a year.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

In designing this program, Congress should look at existing programs for the best fits and ease of inclusion. Also what works best and what didn't work would be good to know.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.
Forest landowners should be rewarded for doing the right thing and sequestering carbon. I like the idea of stacking with other environmental activities because there is a direct benefit realized by the practice in addition to other incentives that may already be built into the program.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

The landowners should be recognized in the same way initially and then be included with other programs that do not have a carbon reduction benefit but qualify as a practice.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

The producer should be liable if the fault lies with them. There needs to be consequences, however, a producer should not be held accountable for natural disasters or weather events.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Protocols and procedures should have a framework outlined in legislation with details delegated to the centralized agency that is deemed responsible.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

It really is a matter of changing behavior in how they approach their business. Especially in this economic climate, if these practices result in a better bottom line, they'll do it.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

No. Existing programs seem to reach out to the ones who would implement these programs anyway which would not be enough to meet the target reduction in carbon emissions. Additional financial incentives and assistance would help and provided that the implementation part is doable.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Restoration, afforestation, reforestation activities				
Local wood supplies				
Urban forest areas				
Sustainable Forestry Practices				
Designated Old Growth Areas				

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Local production and consumption				
Conservation of Ag Lands				
Waste management & recycling				

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Local production and consumption				
Biofuels				
Conservation of Ag Lands				

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
LOUIS DREYFUS COMMODITIES

Collin Peterson
Chairman
House Agriculture Committee
Room 1350
Longworth House Office Building
US House of Representatives
Washington, DC 20515

Dear Mr. Chairman

Thank you for the opportunity to comment on global climate change legislation.

Louis Dreyfus Commodities is a world wide merchant and processor of grains, oilseeds, cotton, orange juice, sugar and other commodities with offices and facilities in more than 50 countries. Here in the United States, the company has trading offices in Kansas City Kansas, Memphis Tennessee and Wilton Connecticut; a soybean processing/biodiesel production facility in Claypool Indiana; ethanol production plants in Norfolk Nebraska and Grand Junction, Iowa; export elevators in Seattle Washington, Houston, and Beaumont, Texas; and orange juice processing facilities in Florida.

Louis Dreyfus has a global perspective and supports a global approach to climate change. A unilateral US approach to limiting Green House Gas (GHG) emissions will have negligible impact on global GHG emissions and will only make US agriculture less competitive compared to other major producing countries not subject to similar limitations. So, without cooperation of the major countries of the world, Louis Dreyfus is opposed to the climate change legislation expected to be considered by the Congress.

Climate change legislation is expected to include a "cap and trade" proposal that will act as a major tax on energy as the emission allowances are auctioned, or otherwise sold to the emitters of GHG's. Since US agriculture production tends to be very energy intensive, an energy tax will cause a significant increase in production costs for all segments of US agriculture. The price of farm inputs such as fertilizer, chemicals and fuel will obviously rise, but also nearly all costs beyond the farm gate for marketing, processing, and transporting food, fiber and biofuel products will also increase becaus of higher energy prices Climate change legislation is also expected to offer opportunities for growers and land owners to earn income from sequestering carbon through conservation practices, but because of the impact on input costs, climate change legislation will result in a net loss for US agriculture.

Some sources predict an increase in electricity rates in the Midwestern states of 50%, an increase in costs for nitrogen fertilizer for corn of $60 per acre, and an increase in gasoline of at least $0.35 per gallon. These increased costs from global climate change legislation would come at a particularly difficult time for US agriculture with unprecedented agricultural price volatility and record, or near record input prices. These additional costs will likely result in lower farm income at a time when farm income is already projected to decline from the level of recent years.

Increased input costs coupled with the expected income from sequestering carbon(carbon credits), could make it more profitable for growers and landowners to convert less productive crop land to trees or grasses rather than to grow crops. This converted crop land would be in addition to crop land already retired from crop production in the Conservation Reserve Program. While some would believe this to be good for the environment, it would be bad for US agricultural, particularly for growers wishing to rent land for crop production and for those businesses and employees supplying farm inputs, or marketing, processing, and transporting food, fiber, and biofuels.

Most important, a US only approach on GHG emissions, including a large tax increase on energy, will add costs to US growers, and agribusinesses making the US less competitive--perhaps even uncompetitive in some segments of agriculture. Over time, this will result in less agricultural investment, less agricultural production and less agricultural trade than would otherwise be the case for the United States.

At Louis Dreyfus we really appreciate your interest and your efforts on the issue of global climate change.

Sincerely

David Lyons
Louis Dreyfus Commodities.
[Redacted]

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
JOSHUA D. LOVE
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Joshua D. Love

Organization(s) you represent

Georgia Forestry Commission

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Staff Forester, Georgia Forestry Commission, and Manager of Georgia's Carbon Sequestration Registry

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

If we have legislation regulating carbon then a well-designed cap-and-trade program is the preferable approach. "Well designed" means: (1) the cap is determined through actual emissions data generated through accurate pre-regulation emissions monitoring, (2) penalties for non-compliance are sufficient to incentivize reductions in GHG emissions, and (3) the program includes generous provisions for the use of terrestrial offsets to satisfy regulatory requirements.

A cap on emission that includes sufficient regulatory oversight will provide a metric for evaluating the emissions reductions achieved. Market-based mechanisms will establish the real price of carbon and allocate allowances and offsets in an efficient manner. A carbon tax program would not share these characteristics; regulators would "guess" at the appropriate price for carbon, it would be difficult to measure actual reductions in emissions.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

NO. The agriculture and forestry sectors should not be regulated under any carbon reduction program. EPA data indicates that the agriculture and forestry sectors together are net sinks of carbon dioxide emissions. Covering these sectors under a carbon reduction program would mean regulating the activities of private landowners who are already providing carbon sequestration services. The focus should be on leveraging revenues from carbon reduction programs to provide new incentives for the agriculture and forestry sectors to maintain and enhance the carbon sequestration services that they continue to provide.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

The agriculture and forestry sectors should not be covered under an emissions cap. However, a percentage emissions allowances should be allocated at no cost to these sectors for the purpose of resale to regulated sectors. The revenue generated from the sale of these allowances will provide funding for the agriculture and forestry sectors to implement programs designed to reward landowners for maintaining and enhancing terrestrial carbon stocks.
For regulated economic sectors, allowances should be allocated using a well-designed auction. Regulators should leverage RGGI's auction experiences to reduce expenditures.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

ALL regulatory and market infrastructure that has already been developed through state and regional programs should be utilized whenever possible in order to avoid redundancies and superfluous expenditures. The organizations and individuals responsible for the development and implementation of these state/regional programs represent a tremendous pool of practical knowledge, and any national carbon reduction policy should ensure that these stakeholders are an integral component of national policy development.

From a rule-making perspective, however, each of these programs has unique rules governing the development of offsets from forestry, agriculture, and land-use. These rules often vary from region to region to account for the differences in the culture and biological capabilities of forests and agricultural operations. Accounting for these differences in regions is appropriate and establishing a national and/or universal system of detailed standards may be impractical.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

No comment provided.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

No comment provided.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible

instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

No comment provided.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

No comment provided

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

No comment provided

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

No comment provided

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Local, state, and federal lands should be eligible to generate offsets. The opportunity to generate carbon offsets on public lands could provide new sources of revenue to counties, municipalities, and states.

Carbon sequestered on federal lands could also serve as the "FDIC" for forestry projects undertaken on private lands. For example, a landowner could pay the Forest Service an annual fee and in exchange, the Forest Service would provide insurance against unexpected decreases in the project's carbon stocks. This insurance premium could serve to fund

management activities on federal lands that would result in additional carbon sequestration or avoided emissions.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

No comment provided

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

(1) The US should not preclude any land management activity that is capable of generating additional carbon sequestration.
(2) Domestic offsets should be given priority status over those undertaken in other countries. While carbon reductions can be accomplished by forestry offsets in developing countries, there is certainly a greater risk of reversal in countries outside of US jurisdiction.

(3)

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

U.S. Forest should play a central role in our national climate strategy. America's forests and forest products annually sequester and store 10 percent of all U.S. emissions, and this service could be enhanced through carbon credit incentives. Forest landowners unable to participate in generating carbon credits should not be excluded; non-offset programs should be developed to insure that our nation's forests continue to be a net sink of carbon emissions.
Farmers and forest landowners should not be required to participate in any offset program; nor should they be subject to an emissions cap that would penalize them for changes in

carbon stocks or land use. All participation in a national carbon reduction program by forestry and agriculture should be VOLUNTARY.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

No comment provided.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

The allocation of offset credits should be dictated by the market, not the regulator.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

QUANTIFICATION:
Credible carbon should be measured using a combination of periodic direct measurements and site and species-appropriate growth and yield models. Differences in biological limitations, climatic factors and normal cultural practices between regions should be accounted for by using regional standards developed by regional forestry and agricultural stakeholders. Precision of measurement should not be mandated by regulation; instead, a discount for uncertainty should be applied on a sliding scale. This will allow landowners to maximize value by optimizing the trade-off between quantification cost and measurement uncertainty.
VERIFICATION:
Projects should be verified by a third party on a periodic basis.
MONITORING:
A national database should be established to monitor terrestrial projects and insure that double-counting is avoided.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Differences in biological limitations, climatic factors and normal cultural practices between regions should be accounted for by using regional standards developed by regional forestry and agricultural stakeholders. Baselines should be established using the base year approach internal leakage can be addressed but it is not practical to address external leakage for domestic offsets. Please see Part III for details concerning recommendations.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

A system for verifying offsets should ensure that carbon credits are verified prior registration and sale to an emitter..

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Performance standards work by over-crediting some projects and under-crediting others, with the net result of a quantifiable net benefit to the atmosphere. This approach will only work if all projects are measured in this fashion.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Allowances and offsets should be fungible assets traded on a one-to-one basis.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

(1) Short term contracts should be adopted in order to increase participation amongst farmers and NIPF landowners.
(2) Terrestrial offsets should not be required to 100 year permanence requirements.
(3) Regulations should contain provisions for carbon sequestration activities that are not considered "permanent" to be included in market mechanisms.
(4) Provisions for offset "rentals" should be included in regulations. Emitters who purchase rented offset remain liable for offsets claimed and must renew or replace credits at the end of the contract. Market mechanisms will determine the value of rented carbon vis-à-vis permanent offsets.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

No comment provided.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Forest land that generates credible carbon should not be precluded from selling other ecological attributes. Ecological attributes may be sold individually or bundled, but each has a specific market value that is independent of all others. Private contracts should specify which attributes are being transacted. Attributes that are not specified in a private contract should be considered to remain as property of the landowner.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

All federal and state programs should be eligible to generate credible carbon.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Regulations should require that some provision is made to address non-performance and natural disturbance in order to ensure the integrity of the climate benefit. The manner in which reversal risk is addressed should be left to the determination of the market. All of the following risk management strategies will have a place in a regulatory market:
(1) Buffer pools--projects hedge against risk by placing a percentage of issued credits into a savings account.
(2) Insurance--indemnification against losses, where the insurer promises to issue payment to the landowner that can be used to compensate the credit purchaser.
(3) Like-kind pools--forest carbon management units that serve as a replacement reserve for projects that generate and sell credits. Public lands could serve in this capacity.
(4) Physical risk management--forest management activities that reduce the risk of wildfire, pests, and disease.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Protocols and procedures for the development of terrestrial offset projects should NOT be detailed in legislation. The appropriate agency, in collaboration with other stakeholders, should be responsible for the development of these rules.

The U.S. Department of Agriculture should be responsible for the development of terrestrial offset projects.

Forest offset protocol development should be led by the U.S. Forest Service, in collaboration with state forestry agencies.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

(1) Technology transfer--landowners, foresters, and farmers are generally unfamiliar with carbon markets and terrestrial offsets.
(2) Market uncertainty--landowners are unwilling to implement offset activities in the face of so much political and market uncertainty.
(3) Long-term contractual obligations--private landowners are often required to commit to maintain forest projects for decades. Opportunity costs and market uncertainty prevent landowners from engaging in offset activities, to the detriment of the climate.
(4) Low-value commodity--landowners are unwilling to modify their land management strategies because the value of a carbon offset is too low.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

NO. As a component of any national carbon reduction program, congress must include provisions for new programs that will incentivize farmers and forest landowners to maintain and enhance terrestrial carbon sequestration on private lands. It is likely that most landowners will not be willing to take on the obligations inherent in developing permanent offsets that are fungible with emissions allowances if protocols are overly-restrictive. A complementary program (or suite of programs) should be developed to offer NON-OFFSET incentives to landowners that wish to maintain and enhance carbon stocks in working landscapes but are unwilling to commit to obligations that may be necessary to generate "carbon credits". Landowners who commit to implement specific management activities that will sequester additional carbon should be rewarded with a rental payment. The program could be administered in a fashion similar to the Conservation Reserve Program.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

BASELINES and ADDITIONALITY

The rules for determining baselines and additionality have generated more controversy than any other aspect of forest project accounting. Much of the debate stems from the opinion that GHG emissions can only be offset using carbon that would not have been sequestered in absence of the project. Thus, many support the use of a BAU baseline in order to separate the net climate effects of the offset project from background sequestration that would have taken place in absence of the project. For industrial GHG emissions, the BAU approach works very well and this fact has resulted in a general tendency for protocols to attempt to fit forest offset projects into this paradigm.

Unfortunately, BAU baselines, when applied to forest projects on privately-held lands, are confounded by several important ecological, political, and socio-economic factors unique to land-use. In order to establish carbon sequestration that "would have happened anyway", a landowner must establish a projection of carbon stocks many years (often decades) into the future; incorporating myriad assumptions about future human management intentions, natural disturbance cycles, silviculture, climate change impacts, market demand for forest outputs, forest laws, tax policy, and payments for other ecosystem services. Developing a baseline that successfully integrates these factors is a dubious exercise that results in a high level of uncertainty.

For example, changes in forest harvesting laws on private lands might mandate that a project maintain a higher level of carbon stocking than was projected in the baseline. As a result, carbon that was credible is now deemed non-additional, and the economic viability of the project has been negatively impacted. In states where forestry laws currently exist, a case can be made for BAU baselines; however, changes in policy over the next several decades are likely. Even if baseline assumptions hold true, verification of the project is questionable because credible carbon is based upon a counterfactual scenario—the baseline represents activities that never took place, and therefore cannot be measured and compared. It is impossible to separate credible carbon that is the result of management activities from background carbon sequestration.

NIPF landowners manage their forests to meet the increasing demands of a growing human population. The future demands that will be placed on private forestlands are uncertain. A landowner may choose to develop the land, shorten rotations, or harvest the forest without regenerating a new forest of equal carbon stocks. In most states, all of these actions are legal and may be in the landowner's financial interest.

Additionality tests are typically applied to an activity in order to determine eligibility to generate credible carbon. Under strict testing, credit may only be awarded to activities that are contingent upon revenue from carbon offsets. Again, this presents significant validity issues because it makes assumptions about landowner financial capability and intentions.

The base-year approach to baseline establishment does not rely upon complex assumptions about landowner intentions, market forces, or regulation. Instead, only one assumption is made: all forest carbon stock changes (both increases and decreases) are the result of management actions undertaken by the landowner. Carbon stocks are measured at one point in time, then again at another point in time in the future using the same standard methodology. Increases in carbon stocks are awarded as credible carbon, while decreases must be compensated for in accordance with any contractual obligations.

BASELINES AND ADDITIONALITY RECOMMENDATIONS:
(1) The base-year approach, as applied by RGGI, 1605(b), and CCX, should be applied to forest-based activities undertaken on private lands because it is performance-based, transparent, and easily verifiable.
(2) Entity-wide reporting should be required in order to ensure that carbon stock changes are completely captured.
(3) Financial tests for additionality should not be applied to private landowners because of uncertainty in assumptions and potential for "gaming" the system.

LEAKAGE
Theoretically, internal leakage can be eliminated by requiring forest-wide reporting that accounts for all harvests, plantings, mortality, and growth in the estimation of carbon stock change; however, landowners may own forestland in multiple counties or multiple states, under a variety of legal classifications. Insuring that all forestland is accounted for may provide some logistical challenges. A clearly-defined attestation by the landowner may be adequate to remedy this issue.
Accounting for external leakage provides further challenges for landowners and project developers. Although there is general consensus that leakage is a real issue that may impact the efficacy of forest offset projects, there is little practical research available to accurately quantify the impacts of leakage. The task of determining the direct impacts of one landowner's decision on another or wider market impacts is exceedingly complex. As a result, some programs choose to ignore leakage. Those programs that have adopted methodologies for estimating leakage are not consistent with one another, or rely on a small number of studies that make significant assumptions about forest offset rules in order to generate estimates of leakage.

LEAKAGE POLICY RECOMMENDATIONS:
(1)Efforts should be made to control internal leakage through entity-wide reporting and forest certification.

(2)Until further research and analysis is completed, external leakage should be ignored as a significant detriment to the climate benefits of forest projects.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Afforestation	Excellent	Good	High	High
Forest Management	Excellent	Good	Medium	High
Avoided Deforestation/Conservation	Excellent	Good	High	Medium
Urban Forestry	Excellent	Good	Medium	Low

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
MARYLAND & VIRGINIA MILK
PRODUCERS COOPERATIVE
ASSOCIATION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Allen O'Hara

Organization(s) you represent

Maryland & Virginia Milk Producers Cooperative Association

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Director of Administration and Governmental Relations/Secretary

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

First and foremost, Maryland & Virginia Milk Producers believes that the U.S. government, including both the Congress and the federal regulatory agencies, should not act unilaterally to enact a GHG reduction program. This is the concept of "leakage." Unless other countries are willing to take action at roughly the same time, industries in the U.S. will become uncompetitive in the global marketplace and meaningful reductions in worldwide GHG emissions will not have been achieved.

When it is clear our trading partners are ready to act, we believe that a cap and trade system that excludes agriculture from regulation can achieve meaningful GHG emissions reduction with minimal increase in costs to business and the general public. Agriculture can make significant contributions to carbon sequestration and income resulting from credits that are generated will help mitigate the potential impact on food production costs. Dairy farmers have already made great progress in reducing GHG emissions with sustained productivity gains over the past several decades. Income from the sale of carbon credits will only boost our efforts to implement advanced production practices and technologies that will enhance the pace of GHG reductions achieved by farmers in the future.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

No.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

With agriculture properly positioned as part of the solution and not the problem there should be no need for distribution of allowances to the industry. The majority of allowances must go to the capped industries. The difficult challenge will be to arrive at the right number of total allowances to allocate in order to achieve GHG reductions from the capped industries at a rate that achieves the long-term goal without unnecessarily adding costs for basic goods and services for the public.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

The development of a cap and trade program should start with recognition of the expertise of current existing programs eventually looking to create a single national regulatory structure. Regional differences in the ability of some practices and technologies to reduce GHG emissions currently exist and will remain. While it will be tempting to use the "local is better" approach, the stability and continuity of a national program will be necessary to regulate what may eventually become an international carbon credit market.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

Maryland & Virginia Milk Producers would prefer to see a regulatory structure develop at an existing federal agency; most preferably USDA. Each industry should be regulated by the corresponding federal agency. USDA's Natural Resources Conservation Service (NRCS) has the experience and network of field staff, including the State Conservationists, to create effective regulation of a carbon credit trading system that positions agriculture correctly as part of the solution to reducing GHG emissions.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

It will be far more efficient to have the CFTC continue in the role of regulator of the derivative carbon market than to develop a new structure. A developing market for carbon credits will most closely resemble the current commodity markets regulated by CFTC.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

With proper regulatory oversight to maintain the integrity and transparency of the market, yes.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

It seems a given that a system that adds costs to basic industry will affect nearly everyone. The effects will not, however, be uniform. If energy costs increase, every input purchased by a farmer will cost more. That will take money out of the pockets of farmers who are the economic backbone of rural communities in this country. Even the financial impact on farmers will not be uniform. Electricity costs already vary from region to region. If fuel prices rise, transporting bulky fluid milk to deficit areas of the country, like the Southeast, will become even more expensive than it is today.

Food processing will also be affected. The relative competitiveness of plants will change based on factors such as the age of the facility, energy costs and, in the case of the dairy industry, the distance to supplies of farm milk and distance the finished product must be shipped to customers.

From a societal standpoint, the impact of higher prices for basic goods and services will be felt most by those at the lower end of the economic scale, many of whom are currently served by USDA nutrition assistance programs.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Dairy farmers, as raw product suppliers in one of the country's basic industries, will feel the affects of a GHG reduction program in higher costs for virtually every input they buy. At the same time, dairy farmers are excited about the opportunities that come with a cap-and-trade system. A system that exempts agriculture, as it should, will offer farmers the ability to market carbon credits developed from the implementation of new production practices and technologies. The income from those credits can be used to offset the increased costs associated with the new system.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

Yes. While all farmers will experience increased costs due to implementation of a GHG reduction program, not all will be able to benefit equally. Few farmers will be able to

benefit from carbon credit trading immediately. Some farmers won't be able to participate in generating carbon credits at all, and regional differences in the value of credits derived from similar practices will require transition assistance to keep the new system from negatively affecting the food supply in both the short- and long-term.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

While public lands are not a significant factor in milk production in the mid-Atlantic and southeast regions, it seems appropriate that farming on public lands can play a role in GHG reductions. With that goal in mind, it also seems appropriate that the benefits of any carbon credits generated on that land should go to the entity responsible for properly managing that land.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

The market sets the price for other major commodities and should be the price-setter in the carbon trading market as well. To add stability to the program, daily trading limits, both up and down, should become a feature of the carbon trading market as they are with other commodities.

Any discussion of a cap on the price of carbon credits should be accompanied by a discussion of a floor on same.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

It is our belief that the case-by-case evaluation of practices and technologies required in the EU is simply too cumbersome to be workable in a large-scale system in the U.S. Direct verification of each participant's GHG emissions reduction efforts adds undue cost and reduces the value of any carbon credits that are generated.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected

agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

Given the variation in the ability of farmers to participate, a voluntary program is a necessity. A successful market for carbon credits will develop if reduction targets are applied appropriately to capped industries.

If technologies and practices are evaluated in aggregate for ability to reduce GHG emissions or to sequester carbon, it will be appropriate for bonus allowances for select activities to become a part of that equation.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

There should not be a limit on the number of offsets set by government as long as the technologies and practices that create them are science-based and the offsets verifiable.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

The market should decide how science-based and verifiable offsets are to be distributed.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

For a sustainable carbon market, science-based criteria must be developed for evaluating, quantifying, verifying and periodically monitoring technologies and practices used to generate carbon credits. The measure that counts is the proven potential for a given technology or practice to reduce GHG emissions or sequester carbon.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Third-party audits, currently being used in some regional programs, are the preferred way to evaluate offset projects.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

The assignment for designing a system to verify offset projects in agriculture should be handled by USDA.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

As stated earlier, project-by-project analysis is cumbersome and adds cost to the system. A standards-based approach, with random third-party audits, should be given a chance to work.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

The number of allowances issued to capped industries will determine both the amount of GHG reduction that is achieved and the economic value of offsets and credits. The total number of allowances must be limited while the number of offsets should be determined using science-based criteria to evaluate practices and technologies and the value of offsets should be determined by the market.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

As the new program gets started, flexibility will be extremely important in establishing the degree of permanence that a given practice or technology will achieve. As much as possible, strong science-based evaluation should be applied. If permanence can be demonstrated, as it can be with methane capture using a digester on a dairy farm, the contract should be for a longer term.

In cases where practices and technologies are less well understood in terms of permanence, contracting parties should be given broad parameters that leave at least some flexibility for negotiation.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Existing projects should be allowed equal access to the new system if they can pass the same scrutiny for effectiveness of GHG reduction that will be given to new projects.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse

gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Yes, existing projects should be allowed access to the new system and yes landowners should be able to "stack" credits. The overriding objective is environmental improvement. We have long advocated that water and air regulation regarding agriculture must be better coordinated because so many of the same practices and technologies that can be employed on farms impact both. Additional incentives, targeted at specific projects with scientifically verifiable benefits, should result in additional action in all areas of environmental mitigation, including GHG emissions reduction.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

It is our belief that singling out participants in previous cost-share programs for environmental mitigation for additional scrutiny in a new program will only impede progress toward the goal of GHG reduction.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

If a cap-and-trade system is to begin providing significant sources of income to farmers, it is time to begin consideration of the development of an effective economic safety net for those participating. That would include ways to mitigate the effect of a natural disaster on a farmer's ability to maintain a practice or technology that has been implemented to generate carbon credits for sale. It would also include some sort of insurance program that the farmer would be required to participate in to be eligible for disaster assistance.

Contingencies for projects that simply "fail to deliver" should be covered under terms of a contract.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

The Congress should delegate authority to develop protocols and procedures to the appropriate regulatory agency. In the case of agriculture, that is USDA.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

Cost, predictability, the development of criteria to determine the value of carbon credits and the impact of all of those factors on their customers.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

Existing programs clearly do not offer sufficient incentives for farmers to implement climate change mitigation measures. When climate change legislation and/or regulation is adopted, the incentive programs currently included in farm program legislation should be reevaluated and retooled to take into account the contribution that agriculture can make to reducing GHG emissions and to overall carbon capture.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

As stated earlier, we believe leakage to be a real challenge to proceeding on reduction of GHG emissions. If the U.S. acts unilaterally, GHG emissions reductions will be minimal while the international competitiveness of U.S. industry is reduced.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Anaerobic digestion	Excellent	Excellent	High	High
Improved manure handling	Good	Good	Medium	High
Improved feeding practices	Excellent	Good	Medium	High
Feed additives	Good	Excellent	Low	High

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
No-till/Carbon soil sequestration	Excellent	Excellent	Medium	High
Precision agriculture	Good	Good	High	High
Pasture management	Good	Good	Medium	High

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
BRUCE McCARL
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Bruce McCarl

Organization(s) you represent

Address
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

I think one or the other is needed with very inclusive rules to avoid climate change being severe

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Yes because they offer low cost immediate options

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

A combination. With no limit on allowances to ag and forest. Let the market work.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

I think it should be national and allow any of the other programs to join in. I think less than national coverage causes leakage. I also think we should link to Kyoto markets globally

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

I think same group who runs the SO2 exchange -- EPA?

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role

as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

Yes. Less new institutions the better.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

Yes.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

Yes not all regions and people will be equally affected. There may be a need to subsidize some who lose from gasoline and food price increases.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Have a fund that is run by secretaries of ag, health and human services and transport.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

No this will create a money pit let the market work.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

A small one as their management is hard to manipulate and is costly plus effect is not long lived.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Market forces with annual review of the cap.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Rules are nbeeded if ag and forest are to be integrated and they have not really emerged in ets. Only international programs I know of are under CDM and they are not broadly defined and working.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

Some of all three.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

No let the market work

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Historic use and auctions favoring disadvantaged groups with part of allocation

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Strict liability assignment for shortfalls and a court that requires proof then let market establish system

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Net carbon gain after considering uncertainty, leakage, additionality and permanencs

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Strict liability assignment for shortfalls and a court that requires proof then let market establish system

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Precalculated with an appeals process

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Grading standards should differentiate amoung characteristics but market can extablish if liability is assigned

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Time of contract payment rate and liability rules

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Have a grandfathering date when projects begin of say 2001. Examine rules under which offsets created and reevaluate quantities ans most of the ag and forest rules under ccx are not long term desirable.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

They should be left out as they already received sufficient compensation to undertake. This would make program too expensive. I think stacking should be allowed.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

They should be allowed and we should lower cost shares when carbon credits are earned.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

We need liability at level of a contract and then make the aggregator decide on magnitude of safety buffer.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Only bradly defined in legislation as it will take time to get details right.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Risk, existing equipment, agronomic conditions, climatic conditions. One size does not fit all.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

In part yes. Fully no. Congress could choose to encourage certain practices if significant other gains are realized.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Biofuels are important and we need to consider electricity strongly plus cellulosic and gasification/pyrolysis.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Rotation lenghts	Moderate	Moderate	Low	HIgh
managment	Moderate	Moderate	Medium	Medium
afforestation	Good	Excellent	High	High
Avoided deforestation	Good (in US)	Moderate	Low	High

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Manure mangement	Good	Excellent	Low	High
Enteric ferment	Moderate	Moderate	High	Low
Bioelectricity- manure	Moderate	Excellent	Medium	Medium
Herd size	Good	Good	HIgh	Medium
T				

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Tillage	Moderate	Moderate	Low	Medium
Biofuel electricity	High	Excellent	Low	High
Biofuel cellulosic/advanced	Good	Excellent	Low	High
Fertilization	Moderate	Moderate	High	High
Energy cvonservation	Moderate	Excellent	Moderate	High

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
GEORGE McKINLEY
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

George McKinley

Organization(s) you represent

Non-industrial Forest Land-owner

Address
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?

Please respond in 600 words or less.

A cap-and-trade program seems consistent with global initiatives related to the Kyoto Protocol, would well in supporting a market for forest related offsets and appears to be less "punitive" than a tax/fee approach.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

Please respond in 300 words or less.

Covering forestry has not been a standard approach in global or US regional cap-and-trade efforts for a variety of reasons, and this established trend seems worthy of note and suggests a consistent application to federal cap-and-trade implementation.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?

Please respond in 600 words or less.

There should be no "no-cost" allocations. This sends mixed messages in relation to cap-and-trade intent, and undermines the development of offset markets. An auction with with some form of distributed proceeds seems most beneficial.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

Linkage need not be mandatory, however integration of guidelines, protocols, verification and registration seems incumbent to the success of most programs, allowing offset market participants access to regional and federal market opportunities. RGGI, WCI, CCAR in particular should be recognized and rewarded for pioneering effort. Initiatives such as the American Carbon Registry should be recognized for high value product,and transparent NGO efforts.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Please respond in 300 words or less.

The EPA seems a good home.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

Futures should be regulated by the CFTC.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and- trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

Derivatives seem a questionable pursuit in relation to energy commodities.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

This is an area for assessment. If negative impacts are anticipated, attempts should be made to minimize or address to eliminate negative impact.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

To support on-the-ground projects on federal and private forest and agricultural lands that sequester carbon; to address loss of community capacity due to any demonstrated negative impacts; to achieve additional gains in carbon emission reductions, e.g. home weatherization assistance.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

Perhaps, though the true cost of carbon reduction needs to be accounted for or mitigated in some manner.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Federal lands should be managed to achieve a balance of sequestration maximization and commodity supply. Federal lands should not be allowed to generate credits for mandatory or voluntary markets.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Market forces should generally apply, though auction regulation and cap limits need to be real, flexible and adjustable.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

The cap needs to realistically target emission reduction (not be too high). Both forest and ag sectors have seen international auction activity.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

A voluntary program established to meet offset market demand.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

Yes, in relation to cap and auction determinants.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

Toward on-the-ground or emission reduction activities.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

A rigorous, multiple agent, cross-validated set of offset criteria should be established

18) What should be the criteria for assessing offset projects?

Please respond in 300 words or less.

Existing and emerging verification and registration schemes that allow regional and project distinction, but share baseline minimums and standards for validation.

19) How should Congress design a system for verifying offset projects?

Please respond in 300 words or less.

Legislation based on broad-scale input.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?

Please respond in 600 words or less.

A combination should be expected, though project-based approaches need to be specially recognized for site-specific contribution.

21) What should be the relationship between offsets and allowances?

Please respond in 600 words or less.

Allowances generated by auction in relation to caps; offsets permitted market participation and valid cap related reductions based on verification. Prices fluctuate in relation to market and specific contract relationships.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Transparency, the ability to remove contract obligation through established mechanisms and insurance or buffer mechanisms to assure lasting reductions and minimize offset provider risk.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

These should be clearly integrated into emerging regulatory systems.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Commodity production on land should allow discrete benefits to accrue. If water and carbon have discrete values, landowners should be allowed multiple benefits. Early actors should be integrated into emerging systems so long as reductions pass a "real" test.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

If, for instance, EQUIP practices are funded and land-owners than can further leverage activity into ecosystem service markets, that seems to validate the intent of EQUIP and should not limit additional benefits to accrue. In addition, federal technical assistance could reasonably target expansion of market participation by land-owners.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?

Please respond in 300 words or less.

Buffer satisfaction needs to be addressed and secured. Contractual and crediting mechanisms can play a role here as well.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

EPA

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

Please respond in 600 words or less.

Cost of verification and registration, predatory aggregation and market bias against small producers.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

Technical assistance and federal fiscal support of small producers through EPA (other federal office) sanctioned offset validation.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Improved management	Good	Good	Medium	High
Afforestation/ Reforestation	Good	Excellent	Medium	medium
Avoided deforestation	Good	Moderate	High	low

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.

Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
MIAMI DADE COLLEGE
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Dr. Eduardo Padron

Organization(s) you represent

Miami Dade College

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

President

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

A hybrid program of these two approaches would be more appropriate. The carbon taxes/fees program allows for expedited implementation of regulations on carbon dioxide emissions in that it sets an immediate limit on emissions and consequent monitory penalties for violation of such limits. Inversely, the cap-and-trade program provides the opportunity for sectors to trade their unused allowable emissions as an incentive for adhering to U.S. emission regulatory policies. In addition, this system will allow for a seamless transition from one program to the other. In the end, the carbon taxes/fees program combined with the trade opportunities of the cap-and-trade program provide a multitude of both incentives and penalties in an effort to reduce green house gas emissions.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Yes. According to the "Summary for Policymakers" prepared by the Working Group III of the IPCC (Intergovernmental Panel on Climate Change)[May 2007]: " The largest growth in global Greenhouse Gas emissions between 1970 and 2004 gas came from …land use, land use change, and forestry, 40%. Between 1970 and 1990 direct emissions from agriculture grew by 27%". Based on these data, increased green house emissions are attributed to substantial growth and production in both the agricultural and forestry sectors. It is likely that this trend in growth will continue; therefore, inclusion in the carbon reduction program is justly warranted.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

If a cap-and-trade program is chosen, Congress should authorize ninety percent of the allowance to be purchased by the government and the remaining ten percent of allowance to be purchased by the entity including the agriculture and forestry sectors. Priority distribution of available allowances should be granted to sectors that provide goods and services directly related to sustainable living. Preference for distribution of allowances should also be given to states and federal controlled entities.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

Yes, either program or a hybrid program should be linked to existing or emerging U.S. regional or other carbon reduction programs including RGGI and its jurisdiction in ten states. It is also recommended that this initiative work in conjunction with individual state departments of environmental protection and regulation. Due to the complex nature of the carbon reduction plans, collaborative efforts between state and federal agencies must be engaged in order to achieve adequate and effective governance and regulation of greenhouse emission control.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

If a cap-and-trade program is established, two existing agencies should manage its operations. The U.S. Environmental Protection Agency (EPA) should be charged with the task of law regulation as it relates to carbon emissions. The EPA will also collaborate with state environmental protection agencies to enforce the mandates. This recommendation utilizes existing agencies while reducing costs associated with creating new agencies and builds on the experience of existing agencies.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

In the event that a derivatives or futures market in carbon reduction arises as a result of a cap-and-trade program, the Commodity Futures Trading Commission (CFTC) should oversee the operations of traditional futures exchanges such as the New York Mercantile Exchange Inc. (NYMEX) where energy futures are traded.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

Derivates markets in carbon reduction arising in the wake of the creation of a cap-and-trade program should be permitted to be created under similar options as energy-based commodities. The current energy derivates markets provide equal and fair access to energy-based commodities and the same pattern is expected in the carbon derivates markets.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
Please respond in 600 words or less.

The enactment of a carbon reduction program can pose a negative impact to these special populations. The increased food production costs as a result of the implementation of carbon reduction programs in the agricultural sector may result in higher food costs, adversely affecting the ability of people in these special populations to have access to affordable food. Inversely, the impact can be positive in many aspects: creation of new jobs, improvement and development of new technologies, new markets, etc.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
Please respond in 300 words or less.

Any revenue generated under the carbon reduction program can be utilized to subsidize some of the programs that provide assistance to the special populations negatively impacted by rising costs of goods and services. Revenue can also be used to assist agriculturalists in adopting best management practices for reduction of green house gas emissions which may mitigate the negative impacts on rural agricultural communities or populations served by USDA nutrition programs.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

No, they should assimilate the costs because they will benefit from the future profits.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

Public lands, particularly forests, should help to sequester carbon and/or reduce greenhouse gas emissions by afforestation, reforestation; forest management for reduced deforestation;

harvested wood product management; use of forestry products for bioenergy to replace fossil fuel use.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Limits on carbon prices should be established and periodically reassessed to ensure fair market prices.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

The EU ETS demonstrates that trading in greenhouse gas emissions works. One of the lessons learned is to put limits on the amount of allowances and not solely rely on emission projections but rather ensure the data are verified to avoid over-allocation and creating lower market prices of allowances. In addition, processes should be in place to ensure fairness in the trading market.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

Current offset programs would be described as voluntary offset programs where the purchase of offsets is viewed as good will approaches. A governmental established system should rely more on a combination of bonus allowances for sectors excelling above the established performance standards as a rewards/incentive system.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

The issuing of offsets should be considered the equivalent of issuing municipal bonds. If too many are issued at one time, they will have a deflated value. Similarly since this would be an emerging market, no true market value has been developed.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

Priority should be given to sectors/companies already showing efforts to reduce carbon emissions as an incentive to continue to develop/adopted best practices. Secondary priority should be given to sectors that booster the American economy through some protectionism.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

The Government Accountability Office (GAO) report "CARBON OFFSETS - The U.S. Voluntary Market Is Growing, but Quality Assurance Poses Challenges for Market Participants" (GAO-08-1048) established guidelines for carbon offsets oversight and regulation. Under the current voluntary system, there is limited verification and monitoring of offsets.

18) What should be the criteria for assessing offset projects?

Please respond in 300 words or less.

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19) How should Congress design a system for verifying offset projects?

Please respond in 300 words or less.

The Government Accountability Office (GAO) report "CARBON OFFSETS - The U.S. Voluntary Market Is Growing, but Quality Assurance Poses Challenges for Market Participants" (GAO-08-1048) established guidelines for carbon offsets oversight and regulation. Under the current voluntary system, there is limited verification and monitoring of offsets.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?

Please respond in 600 words or less.

Due to the large variety of carbon offset offerings, a project-based approach would prove more reliable to the growing market. There has been too much variation in results from the currently established carbon offset projects as witnessed in the EU system.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

The principle goal is to create carbon neutrality; however that cannot be reached without more knowledge and research in developing carbon reduction procedure. Therefore the hybrid model of allowances and offsets would encourage development and allow for a transition timeframe towards carbon neutrality. As defined in Part I, each sectors should have established allowances that without the purchase of offsets would penalize the largest offenders.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Carbon offsets should be reviewed every two years. This would follow the same guidelines established under the American Colleges & Universities Presidents Climate Commitment (ACUPCC) which requires that universities and colleges complete a comprehensive inventory of all greenhouse gas emissions (including emissions from electricity, heating, commuting, and air travel) and update the inventory every other year thereafter.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

After a regularly body is established, these credits need to be evaluated for the true offset value and then incorporated into Congress' adopted system. Since these have been largely unregulated or evaluated, there true value is unknown. A number of these available offsets may not be actually producing as advertised.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Early adopters should be rewarded for their voluntary efforts. Similarly the overall goal is to reach carbon neutrality; therefore credits should be "stackable."

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

As in Part I, some sector will face more difficulty in adopting carbon reduction measure due to availability and/or the financial burden. Government programs should support the development and adoption of these programs. If programs not devised for developing carbon reductions but do as a secondary effect, they should be allowed to participant in offering carbon offsets as an incentive.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

There should be an existing penalty system for offset programs that does actually reduce carbon emissions. However, they should not be penalized events not within their control such as natural disasters. This would discourage developers in areas that may have potential civil unrest, potential severe weather, etc.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

As new technologies emerge, the regulation must be flexible enough to adopt these new measures. Legislation would limit that amount of flexibility. Therefore, authority should be delegated to a government agency such the EPA or Department of Commerce.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

As in Part I, some sector will face more difficulty in adopting carbon reduction measure due to availability and/or the financial burden. Government programs should support the development and adoption of these programs.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

No, since the current system is only voluntary. The USDA may wish to consider offering subsidies for adopting carbon reduction practices as well as grant programs to develop training programs for carbon offset education.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

What incentives is the USDA offering to encourage the development of new carbon offset technologies?

Are they offering grant in the areas of scientific research? And/or Internships?

Should there be the development of educational programs to heighten consumer awareness?

America's Colleges and Universities can play a vital role in the reducing carbon emissions, energy conservation, and development of renewable energy.

The USDA has foreseen potential problems in an unregulated energy futures market with the passing of H.R.6377 with require the Commodity Futures Trading Commission (CFTC) to have greater regulatory power to curb excessive speculation. For America to be a major player in emerging market, not only must we be a large producer of carbon offset and such, but also have an extensive understanding of the energy futures market. As an international financial center, Miami would play a vital role in the exchange of energy futures, and Miami Dade College would offer the necessary training to future market traders and investors. The emerging financial market will employ commodity traders, financial advisors, and banking interest. These individuals will need additional training that the College can provide.

As shown in the Government Accountability Office (GAO) report "CARBON OFFSETS - The U.S. Voluntary Market Is Growing, but Quality Assurance Poses Challenges for Market Participants" (GAO-08-1048), Florida is currently one of the lowest producers of carbon offset with only one location statewide in 2007. Although the state has agreed to produce 20 percent of consumed energy from renewable sources by 2020, there are not enough programs to reach this goal. With the development of the Educational Center for Renewable Energy & Technology, the College would serve as an educational site where students will focus on emerging technologies in renewable energy as they apply to academic and technical occupations. The center will incorporate and continue inquiry based student projects in renewable energy, water reclamation, and community awareness.

The 110th Congress Accomplishments of the House Committee on Agriculture report notes that the Farm Bill included $54 billion over 10 years for conservation programs to protect

America's natural resources and $1.1 billion for renewable energy development programs. Renewable energy is on the forefront of everyone's minds as the US Economy continues to decline and yet our needs for energy continue to increase. Renewable energy plays an important role in the supply of energy. Several solutions to the energy crisis have been envisioned by harnessing the energy from light, wind, water, and the Earth's bio-resources. When renewable energy sources are used, the demand for fossil fuels is reduced. Unlike fossil fuels, non-biomass renewable sources of energy (hydropower, geothermal, wind, and solar) do not directly emit greenhouse gases. We propose an educational center that emphasizes the importance of renewable energy for the US and allows our students experiential learning experiences on how to explore and capitalize on this burgeoning industry.

The outdoor learning laboratory, a component of the Renewable Energy & Technology Center, would consist of a solar panel array, working models of wind-powered generators, a biodiesel reclamation system for processing, cultivation of jathropha plants and other plant sources of biodiesel, and water reclamation for the campus. This would serve as an educational showpiece enhancing current curriculum and serving as a community and commercial research center for alternative resources.

The Center for Renewable Energy & Technology will provide the focal point for developing new curriculum and courses around inquiry-based projects. The objectives for the center are as follows: (1) enhance quality of academic programs in science, mathematics, engineering, and education (secondary math & science) by providing relevant, up-to-date, hands-on experiences; (2) improve students' capacity to enter four-year science programs and promote entry into science-related careers; (3) empower faculty to enrich curriculum, mentor research projects, and improve student learning; (4) enhance our capacity to respond to industry partners' high-tech training needs, and; (5) engage K-12 teachers/students and community groups through outreach and collaborations.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
MICHIGAN MILK PRODUCERS
ASSOCIATION

Michigan Milk Producers Association

[Redacted]

April 8, 2009

Committee on Agriculture
U.S. House of Representatives
Room 131 Longworth House Office Building
Washington, DC 20515-6001

Dear Chairman Peterson and Committee Members:

On behalf of Michigan Milk Producers Association (MMPA), we are writing this letter to express our full support of the responses submitted by National Milk Producers Federation for the Committee's questionnaire on climate change legislation.

MMPA is a milk marketing cooperative owned and controlled by nearly 2,300 dairy farmer members in Michigan, Indiana, Ohio and Wisconsin. Our organization strongly supports the information submitted by National Milk Producers Federation as the responses accurately address the critical issues raised by pending climate change legislation.

In addition to the information supplied by National Milk Producers Federation, below is a copy of a resolution passed by MMPA delegates at our 2009 State Annual Meeting regarding the Climate Change issue:

CLIMATE CHANGE

While we, as an organization, may disagree with the concept of "Global Warming," we are in fact excellent stewards of the environment and are in favor of conservation of resources. We understand there is increasing concern in the scientific and political community that greenhouse gas (GHG) emissions from human activities are contributing to an increase in average global temperatures and adverse changes in the world's climate and weather. GHG emissions include carbon dioxide, nitrous oxide, and methane. The dairy industry is poised to play a unique role in the climate change debate. A cap on greenhouse gas emissions would increase fertilizer and energy costs to farmers as well as to other U.S. businesses. At the same time, cap-and-trade legislation could create an additional revenue stream for our industry as a credit supplier to entities that are required to reduce their GHG emissions. There would be opportunities for producers to voluntarily mitigate GHG emissions through methane capture or elimination, fertilizer management and possibly carbon sequestration in soils. We urge the MMPA board of directors and management staff to closely monitor any climate change legislation that may adversely impact the dairy industry's ability to provide a safe and abundant milk supply.

Furthermore, we are strongly opposed to any tax that may be placed on animals through the regulation of greenhouse gases (GHG) under the Clean Air Act. It is important to recognize the great strides that have been made in lowering the environmental and GHG footprint of the U.S. dairy industry. Today's U.S. dairy industry

is supplying consumers' needs for dairy products with about one-third of the GHG emissions generated by the system in 1944 per pound of milk produced. The imposition of GHG standards will stifle the further success and ongoing innovations in the dairy and agriculture industry.

We greatly appreciate the Committee's efforts to gain input from the agriculture and dairy industry on the climate change issue. We urge the Committee to fully consider the views presented by National Milk Producers Federation and other agricultural organizations while considering various climate change options to reduce greenhouse gas emissions.

Sincerely,

Ken Nobis
President

John Dilland
General Manager

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
TOM MILLER
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Tom Miller

Organization(s) you represent

Ballard County Ky Cooperative Extension

Address
[Redacted]

Email
[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

none

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

There is no proof what so ever that carbon dioxide is a problem. It is released everytime a person or animal breathes and every green plant releases it at night. The only real way to reduce co2 is to reduce the population and that is the real goal of the climate alarmists.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

There should not be a carbon reduction program, but if there is it should only be for new activities not credit for existing activities that are already being used.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

You can not regulate it with a government agency, name me one government agency that does an efficient job.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

It will have a negative effect on any consumer of any product or energy user because the costs are going to go up dramatically with no real way to measure success. We have had 4 ice ages without mans involvement at all and we will have another one in the future.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

They will play no role unless some new activity is included. It they are already growing plants they will not increase Carbon sequestration, they will just continue at the current level

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

They don't work and they drive up costs that are unneeded

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

No current practice should be allowed. Farmers today that are practicing no-till can sell their credits. If they are already practicing no-till agriculture than they are not helping with capture more carbon. The only thing that should be allowed are practice changes. This is really one of the worst questionaires I have ever seen. What environmentalist did you let write this crap.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
MISSOURI SOCIETY OF
AMERICAN FORESTERS
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Mike Fiaoni

Organization(s) you represent

Missouri Society of American Foresters

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Chair

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

A cap and trade program that provided a forest carbon offset market would be the most beneficial for Missouri's forests. A cap and trade system that requires Non-Industrial Private Forest landowners (NIPF) to manage their forest in a sustainable manner and provides a steady source of income can significantly improve forest health and reduce the amount of forestland conversion in our state.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

This question is a bit vague. Forests will be an offset producer and not a significant contributor. Most Non-Industrial Private Forest landowners (NIPF) that would offer carbon credits would fall well below the 25,000 ton/year proposed minimum limit and should not be covered by any carbon reduction program. Growing and managing a forest at the (NIPF) scale has a very low carbon footprint, and more energy would be extended in verifying any reductions they might have than the reductions themselves would be. The manufacturing industry side of forestry could discharge significant volumes of CO2 into the atmosphere and should be covered under a carbon reduction program. Modern logging equipment does burn fossil fuel, but at rates well below the 25,000 ton/year threshold.

Large manufacturing facilities, greater than 25,000 ton/year, which use forest products, such as paper mills, should be subject to the same carbon emission reductions as other manufacturing facilities. Small and medium facilities are suffering under the current economic downturn and would likely go out of business if included in mandatory carbon reduction standards.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

Our expertise is limited to the forestry aspects of the question. Congress needs to be careful not to mandate how Non-Industrial Private Forest landowners (NIPF) manage their land. However, land conversion to non-forestry uses is a significant concern in Missouri

and a system needs to be put in place to mitigate for the loss of carbon sequestration potential caused by the loss of the forest.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
Please respond in 600 words or less.

No, this should be a single national program with uniform conditions and regulations so that producers and landowners have a common point of reference and confidence that the program is sound and viable nation-wide and internationally.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

Such a program would be of sufficient complexity to warrant its own agency. This would preclude competition for resources and conflict with other programs within an existing agency. Such a federal entity should be independent of Congressional and Executive decision-making, similar to the Federal Reserve System, to avoid excessive politicization.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

We do not believe a derivatives or futures market developed for this commodity would be positive. As much of the profit as possible should return to the Non-Industrial Private Forest landowners (NIPF) who are sustainably managing their forest land for carbon credits. Sustainable forest management does involve a cost to the forest landowner and the more profit a landowner can make from properly managing their forest the more forest will be sustainably managed.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

Higher energy cost would be hard on low income families.

In the case of forests, carbon markets should actually benefit these populations in a couple of ways. First, the markets would provide a new revenue source to add to the economy. Second, this program could help encourage sustainability and therefore help ensure a stable and sustainable forest products industry into the future. However, if forest management activities, in particular timber harvesting, were regulated as part of a carbon reduction program, local economies strongly dependent upon the forest products industry could be devastated. Forest landowners would also be denied a source income which helps individuals keep their forest as forest.

One of the factors influencing the extent of negative impacts is where the burden of proof rest with proving the reductions. If only entities which produce more than 25,000 tons of CO2 per year are affected then the forestry sector in Missouri will be minimally affected. If any producer of carbon credits is required to document a carbon reduction, this could prove cost prohibitive for Non-Industrial Private Forest landowners (NIPF) to participate in the program.

Finally, an active carbon market may alter land tenure, land values and land management. A new structure of control will alter what land managers can do to comply with contractual obligations of the carbon market. Land owners will likely be aggregated into larger packages to connect them with carbon brokers and investors. There is a potential that large investors may view land holding of vast tracks as a way to minimize overhead and work directly with carbon-producers. Complying with carbon sequestration regulations will alter land management activities for those wishing to enroll their lands in a carbon program; we need to insure these changes promote forest sustainability, forest management and the local forest products markets.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

Fund technical and financial assistance support for landowners and producers in cooperative state and federal agencies. Fund public projects to offset any possible losses in tax revenues.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
Please respond in 300 words or less.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
Please respond in 300 words or less.

State land should be allowed to provide carbon offsets under the same guidelines as other forest land. Natural Resource agencies are traditionally underfunded and this will provide some additional funding agencies can use to improve the health and adaptability of their state forest. Revenue from the sale of offsets needs to come back to the managing agency so they can use the funds for resource improvement and not to statewide general revenue.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

Carbon prices should be determined exclusively by market forces. Letting market forces determine the cost of emitting carbon and the prices paid for offsets will chart the quickest path to meeting reduction targets. Markets will provide the greatest incentive for emitters to emit less and will create the most robust pool of offsets. This will probably result in at least one price spike according to a P.E.W. report, but it will provide the motivation needed for businesses to change the way they operate. Any carbon credit offset market should be considered somewhat temporary at around 50 years, which is only about half a rotation length for a Missouri oak tree.

If limits are considered, our recommendation is for a minimum guaranteed return to be established for "forestry/agriculture carbon credits". At present time, all of society benefits from the ecosystem services provided by forests. However, landowners receive no monetary compensation for these services. In fact they have to pay taxes, which make it harder for them to sustainably provide these services.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

Forestry's significant role in a cap and trade system is as an offset producer, there are very little gains to be made in a reduction program. The biggest benefit to Missouri's forest from a cap and trade system will be to have a "managed forest" component that requires certification from one of the sustainably managed forest programs such as SFI, PEFC or FSC. 84% of Missouri's forest is owned by Non-Industrial Private Forest landowners (NIPF). On Missouri's NIPF land less than 10% is managed with the assistance of a professional forester and only about 5% of the annual timber harvest is conducted with the assistance of a professional forester. Providing an annual stream of revenue via carbon offset credits to NIPF's who have their land enrolled in a certified sustainable forestry program will provide tremendous benefits to Missouri's forest and the local economies.

Bonus allowances would be a great way to further ensure the sustainability of forest contributions to carbon reduction. For instance, bonus allowances/incentives could be given to landowners who establish permanent conservation easements. These easements would ensure that forests remain forests into the future, and thus continue to store considerable carbon. Language could also be included into easements to require sustainable forestry.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

A free market scenario will take care of the number of offsets required/available. Emitters who initially choose to meet their reduction benchmarks by only purchasing offsets will eventually be forced by the price and scarcity of offsets to move away from offsets to making real modifications of their operations to reduce their output of GHGs.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

Adoption of the CCX measuring and accounting protocols for forestry offset projects, perhaps with minor modifications will save a lot of time and reinvention of the process.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Certification of sustainable management is a must for offset projects. CCX has a good model in place. This should be used.

Avoided deforestation should also be recognized by the new system. Carbon credits, or some other mechanism, should also be put in place to assist landowners who maintain their current storage of carbon, even if they are not sequestering additional carbon. This would help keep forest in forest. Deforestation over the last century is probably the second biggest reason why our current atmospheric carbon levels have grown so high, behind our use of fossil fuels. Part of this equation will be to make sure that current forest acreage remains stable or increases.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Congress should not design an offset verification process. The agency in charge of the program should adopt the CCX verification protocols, perhaps with minor modifications. Enough work has already been completed in this area.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

A project-based evaluation process will much more accurately reflect the wide range of forest productivity present in the U.S. Direct measurement will provide a more accurate assessment of the amount of carbon being sequestered by a site. This approach will also create more of the "green jobs" being emphasized by the President. Professional Foresters will be needed to make these assessments.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

The CCX seems to have a pretty good system set up. A minimum of ten years is appropriate for forestry practices in the "managed forest" category. Afforestation for bioenergy would have a shorter time frame. Product harvesting is a part of a sustainably managed forest. Harvesting does not automatically mean the carbon is returned to the atmosphere. Allowances need to be made for the carbon stored in wood after the tree is harvested and for the use of wood waste during the manufacturing process, especially if the wood waste is used for energy.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

Once current projects have fulfilled their contract period, they can then join the new program if the landowner so chooses.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Early adopters should receive bonus offsets once their current contracts have expired. Their proactive efforts should be rewarded. Landowners should be encouraged to "stack" credits if they choose to. The larger the income stream to landowners from ecosystem service payments, the more likely the land is to stay in forest. Private forest lands provide many environmental benefits to society as a whole. Valuing those contributions will help ensure the future viability of private forest lands. Keeping forests as forest is a huge challenge facing our society, and will continue to be into the future. Payments to landowners will help counter the conversion of forest land to developed uses. In Missouri the ratio of forest acres to the population of the state has experienced a steady decline from almost 6 acres of forestland per person at the turn of the 20th century to just under 4 acres per person in 1950 to about 2.5 acres per person at the turn of the 21st century. At some point there is a critical mass of forestland needed to support humans and the importance of keeping forest as forest becomes a necessity.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Cost-shared activities are providing benefits to society; otherwise we wouldn't be paying for them. Their contribution to reduction of GHG in the atmosphere is a bonus for which the landowner should be compensated. If a carbon market really takes off, prices rise to high levels, and many landowners are receiving sizable carbon payments, cost share rates can be adjusted to allow the program to reach more landowners.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Congress should provide concise direction and clear intent. Delegate the protocols and procedures to the new agency recommended in answer #5. The new agency certainly needs to gather input from natural resource agencies in USDA, USDOI and USEPA; academia; state agencies; professional foresters and other private interests. The CCX provides an excellent model that can be followed without the need to reinvent the system.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

For Non-Industrial Private Forest landowners (NIPF) the main obstacles have always been time, money, equipment, and knowledge. State cost share amounts have only been enough to support a small pool of contractors. If revenues are generated through the carbon offset program for the NIPF landowners who are enrolled in a certified sustainable forestry program there will be money available to support more conservation contractors.

There is also concern that landowners will fear signing a carbon contract because it would mean the loss of control by the landowner.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

No! Existing conservation and forestry programs do not provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions. Provisions in the 2009 Farm Bill will help, but providing a free market carbon offset trading system can pump millions of dollars more into the implementation of sustainable forest management practices.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Please list specific types of ***forestry practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*
Afforestation	Excellent	Excellent	Medium	High
Sustainable Forest Management	Excellent	Excellent	Medium	High
Conservation Easements	Excellent for maintaining existing carbon storage.	Excellent	Medium/High	High

Please list specific types of ***practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

Please list specific types of ***crop production practices*** that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	**Effectiveness** at *sequestering carbon or reducing* GHG emissions *(Excellent, Good, Moderate)*	**Ability** to *verify* carbon sequestration or GHG emission reductions *(Excellent, Good, Moderate)*	**Cost** for agricultural producers and private forestland owners to *implement (High, Medium, Low)*	**Capacity** of agricultural producers and private forestland owners to *implement immediately (High, Medium, Low)*

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
MONSANTO COMPANY
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Michael Parrish

Organization(s) you represent

Monsanto Company

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Director, Government Affairs

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
   Please respond in 600 words or less.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
   Please respond in 300 words or less.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
   Please respond in 600 words or less.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?
   Please respond in 600 words or less.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
   Please respond in 300 words or less.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
   Please respond in 300 words or less.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

   Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
   Please respond in 600 words or less.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.
   Please respond in 600 words or less.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?
   Please respond in 300 words or less.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?
   Please respond in 300 words or less.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?
   Please respond in 300 words or less.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.
Please respond in 600 words or less.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?
Please respond in 600 words or less.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

Monsanto believes that agriculture should not be a capped sector under any cap-and-trade program. Instead, a robust and science based offset program is the most effective way for agriculture and forestry to participate. Participation in the system should be voluntary and should recognize any project or activity that can verifiably reduce and sequester carbon.

Science based protocols must be developed that enable growers to provide quality offsets. These protocols should also allow for advances in science and technology that will reduce the cost of measuring, monitoring and validating offsets.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

The opportunity to produce offsets should not be limited by the government. Growers that have the ability to sequester carbon in accordance with the protocols developed should be able to fully participate in a carbon reduction program.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

Congress should not control the distribution of offsets; rather the market should facilitate these exchanges. Offsets must be a measurable, verifiable reduction in carbon. Offsets produced should be sold, traded or banked at the discretion of the producer.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Carbon offsets must be real, verifiable, and quantifiable. The criteria for measuring offsets should be guided by the best available science and technology. Methods of measurement should be scientifically evaluated, verified, and accepted as scientifically valid.

The protocols developed for measurement and accounting of offsets should allow for technological advances that improve measurement and verification techniques. Approved methodologies should include models, modeling and protocols with validation and verification developed on a foundation of statistically valid sampling representative of the conditions subject to carbon offset. More details on offset measurement and verification could be available from the agricultural soil offset standard, being published by the agricultural soil carbon offset committee organized by Novecta.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

Offsets must be real, verifiable and quantifiable. Any agricultural project should be considered eligible to produce carbon offsets when it is established that the agricultural practices performed in the project reduce carbon impact and that continuation of the practice over the term of the project will continually reduce the net carbon impact. Offsets projects should be assessed using standards developed by the agency with the relevant expertise. Third party verification and auditing will be critical to ensuring integrity in the offset program.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Comprehensive climate change legislation should be as prescriptive as possible in designing a system for offset verification. Congress should clearly define the roles for agencies, including USDA and EPA, in offset protocol development, verification, and oversight.

The legislation should allow for the updating of verification protocols to include scientific and technological advances.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

Congress should initially establish a standards-based approach using results from similar measured, monitored and verified projects.

Even though such a standards-based approach is the most sensible and cost-effective, the legislation should incentivize the creation and deployment of technologies that will measure and verify carbon reductions as much on a field by field basis where technically and economically feasible.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

An offset is an actual reduction in carbon emissions and should be treated the same as government created allowances. Offsets should be traded at the producer's discretion and valued according to market demand.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

For the most part, permanence of offsets in agriculture as it relates to soil carbon sequestration should be viewed as function of the expected sequestration by the farm sector in aggregate that is increasing their use of sequestration-enhancing practices - rather than as function of their permanence of practices adopted by individual producers. Variable conditions may cause an individual to temporarily change offset practices. However, not all farmers make the same changes each year.

In aggregate, there will be a collective persistence of carbon offsets if appropriate agricultural practices - verified by the standards-based approach or comparably performing verification measures - are carried out. Criteria for the duration of offsets should be based on the length of the project that will positively contribute to a net carbon sequestration benefit long term, taken all such offsets together. Building in such flexibility for individual producers in the offset program will be important for ease of enforceability as well as to accommodate exigencies of agriculture.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

A fair and equitable mechanism needs to be developed to smooth the transition from the current voluntary market to the standards and protocols developed under a mandatory system.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Producers that have previously initiated projects and practices that have lead to past GHG reduction should not be disadvantaged by being excluded from compensation for future offsets that occur as a result of these efforts if taken in the future. Agriculture is always evolving. As technologies and practices improve, farmers are adopting new and improved practices. As long as these producers must continue to proactively make use of such practices and incur the associated costs, they must be allowed to offer the resulting carbon offsets for sale in the offsets market, recognizing that they will only be paid for the future offsets that occur as a result of these on-going actions, and not for offsets that occurred in the past."

Furthermore, many practices undertaken to reduce greenhouse gas emissions will provide additional public benefits, such as clean water, wildlife habitat, and reduced soil erosion. Projects participating in a greenhouse gas offset market should not be excluded from also participating in other markets for environmental services that currently exist or may arise in the future. Allowing producers to "stack" credits will maximize the economic viability of carbon sequestration and other emission offset projects, ensuring more projects are undertaken than would otherwise be the case.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

Any activity that meets the requirements of the offset protocols should be recognized regardless of the original intent of the activity. The producer is the owner of the offset and should be free to sell, trade or bank offsets as they see fit.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

Due to the natural or environmental exigencies inherent in agriculture, it is possible that specific net carbon gain objectives, however well-intentioned and sincere, may not be

realized. These circumstances could be managed through a combination of offset administration steps - establishing carbon offset buffers, reserves, and crop and cropland rotation - to name a few.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

Detailed parameters and guidance for offset protocols and procedures should be included in the legislation. However, the actual development of protocols should be left to the agency with relevant expertise. A forum for input from producers and industry should be a cornerstone of the protocol development process.

An on-going industry effort to establish an agricultural soil offset standard is already underway by the agricultural soil carbon offset committee, organized by Novecta. This standard addresses many of the offset definition and criteria, measurement, verification, quantification, and governance requirements.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

The proper economic incentive is the largest obstacle facing agricultural producers. The price of soil carbon is key to producer participation. In addition, reducing the costs of measuring, verifying and selling offsets is critical to wide adoption of no-till and technologies that enable carbon sequestration.

Producers need clear guidance on the requirements of offset protocols so that they can have confidence in their operation and fully participate in carbon markets.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

No. The geographic extent and the number of acres covered by current no-till technologies is limited by perceived and actual challenges to the use of available technologies by farmers. Such issues include residue management and planter use, soil compaction, changed water movement through the soil profile, and changes in weed, insect and disease management.

All of these challenges, real or perceived, which are limiting the further adoption of soil conserving no-till practices, can be overcome with the right research and technology

development. What is needed, though, are opportunities for farmers in these lower adoption rate regions to have clear opportunities for increasing their profitability if the technologies are developed.

The current set of conservation programs simply does not provide the level of incentives needed to promote and spur technology development on the expectation of better net farm revenues. A carbon offsets program with well-valued carbon credits could very well provide the incentive needed to generate this innovation, able to lead agriculture to greater adoption of no-till with its associated soil and water conservation benefits.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

The effects of a changing climate will impact us all but are especially relevant to agriculture and to farmers around the world. As our population continues to grow, farmers will need to produce more to support rising demand and changing diets while at the same time adapting to a changing environment.

Through the use of technology, agriculture can help meet the growing demand and do so using fewer natural resources. In addition, technologies that reduce the inherent risks associated with farming, drought tolerance for example, are critical to helping producers adapt.

At Monsanto, we are contributing to finding answers to these challenges by investing in the development of seeds and biotech traits. As a company, we have made a commitment to double the yields of cotton, corn and soy by 2030.

Respondent did not complete the chart at the end of the questionnaire.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
MONTANA GRAIN GROWERS ASSOCIATION
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name: Bing Von Bergen

Organization(s) you represent: Montana Grain Growers Association

Address:

[Redacted]

Email :

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Bing Von Bergen, President of the Montana Grain Growers Association

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?

   Please respond in 600 words or less.

   - A cap-and-trade program is the most effective way to reduce emissions of greenhouse gases while minimizing the cost to taxpayers and the economy.
   - A cap-and-trade program that does not include the agricultural and forestry sector under the cap, but allows for agricultural and forestry based offsets to be traded as credits for compliance, would provide the best method of combating climate change.
   - A cap-and-trade program allows for those entities that are regulated, or under the cap, to reduce carbon emissions by using the most cost effective reduction methods. In this way, each entity has a choice to either reduce or to provide an incentive to encourage others to reduce, instead of paying a flat fee or using reduction methods if they are cost-prohibitive to the affected business.
   - Allowing offsets to compliment allowance trading further reduces the cost of complying with the cap, especially in the short term for capped sectors.
   - Carbon taxes/fees do not create a market for capped sectors to meet reduction requirements in the most cost efficient manner possible. Levying a carbon tax also takes away incentive for effective, innovative, and cost efficient offsets to be researched and implemented; limiting possible methods to reduce GHG levels. A tax would also prohibit the agricultural sector from participating in a multi-billion dollar offset trading market.
   - A carbon tax or fee does not limit GHG emissions to a certain level in the same way as a cap-and-trade program; rather, it levies a penalty in an attempt to change behavior and thus GHG emissions.
   - A hybrid of a cap-and-trade program and carbon tax is also unnecessary. Reduction levels can be met by reducing the total number of carbon permits allowed in the marketplace over time. Also, including the sale of offsets in a cap-and-trade program can act as a natural price regulator, because the option of purchasing offsets significantly lowers the cost of complying for capped sectors.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

   Please respond in 300 words or less.

   The MGGA membership is primarily involved in agriculture. The MGGA will limit our responses to that sector.

   - Agriculture should not be considered a capped sector in a cap-and-trade system. There are too many, small sources of GHG emissions within the agricultural sector to be tracked efficiently and effectively. The most effective way to address these small sources of pollution is through voluntary incentive programs.
   - The Agricultural sector should be allowed to produce and sell offsets to capped entities, which will lower the overall cost of compliance to the economy. This will also allow farmers the opportunity to contribute to and take part in new economic growth.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?

Please respond in 600 words or less.

Our MGGA response will once again be limited to agriculture.

- Allowances for the agricultural sector should be allocated at no cost, thus providing incentives promoting carbon reduction and carbon sequestration projects, the availability of which provides the most flexible cost containment opportunity in a cap and trade program.
- A portion of allowances should be distributed to early actors or as we like to refer to them "green pioneers", who took steps to reduce or sequester carbon before a cap was enacted.
- At the start of the program a balance should be struck between distributing allowances for free, as transitional assistance, and the auctioning of allowances.
- Distribution can be tapered over time so that fewer allowances are being distributed for free.
- The distribution of free allowances should be prioritized to actions and practices that will result in the lowest cost to the consumer.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

- No single mandatory program has developed a comprehensive offset mechanism.
- A newly created nationwide cap-and-trade program should include a robust offset mechanism that includes reduction models for all greenhouse gases.
- Current voluntary markets have limited accountability and may not be stringent enough in the measuring, monitoring, and verification of offsets.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

Please respond in 300 words or less.

- The USDA has been recognized in legislation such as the Farm Bill to have this type of authority; for example, through the new USDA Ecosystem Services division.
- The program should rely heavily on the USDA to administer the development and implementation of agricultural offset policies. USDA has scientific expertise, administrative structures and established working relationships with US agricultural sector that positions this agency to be an effective regulator.
- A combination of existing agencies should be used to regulate a newly created cap-and-trade program.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

Please respond in 300 words or less.

- The CFTC should continue as the regulator of the derivative carbon market, but should pair with the USDA to ensure that the development of offset policies is designed to maximize credits for carbon sequestration.
- With rigorous market oversight, these agencies should ensure that derivatives and futures markets will perform a legitimate function for all entities involved in the trading market and the economy as a whole.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities?
Please respond in 600 words or less.

- Yes, this system provides the flexibility needed to include all relevant participants in the trading of derivatives of energy-based commodities.
- The system should provide transparency, oversight, and structure that allows for verifiable carbon reductions and economic growth.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less

- As in the Lieberman-Warner bill, revenue generated by the sale of allowances should be distributed to communities that could be negatively impacted as a result of this policy. This policy should be kept to protect potentially vulnerable populations.
- A study from Bruce McCarl of Texas A&M showed that an unlimited offsets market created a net positive income for farmers even considering higher input costs, thus negating any potential negative impact on agricultural producers.
- The real question to consider is if climate legislation passes without an offset market, what will be the vulnerabilities of the economy at large (since compliance costs would be significantly higher) and to the rural and agricultural sectors specifically.
- An offset market allows protection for the larger economy and especially for rural areas that would otherwise be unduly affected by increases in energy costs with no means of making new revenue.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

- Allocation should be done using provisions similar to those included in the Lieberman-Warner Bill.
- Early actors or "green pioneers", should be rewarded with revenue generated from the sale of allowances.
- Revenue should be provided to sectors and sources that can provide the lowest cost reductions of greenhouse gas emissions and/or that have the highest potential to be negatively affected by any increases in energy and input costs. This can be done through the provision of revenue to the agricultural sector from the sale of allowances and offsets.
- Any carbon reduction scheme will create some costs to the economy, but a cap-and-trade program is the most cost efficient mechanism available. A cap-and-trade program that includes offsets allows capped sectors to meet reduction requirements in the most cost efficient method available, while also creating a marketplace for carbon credit and offset trading that further stimulates economic growth. A cap-and-trade program is the most economically equitable system for reducing GHG emissions.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

- Yes, businesses that are affected by overall costs should receive transitional assistance.
- A robust and flexible carbon offset program is the most effective tool for keeping those potential costs low.
- Revenue generated from the sale of allowances can be directed to those affected.
- This should be accomplished through the establishment of a market not a tax.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

- All available greenhouse gas reduction opportunities should be utilized.
- Some public lands could be managed to increase carbon stocks through various practices that can sequester carbon as part of a balanced set of uses for that land. Such sequestration could be used to help further reduce compliance costs.
- Credit for reduction in greenhouse gases should be given to the owner of the action.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

- There should be no limits on carbon prices. Setting an artificially low price on the value of carbon would limit the opportunities for implementation and innovation in methods to reduce carbon.
- The inclusion of offsets acts as an economic safety valve by reducing the overall cost of compliance.

- Any artificial limit on carbon prices becomes a limit, and in many cases, eliminates the opportunities for farm income from an offsets market.
- Allowing offset prices to be set by the market encourages innovation and motivates potential offset providers to more readily identify and implement a broad array of offset tools.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

- The EU-ETS initially distributed all allowances instead of selling or auctioning them. Businesses claimed future emissions based on high projected rates of growth, and the number of carbon allowances distributed was higher than the actual carbon emissions created within the EU. As a result, the system was less successful in reducing greenhouse gas emissions than it could have been. In a US domestic cap-and –trade program allowance credits should be distributed with a balance of auctioned and allocated credits.
- EU-ETS does not include domestic offset programs, only utilizes the Clean Development Mechanism (CDM) aimed at developing countries and Joint Implementation programs (JI). This limited opportunities for EU countries to implement low-cost greenhouse gas reduction strategies, such as for the agriculture and forestry sectors. In a US domestic cap-and-trade program a robust offset program should be developed to reduce the cost of meeting emission reduction requirements for the capped sectors. And therefore the economy as a whole,
- CDM/JI approves offset projects on a case by case basis, creating a tremendous backlog within the system and a higher cost of implementation. A set of standards needs to be developed to expedite the process of approving offset projects.

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

Please respond in 600 words or less.

Our MGGA response will once again be limited to agriculture.

- Options for greenhouse gas reduction should not be limited. Voluntary programs would be more effective than mandatory programs at providing incentives for practices in the agriculture sector.
- Incentive programs, like assisting in research and providing financial security, to encourage farmers to generate offsets are the most effective tools for including these sectors.

- A cap-and-trade program with a robust agriculture offset market should include payments to early actors or "green pioneers", and those faced with high energy costs with money generated from the sale of allowances.
- Agreed upon protocols for offsets should be created to ensure that quality offsets are being created and sold. A system of offset protocols would also help reduce the costs of measuring, monitoring, and verification for individual farmers.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

Please respond in 300 words or less.

- Preference for agriculture is to have unlimited offsets, because it does not restrict opportunities for the reduction of greenhouse gases through the sale of offsets. Modeling on bills considered by the U.S. Senate last year show dramatically lower compliance costs as more offsets are allowed to be used.
- Instead of limiting the number of offsets available on the market, the emphasis should be on the development of rigorous environmental standards that act as a measure for whether an offset project is effective and verifiable. This does not limit potential offsets, and everything that can be done to limit GHGs has the potential of being implemented and credited.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

Please respond in 600 words or less.

- Congress should not be in the market of pricing, prioritizing sources, or distributing offsets.
- Offsets can be emissions avoidance as well as carbon sequestration projects. These carbon reduction and sequestration projects should be treated differently than the allowances that Congress distributes.
- Because participation in an offsets program would be voluntary, and an offset provider would be creating a commodity, they should be allowed to sell or trade that offset on the market as such. In some cases, it may be that the contract between the offset provider and the offset purchaser is agreed to before a project begins and not afterwards. These are private exchanges that will be guided by federal regulations that define the qualities of an offset and any market mechanisms that are created to regulate the carbon market.
- Congress should not be in the business of distributing these commodities any more than they decide to whom a farmer is selling wheat.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

Please respond in 600 words or less.

- It is important that offsets be measurable, verifiable, additional, and enforceable. Where measurement uncertainties exist, discount rates should be used to account for this uncertainty.
- Measurement rates for various offset types should be established at the national level using data from field studies and the latest science applied by a carbon advisory board for establishing the rates of sequestration for various soil types and

geographical regions. These rates should be continually updated according to the science and backed up by random field sampling.
- Include modeling along with site specific testing to reduce costs for individual farmers.
- USDA should work cooperatively with the land grant universities who have conducted much research on this topic, particularly the Consortium for Agricultural Soils Mitigation of Greenhouse Gases (CASMGS) and USDA-ARS research stations in Pullman, WA and Pendleton, OR. Other important research has been conducted by programs established by the US Farm Bill and the Duke Standard.

18) What should be the criteria for assessing offset projects?

Please respond in 300 words or less.

- There should be a certification process for independent third party verifiers created by USDA.
- Once certified, these verifiers should inspect offset projects to ensure they comply with the rules prescribed for creating the offset according to its type.

19) How should Congress design a system for verifying offset projects?

Please respond in 300 words or less.

- Congress should delegate this authority to agencies such as USDA who have the technical expertise to design a system for verifying offset projects. The system selected should be the least intrusive as possible but accurate.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?

Please respond in 600 words or less.

- Standards need to be appropriate for a wide array of innovative offset types. For some offset types, such as methane offsets from digesters, project-specific data may be useful for determining the value of eligible offsets.
- For other offset types, such as soil carbon sequestration, Congress should establish a standards-based approach using values derived from the results of field studies and measurements from differing soil types and weather regions. In these circumstances, project-specific data could be used to improve the accuracy of the standards.

21) What should be the relationship between offsets and allowances?

Please respond in 600 words or less.

- There needs to be both an offsets market and an allowance set aside for the agriculture industry. Both features are needed to ensure a system that preserves the environmental integrity of offsets while not penalizing early actors or "green pioneers", who have already stored carbon in the ground.
- The Lieberman-Warner provision of a 5% allowance set aside paired with a robust offset market is the ideal outcome.
- Allowance revenue should be used as a way to compensate early actors or "green pioneers" and impacted industries; it should avoid creating a perverse incentive to reverse climate friendly land management practices.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?

Please respond in 300 words or less.

- Appropriate contract mechanisms should be put into place to ensure that generated offsets fulfill the contract obligation. Timing and flexibility should be taken into account in designing these contracts.
- Congress should think about this issue from a perspective of managing the risk of reversal and potential liability of an offset project type, rather than ensuring that any land-based activity is "permanent." Some GHG reductions that agriculture can provide are permanent, others can be long lasting and provide an opportunity for carbon leasing. The market can and should be allowed to sort out the value of these different options and players in the market should be directed to structure contracts to insure minimum standards for permanence and risk are met.
- One type of insurance being discussed for carbon soil sequestration is the creation of reserve pools of carbon storage. In the event of a natural disaster that releases offsets that have been bought and used as an emissions reduction, the reserve pool can be substituted.
- Penalties for intentional reversal of offsets could also be included.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?

Please respond in 600 words or less.

- CCX credits and other pre-regulatory action could be compensated with revenue from the allowance pool, but should not be accepted as offsets under the new system because there was no standard criteria for the creation of those credits. Many of the projects were not and would not be additional; therefore, their inclusion in an offset market would break the regulatory cap.
- To include these voluntary market credits in the new mandatory offset market would weaken the environmental integrity and market value of offsets.
- Regulations must be included to ensure that there is no double counting of offset credits when a nationwide system is created.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?

Please respond in 600 words or less.

- Early actors or as we like to refer to them "green pioneers", should be awarded with revenue from the sale of allowances.
- Yes, any activity with additional environmental benefit, which also reduces greenhouse gas emissions and has the ability to generate economic returns, should be allowed to be stacked by farmers. Any environmental market activity that meets the requirements of that system should be credited.
- Credit for those practices with multiple rewards should bring the most efficient practices to the surface.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

- The owner of the activity should be awarded payment from the sale of carbon credits.
- Any activity that meets the requirements for a greenhouse gas reduction should be awarded payment from the sale of carbon credits regardless of the original intent of the activity.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?
Please respond in 300 words or less.

There are a number of ways to compensate for potential reversals or failure to meet contractual agreements with buyers, whether the liability occurred through producer default, an act of god, failure to deliver contracted GHG offset tons, or overestimate of projected GHG offset tons. These include:

- Discounts for riskier offsets.
- A carbon reserve, or excess acreage for emission reductions, dedicated as a reserve in case of reversal.
- Development of federal risk management tools such as currently exists within the federal crop insurance program.
- 3rd Party Insurance.
- Allow a time frame or window before declaring a producer liable for not reducing GHG emissions.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?
Please respond in 300 words or less.

- The authority to develop protocols and procedures should be delegated to agencies that have the technical expertise to do so.
- The USDA and EPA should work cooperatively to develop protocols and procedures that include forestry and agricultural offsets in a cap-and-trade market.
- Detailing protocols and procedures in legislation could restrict further innovation and discovery of new offset potential.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

- Cost is always an issue to agricultural producers due the lag in time between implementation of a practice and the subsequent expense and receiving the financial reward. Agriculture is a business…an investment has to be cost effective or the business will fail…there must be a timely return on investment.

- Awareness, education, and access to information for policymakers and the public that lend credibility to the agricultural community's GHG reduction projects are some of the biggest obstacles in the way for the inclusion agricultural and forestry offsets.
- The measuring, monitoring, and verification of offsets needs to be made cost effective for individual farmers and foresters.
- Incentives for early actors or "green pioneers", also need to be included to ensure all greenhouse gas reductions are properly credited and to encourage continued action.
- Cultural, religious and social barriers which discourage changes in land management practices.
- How the practices of those renting farm land bind land owners when leases are not continued.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

Please respond in 300 words or less.

- No, there are no programs that have standards and incentives on equal footing with a mandatory cap and trade market, which have the potential to create billions of dollars in revenue while significantly reducing greenhouse gas emissions.
- Financial and technical incentives should be included to encourage the adoption and implementation of agricultural offset projects.
- Further development of measuring, monitoring, and verification systems, which include modeling as well as on-site testing of offset potential, is needed to reduce costs to individual farmers.
- Any program must ensure that early actors (green pioneers) are compensated for their efforts to reduce GHG emissions.
- Increased educational funding for disseminating the benefits of including agricultural and forestry offsets in mandatory, nationwide cap-and-trade program.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

The House Agriculture Committee should be taking a legislative lead in including agricultural offsets in cap-and-trade legislation. The benefits of offsets to the agricultural community, the environment and the economy as a whole are clear. Agricultural and forestry offsets provide effective, verifiable, and cost efficient GHG reduction methods as well as include the agricultural community in a multi-billion dollar offset trading market.

Additionality: For additionality, creating and designing measurement plans and quantifying true land-based offsets is becoming the widely accepted practice and could be the new standard under a mandatory market. Processes such as proportional additionality evaluate both the baseline and the additional carbon simultaneously. The concept of this process is, in short, to select similar

lands or projects and to compare the proportional change in carbon stocks that occurs at the project site versus the comparison site during the timeframe of the project. Proportional additionality could allow all participants to qualify for selling offsets no matter when they started the offset-generating practice by applying a discount on all offset credit corresponding to the number of existing projects in a particular industry. In this way, the system is accounting for "business as usual" but it is also including all those early actors who showed initiative and changed their operations prior to the climate law.

Leakage: Leakage is a more of an issue for the forestry sector than the agricultural sector. Regardless, implementing a nationwide cap-and-trade system would establish baselines and protocols, thus providing solutions to issues such as leakage.

RESPONSE TO QUESTIONNAIRE
SUBMITTED BY
CASSANDRA MOSELEY AND
KATHY LYNN
Committee on Agriculture
U.S. House of Representatives
Biographical Form

Name

Cassandra Moseley and Kathy Lynn

Organization(s) you represent

Institute for a Sustainable Environment, University of Oregon

Address

[Redacted]

Email

[Redacted]

If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.

Cassandra Moseley is the Director of the Ecosystem Workforce Program and Senior Research Associate in the Institute for a Sustainable Environment at the University of Oregon. Kathy Lynn in a Courtesy Research Assistant in the Institute for a Sustainable Environment. This affiliation information is for informational purposes only; the comments do not represent the position of the Institute or the University, which have not taken positions.

Part I: Carbon Reduction Program Design

1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?
Please respond in 600 words or less.

Both a cap-and-trade program and carbon taxes/fees could correct the market failure associated with greenhouse gas emissions by forcing polluters to internalize the environmental cost of their emissions. Significant revenue streams for the federal government can be generated by both policies (to the extent that allowances under a cap-and-trade program are auctioned). Even without auctions, significant revenue streams for non-governmental participants may be generated through offsets in a cap-and-trade system. Despite the similarities of these policies on a number of criteria, a carefully crafted and regulated cap-and-trade program, with an option for additional policy mechanisms, is preferable.

A cap-and-trade approach provides certainty in the quantity of emissions from capped sectors, while a carbon tax/fee will provide certainty in the price of emissions. This is the trade-off: clear limits on emissions to prevent further environmental degradation or clear signals to the economy on the price of emissions. Considering the causes of climate change, the primary focus of any program should be strict and immediate emissions limits to ameliorate an urgent environmental problem and prevent catastrophic atmospheric change, a focus that favors a cap-and-trade approach. Carbon taxes do not guarantee any change in actual emissions.

Cap-and-trade programs to limit greenhouse gas programs are already being used internationally, allowing the U.S. to link with international efforts to address a global problem. The EPA has experimented with the use of cap-and-trade mechanisms through the authority of the Clean Air Act since the 1970's to reduce emissions of criteria pollutants, phase out lead from gasoline (EPA Gasoline Lead Phase-down), and regulate sulfur emissions from mobile source engines (EPA Averaging Banking and Trading Program). A domestic program to limit sulfur dioxide emissions illustrated the impressive results of a well-designed cap-and-trade system, achieving emissions reductions at levels greater than expected with costs below expected levels.

Carbon taxes/fees have a narrower historical track record and are currently used in a more limited context internationally. Even with implementation of a carbon tax in Norway, actual emissions under the carbon tax rose higher than pre-tax levels due to increases in energy demand. Carbon taxes may also need to be adjusted periodically to ensure environmental effectiveness of the carbon reduction program. It is not immediately clear what effect frequent changes in the tax rate would have on the efficacy of the carbon reduction program.

Still, cap-and-trade and carbon taxes/fees are not mutually exclusive options and should be seen as complementary mechanisms. A carbon tax can probably be implemented more quickly and more easily than a cap-and-trade system; and the proposed regional systems do not cap all sources at the outset (Western Climate Initiative, for example, will

not include transportation fuels under a cap until 2015). Therefore, carbon taxes and other policy tools could be used as complementary instruments to provide a cost of carbon for emissions sources that will eventually be included under a cap. Together, a combination of approaches including cap-and-trade, carbon taxes/fees, incentives such as tax credits, and renewable energy standards can provide a balanced approach to GHG reduction.

2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?
Please respond in 300 words or less.

Agriculture and forestry should not be included as capped sectors under a carbon reduction program. These are natural systems, and to some degree, as we consider the climate change problem being caused by man or by anthropogenic sources of GHGs, it seems inappropriate to include natural systems as covered sectors or sources of GHGs. These systems have been part of baseline carbon dynamics since before industrialized man.

Agriculture and forestry are natural resource industries with integrated, broad ranging impacts on ecosystem services, including, but not limited, to the flux of atmospheric GHG concentrations. Ideally, the management decisions that produce positive GHG outcomes would also produce positive outcomes in other ecosystem services. This may often be the case, however, due to the dynamism of these systems, management activities that maximize GHG reductions or sequestration may sometimes conflict with other natural system values, such as species preservation, or water quality.

In addition, there are specific challenges associated with including agriculture and forestry as covered sectors in a cap-and-trade program including the difficulty of monitoring national level emissions from these sources. Including these sectors could impose burdensome and unrealistic reporting requirements for businesses in these sectors. Small farmers and forest landowners would likely be the most negatively impacted, as the scale and scope of their resources are easily overwhelmed.

A cap-and-trade program that covers the only the electricity, transportation, and industrial sectors would be effectively comprehensive, addressing 80% of domestic greenhouse gas emissions. However, we do believe that agriculture and forestry should be included under a carbon reduction program through a carbon offset program that provides quality offsets based on biological sequestration. These sectors should also be targeted for financial and technical assistance under a carbon reduction program to help address issues posed by changing climatic conditions, including opportunities to address adaptation.

3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?
Please respond in 600 words or less.

The distribution of emissions allowances will not affect the environmental integrity of a cap-and-trade program, but will have significant effects on distributional (i.e. regional, urban/rural, socioeconomic) equity of costs associated with a carbon reduction program.

These distributional effects should be a primary consideration as policymakers craft their strategy for allowance distribution, and the goal should be a program that maximizes regional, urban/rural, and socioeconomic equality in the face of a carbon reduction program.

Allowances under a cap-and-trade program will represent a relatively scarce commodity that will hold significant economic value. By auctioning emissions allowances to covered entities, government could collect revenues to be used in addressing specific public policy objectives, including minimizing impacts on vulnerable populations, aid to help natural ecosystems adapt to changing climates, strategies to encourage economic growth based on clean energy and a low-carbon world, and compensation for affected industries and consumers.

Studies have suggested that freely allocating allowances to covered entities increases the overall costs of a carbon reduction program by diminishing the capacity of governments to use new revenues to target those communities most affected by a cost of carbon ("Trade-Offs in Allocating Allowances for CO2 Emissions" Congressional Budget Office 2007). Evidence from the European Union Emissions Trading Scheme, where allowances were freely distributed, has provided empirical support to these arguments as covered entities accrued windfall profits at the expense of energy consumers faced with increasing costs ("Cap and Trade 101: A Climate Policy Primer" Sightline Institute 2009). Additionally, a free distribution would shield emissions sources from a cost of carbon, clearly emasculating the primary market mechanism that cap-and-trade is intended to deliver.

We feel that a substantial majority of allowances should be distributed through an auction. However, we also recognize that the political reality suggests some portion of allowances will be provided at no cost; this may be prudent for the initial years of a carbon reduction program to mitigate costs and refine the programs associated markets and administrative mechanisms. When determining the exact strategy form the distribution of allowances, policymakers should seek to ensure that the costs of a carbon reduction program are not borne disproportionately by vulnerable populations, natural systems, and sectors or regions of the economy.

4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

Please respond in 600 words or less.

Nearly half of all states have already agreed to develop and participate in regional carbon reduction programs through the Regional Greenhouse Gas Initiative (RGGI), the Western Climate Initiative (WCI), and the Midwest Greenhouse Gas Accord. Not all state and regional programs have progressed on identical timeframes and each program is currently at a very different point in its development. Regardless, state and regional programs represent early action to address climate change and should be given credit, subject to requirements that these programs produce real, verifiable, permanent reductions in GHG emissions or increases in biological sequestration. These programs have also produced consensus-based standards and protocols that may be valuable tools in the development of federal/national level methodologies.

Federal policy should explicitly address pre-existing regional and state policies in a number of ways. The goal of federal legislation should be to create a cap-and-trade program that limits national GHG emissions while also linking to, or integrating, state and regional programs. This national program should avoid a patchwork of state and regional markets and move toward a common market framework with a fairly uniform price for carbon. To accommodate states that have already taken action on GHG regulation, national policy could include some process for state and regional systems to transition to the national framework, providing a reasonable timeframe for adjustment and recognition of, or credit for, early action. State or regional systems with weaker policies or standards would need to strengthen them over time while systems with stronger policies or standards would also need to adjust in order to align with federal targets and rules.

An important consideration will be how and to what extent it might be possible for states to pursue policies with more stringent targets and rules. Even with California as a notable precedent in other areas such air pollution, it is difficult to foresee how this might be accomplished with GHG emissions considering the complexity of interstate commerce and the potential hurdles posed by a patchwork of state and regional policies. Nevertheless, under some circumstances, it may well make sense to permit states to pursue higher GHG emissions reduction standards.

5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.
Please respond in 300 words or less.

The federal government has experience implementing programs to reduce atmospheric pollutants that will prove useful in the regulation of GHG emissions. The Environmental Protection Agency (EPA) has implemented various market-based emissions reduction programs since the late 1970's. Although the EPA may have the most familiarity with the administration of an emissions trading scheme, it may not have the necessary expertise to formulate the regulations for all sectors affected by a cap-and-trade program including any potential offset programs. Agency expertise and relationships within particular sectors will be critical to establish successful approaches. For example, the Department of Agriculture (USDA) must take an active role in determining specific implementation actions that will succeed in the agriculture and forestry sectors.

Since the primary economic argument for cap-and-trade over command-and-control methods is the increased efficiency of a market-based program, the agency or agencies which administer any cap-and-trade program should be capable of efficiently and effectively maintaining a functioning market. If interagency cooperation cannot meet this need, then creation of a new agency may be justified. Regardless of whether a new or an existing agency regulates a cap and trade program, there should be clear oversight and monitoring of the program.

6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.
Please respond in 300 words or less.

The entity responsible for regulating the market is not necessarily as important as the methods by which that regulation is instituted and adequately enforced: the regulator must have the capacity and inclination to set ground rules, provide oversight and exert power to achieve these aims. The CFTC and the Securities and Exchange Commission have been successful in some instances, and the Environmental Protection Agency runs a successful sulfur dioxide trading system. The individual institution responsible for regulating the derivative carbon market is not as important as having stated goals, transparency and oversight, and the mechanisms to be successful.

7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

To address the impacts of speculation, while also fostering the development of a strong carbon markets, markets created by a cap-and-trade program should be sufficiently regulated to ensure that the access to the market and uncertainty in the cost carbon does not undermine the environmental integrity of the program.

Some fluctuations in the cost of carbon are appropriate and will be inevitable in a cap-and-trade program. However, carbon markets that are too unpredictable may stifle investment as businesses will not invest in mitigation or sequestration projects if there is too much risk or a lack of clarity about investment options. Conversely, some of the mechanisms that cushion this uncertainty for businesses and others are provided only by financial intermediaries; hedging, lending and insurance that make uncertainty and long-term investment palatable are major drivers for the financial sector.

On the other hand, the influence of financial intermediaries and derivatives in a future carbon markets could cause disruptive uncertainty in the cost of carbon. This may prove to be a major issue in protecting the efficiency of a cap-and-trade program as speculation could produce wild fluctuations in the cost of carbon, independent of any genuine scarcity created by a cap-and-trade system, that send artificial signals to the economy on the price of GHG emissions.

8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

Please respond in 600 words or less.

Rural populations will be disproportionately affected by both climate change and climate policy for two important reasons. First, the ecosystems on which rural populations

rely for their livelihood are being adversely affected by changing climatic conditions. Second, rural populations generally lead more energy-intensive lives and have higher incidence of poverty. Households and people in poverty will likely be more severely impacted by raising energy and commodity pricing ("Incidence of U.S. Climate Policy" Resources for the Future 2008). However, it is extremely difficult to predict the net distributional consequences of climate policy that may provide economic opportunities for rural areas, especially through different agriculture and forestry practices. For example, to the extent that sustainable natural resource management is a priority in climate policy, there may be landscape- or ecosystem-scale restoration opportunities that offer jobs and income to rural economies.

The true impacts of a carbon reduction program on rural populations, either positive or negative, will depend primarily on the structure and implementation of the policy. If key elements are not included, such as redistributive mechanisms for compensation of affected regions and populations, specific policies to address forest and agriculture mitigation opportunities, and strategies for addressing the adaptation needs of affected ecosystems, the program will likely have severe negative impacts on rural populations. These elements should be included as part of a carbon reduction program in order to produce the greatest environmental benefits with the least cost to society.

9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

Please respond in 300 words or less.

A carbon reduction program focused on the energy, transportation, and industrial sectors will effectively place an additional cost on production and distribution of every-day goods and services that will likely be passed on to consumers. This will have a regressive effect, disproportionately affecting low-income households due to the larger percentage of their incomes spent on energy and commodities. The costs of climate policy will be exacerbated for rural communities by natural systems that will experience significant adjustments as a result of climate change. By capturing the value generated by a cost of carbon through an auction and redistributing the revenues strategically, a well-designed a cap-and-trade program could dampen the regressive effects of a carbon reduction program.

Generally, these revenues can be directed towards priorities that will lessen the negative impacts of both climate policy and the biophysical impacts of climate change: transforming the nation's businesses and workforce to support a low-carbon, clean energy economy, particularly in rural communities; facilitating the transition for individuals, businesses, and communities most affected by climate change policies; and helping human communities and natural ecosystems adapt to climate change. Targeted investments to address these priorities should include financial incentives and technical assistance for business innovation and workforce training, financial assistance to low-income households in rural areas, and programs that promote sustainable and adaptive agriculture and natural resource management and ecosystem services.

10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

Please respond in 300 words or less.

Revenues generated from the auction of emissions allowances will provide opportunity to provide transitional assistance for affected businesses. This assistance should not be restricted to those businesses affected by the costs of climate policy, but should also include businesses affected by the biophysical changes associated with climate change. These decisions should be based less on the overall costs to business, but more so on the impacts to national and regional economies and how those costs may be passed on to consumers. These opportunities to assist affected businesses must not deter investments intended to help cushion the impacts of a carbon reduction program for vulnerable communities.

11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

Please respond in 300 words or less.

Federal land management agencies and public lands have dual roles in managing natural resources in the face of changing climate. These roles should be addressed through the inclusion of public lands and the participation of land management agencies in a range of activities designed to both mitigate climate change and adapt to its affects on natural systems.

First, public lands may be used to study and demonstrate how ecosystems may be effectively managed to adapt to climate change. Second, the value of ecosystem services, including carbon sequestration, provided through public land management may facilitate to market participation and could produce economic opportunities for local communities. Although there may be overlap, these roles are not equivalent and both should be supported and funded as necessary.

Federal land management agencies should engage in the development of forest carbon offset markets as the technical expertise of agency staff will prove useful in developing standards and protocols for biological sequestration offset projects. Line level staff should also receive training to understand how the effects of traditional activities, such as conservation and best management programs, translate into carbon benefits and market opportunities. This expertise will also prove critically important in developing strategies and tools to help natural systems and resource-dependent communities adapt to climate change.

As protocol are developed, federal land management agencies should participate to address questions and issues about resource management and the federal role and effects of federal participation in emerging markets. The role of federal land management agencies should be to expand and enhance carbon sinks through stewardship activities on public land. Existing state and regional protocols (i.e. CCAR) now allow offset projects from public lands and values from trading qualified offsets have the potential to increase investment in ecosystem services and land management activities with considerable potential for local communities.

12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

Please respond in 600 words or less.

The price of carbon that results from a cap-and-trade program will likely have substantial impacts on the success of the policy. This price is the primary driver of change in the economy, providing disincentive for GHG-intensive growth and promoting a low-carbon, clean energy economy. Extreme prices on either end of the spectrum have the potential to stifle the desired goals of climate policy.

A substantial cost of carbon is the primary mechanism of either cap-and-trade or a carbon tax, and while an excessively high cost of carbon is undesirable, a price that is too low should be of primary concern. "Safety valves" and other mechanisms designed to provide greater price certainty (i.e. price floors and ceilings, strategic allowance reserves) should not prohibited, but if used, they must not compromise the implementation of a cost of carbon, the central tool of climate policy, and should only be used in the case of excessively high allowances prices.

In theory, a cap that is too low and markets that respond insufficiently or too slowly could result in an excessive cost of carbon. A cap set too low would make allowances scarce and therefore expensive, and a slow demand response by business and consumers might fail to bring the cost of carbon back down. In turn, this high cost would pass along to consumers and businesses, resulting in significant regressive effects. In this scenario, a cap-and-trade system implemented too quickly or ambitiously would carry such a high price tag that its costs may outweigh its benefits.

However, there are a few reasons to believe that such a scenario will not occur and why, if it does, it would not be economically painful. First, most of the current targets for emissions reduction are fairly modest, so the cost passed along won't likely be excessive. Second, we have ample evidence that markets respond to costs similar to those likely to be experienced as a result of a carbon reduction program. For example: the spike in hybrid and small-car sales, rise in transit use, and the drop in gasoline consumption, all due to higher gasoline prices leading to a peak in 2008; the recent economizing by airlines in the face of high fuel prices; and widespread deployment of wind power as a result of the federal production tax credit. The most likely cause of a high cost of carbon would be scarcity brought on by economic growth, a circumstance where the economy would be well-suited to handle additional costs.

13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

Please respond in 600 words or less.

The development of the EU ETS and the experience with the trial period provides a number of useful lessons for the U.S. and other countries. Suppliers quickly factor the price of emissions allowances into their pricing and output behavior. Liquid bilateral markets and public allowance exchanges emerge rapidly and the "law of one price" for allowances with the same attributes prevails. The development of efficient allowance markets is facilitated by the frequent dissemination of information about emissions and

allowance utilization. Allowance price volatility can be dampened by including allowance banking and borrowing and by allocating allowances for longer trading periods. The redistributive aspects of the allocation process can be handled without distorting abatement efficiency or competition despite the significant political maneuvering over allowance allocations. However, allocations that are tied to future emissions through investment and closure decisions can distort behavior. The interaction between allowance allocation, allowance markets, and the unsettled state of electricity sector liberalization and regulation must be confronted as part of program design to avoid mistakes and unintended consequences. This will be especially important in the U.S. where 50 percent of the electricity is generated with coal ("The European Union's Emissions Trading System in Perspective" Pew Center on Global Climate Change 2008).

Part II: Carbon Reduction Program Administration and Implementation

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?
Please respond in 600 words or less.

Agriculture and forestry should be active participants in a carbon reduction program through both a voluntary offsets program and the allocation of allowances proceeds to address climate change threats and opportunities through adaptation and mitigation strategies.

A voluntary program for qualified offsets should be included within a cap-and-trade framework to provide incentives for emissions reductions and increases in biological sequestration from economic sectors that are not within the established caps, such as agriculture and forestry, and to provide opportunities for entities in the capped sectors to acquire emissions reductions from credible and cost-effective carbon offset projects. Activities under a voluntary offsets program should seek to provide emissions reductions or increases in biological sequestration that are credible, quantifiable, and verifiable, meeting standards that ensure the equivalence of offsets from different sectors and project types.

The financial incentives backing qualified offsets can stimulate entrepreneurial activity and encourage investment in forest-sector projects that provide credible and verifiable carbon benefits, while also providing co-benefits, including ecosystem services and economic development opportunities for rural communities. To ensure that the benefits of a voluntary offsets program are available at a variety of scales, such a program should encourage broad and diverse participation and provide access and opportunity for rural communities. In addition to a voluntary offsets program under a federal carbon reduction program, climate policy should maintain voluntary over-the-counter market opportunities in addition to formal, qualified offset markets guided by regulatory standards and protocols.

It is important to note, however that many worthy forestry projects will not meet rigorous standards for offsets established under a cap-and-trade system, yet will provide multiple values including absorbing and storing carbon. Rather than relaxing standards to get greater participation in offset programs a cap-and-trade program should support alternative programs to provide incentives for beneficial, non-offset, projects. A federal carbon reduction program should provide incentives for these types of activities that will produce real climate benefits, among others, if not able to satisfy the rigorous protocols necessary under an offset definition. These incentives can be supplied from the allocation of allowance proceeds generated from an allowance auction. Alternatively, these projects could receive "bonus allowances" under the cap, which are then sold to covered entities. This would provide financial incentives beneficial forestry products while also providing additional carbon reductions under the cap.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?
Please respond in 300 words or less.

When making the determination whether or not to limit the total number of offsets issued, policymakers should consider offset quality as the primary issue. By establishing appropriately rigorous standards and protocols for offset projects, a carbon reduction program will have established adequate limits to offset quantity by prohibiting excessive participation from less-than-qualified projects. The criteria for offsets and other tradable commodities representing environmental benefits are well understood and should be used to determine offset quality: additionality, permanence, market shifting (or "leakage"), monitoring and verification, etc. In short, rather than starting from some overall limitation as a share of planned reductions, a carbon reduction program should focus on offset quality.

Additionally, some share of offsets should capture other economic and environmental benefits that only some offsets projects will generate. Forest ecosystem restoration - as opposed to mere tree farming - is a good example. Such projects might also deliver higher quality offsets, as well. For example, a restored ecosystem might have a more legitimate "permanence" claim than a tree farm.

Some observers fear that an excessive supply of offsets will present a dangerous escape hatch that could violate a cap by allowing covered entities to fund alternatives to their own necessary action to reduction GHG emissions. The extent of this danger rests on parameters of the system - the ultimate goal is lower atmospheric CO2. If a cap is sufficiently strict and offsets are of sufficient quality, then the mix of regulated emissions reduction and offsets shouldn't matter. In practice, it seems unlikely that so many high-quality offsets will be available that we will be able to avoid reductions in fossil fuel use.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?
Please respond in 600 words or less.

In considering the distribution of offsets under a cap-and-trade program, we are assuming that the question is referring to the potential percentage of compliance able to be

fulfilled with offsets and the division of these offsets between particular sectors, international projects, etc. We would support a strong (large percentage or supply) option for domestic offsets from forestry activities, with provisions that identify the crucial role of offsets in preventing deforestation internationally.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?
Please respond in 600 words or less.

Criteria for measuring and accounting for the legitimacy of offsets should be based on a balance of environmental integrity and economic viability to ensure that offset markets are accessible for both large and small scale landowners. Existing protocols like CCAR, the Voluntary Carbon Standard (VCS), and the American Carbon Standard provide guidance on how to maintain legitimacy of offsets and should be considered as resources in the process of creating national-level standards. The VCS even addresses projects scale by allowing alternative verification options for small scale projects. So long as these requirements maintain the environmental integrity of projects, they will allow greater participation at the small scale, an important proviso for rural communities and small landowners.

In terms of accounting and measurement, forest offset projects may cause changes in a number of different carbon pools. Although measuring all carbon pools affected by an offset project may enable more complete emissions accounting, the cost of measuring changes in all carbon pools may be prohibitive. Potential increases in accounting accuracy should be considered along with the cost of measuring and monitoring affected pools, to be reviewed and updated regularly over time using the best available information. All carbon pools to be claimed for credit should be measured and monitored. The inclusion of carbon pools which may increase over time but are not financially feasible to measure and monitor should be optional (unless they are being claimed for credit).

Third-party verification of reported amounts of carbon should be completed before they are registered for offset credits. A set of standardized tools to help determine which carbon pools will require measurement would mitigate costs for landowners and project developers, and should be developed based on local/regional data.

18) What should be the criteria for assessing offset projects?
Please respond in 300 words or less.

To satisfy the necessary environmental integrity of offsets, potential forest projects should be required to address major criteria including permanence and leakage; baselines and additionality; aggregation; transaction costs; measurement and quality uncertainty; and monitoring and verification. All statistical approaches to estimating carbon storage and fluxes should apply conservative estimates to minimize the risk of overestimation. Forest offset projects have the potential to generate significant social and ecological co-benefits beyond carbon, as well. These benefits should be documented and considered for prioritization under a carbon reduction program. The assessment of offset projects should

maintain environmental integrity, while also providing economic viability that encourages participation from a broad scale of landowners and managers, and project developers.

19) How should Congress design a system for verifying offset projects?
Please respond in 300 words or less.

Existing protocols like CCAR and VCS provide direction to Congress and federal agencies in the design of a system to verify offset projects. Verification represents a cost to project developers and landowners. While stringent verification is necessary to maintain the environmental integrity of the carbon reduction program, Congress and federal agencies should seek to mitigate this cost to facilitate landowner participation at varying scales. The government may certify verifiers to ensure they meet a standard set of verification guidelines. Verification should be conducted by independent third parties independent of the government that do not have a conflict of interest in approving the offset project.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?
Please respond in 600 words or less.

These two options should not be considered as mutually exclusive and there is no reason why alternative options for compliance via project-based and standards-based accounting should not be available. Providing both options may allow a broader array or offset types and landowner participation that may not be easily accounted for using only one of these approaches.

A standards-based approach could mitigate costs to project developers and landowners by assuming stated carbon benefits of particular activities and eliminating the need for costly monitoring and verification of particular carbon pools while a project-based approach may allow landowners flexibility in designing offset projects. Agriculture and forestry projects, unlike industrial projects, will be highly varied, reflecting particular local and ecological conditions and allowing both standards- and project-based approaches to satisfy measurement requirements will provide flexibility and encourage innovative offset types.

21) What should be the relationship between offsets and allowances?
Please respond in 600 words or less.

Emissions allowances and qualified offset credits issued under a cap-and-trade program should be equivalent in terms of environmental benefits and considered as fully interchangeable for the purposes of complying with emissions limits. Properly designed offset markets will ensure this equivalency through adequate measurement and verification of carbon benefits. Some legislative proposals have proposed a system of discounting to limit the use of offsets for compliance purposes. Discounting undermines measurement mechanisms and standards, questions the utility and enforcement capacity of verification

mechanisms, and could result in unintended consequences like inflated accounting by project developers.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?
Please respond in 300 words or less.

Establishing a definition of "permanence" will be important. This issue is critical for credible and uniform carbon offset projects, but it poses particular challenges for forest-sector projects. Key factors for these projects include the length of time (e.g., 50-80 years) over which many forest projects sequester and store additional carbon, the risks and uncertainties associated with natural systems over such long periods of time, and the social and economic changes over long periods that might affect landowner behavior.

Existing offset programs have been exploring mechanisms to deal with these issues, such as insurance policies and clear policies to deal with reversals. Forest carbon projects should assign clear obligation for reversals. Withdrawal of an offset project may be acceptable so long as the carbon storage associated with that project is fully compensated for by registration of another project with at least as much carbon storage or through the payment of an "exit fee" equivalent to the value of the carbon represented by that project.

Additionally, the likely length of time required to sufficiently address issues of permanence in forestry projects will mean that projects may involve multiple landowners. There may need to be provisions in an offset standard for transfer of title, etc in order to facilitate this process. Obtaining and enforcing long-term commitments may be difficult, and allowing shorter-term contracts may provide for greater landowner participation, provided that such contracts maintain the necessary degree of environmental integrity. Clear rules should be established for replacing shorter-term credits so that environmental integrity is maintained, and contracts of varying duration should be standardized to allow them to remain equivalent in offset markets.

23) How should Congress address <u>existing</u> offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?
Please respond in 600 words or less.

The goal of an offset program within a national carbon reduction strategy should be to integrate state and regional, or other voluntary systems that wish to transition their projects or credits to the national program. In principle, transition policies should seek to reward or credit early action but also require timely action to transition to the national standards, assuming that national standards outperform existing standards. Assistance for this effort to bring projects up to standard may be an important federal role, recognizing that early-actors might receive some benefit for early entry. There might also be carbon offset markets, often referred to as over-the-counter markets, which continue to function with looser standards for carbon offset projects. Such markets might serve unique client niches outside of the national cap-and-trade system and should be allowed to function alongside a cap-and-trade system.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?
Please respond in 600 words or less.

Producers and landowners who have been early actors should be recognized and given opportunity to participate in national offset programs, perhaps given assistance in bringing their projects up to the standards of the new program. The national program should not simply provide full credit to early-actors who have put together projects under lesser standards.

The second question addresses the issue that we refer to as "co-benefits." If a landowner develops a project, such as reforestation, to sequester and store carbon, and the landowner meets additionality requirements by establishing a baseline against which additional carbon benefits are measured, that project is likely to provide a variety of "co-benefits" in addition to carbon, such as water quality, wildlife habitat, forest products, etc. These are clearly significant environmental and social benefits beyond carbon.

If one assumes that other markets for environmental services will develop the issues arises of whether a landowner can claim credit in water or habitat markets for the co-benefits provided by the same activities implemented for the carbon offset project. In this scenario, landowners should receive credit for all of the co-benefits that their management activities provide; well-designed natural resource management activities take into account an array of environmental factors and seek to provide a number of co-benefits. It will be difficult to separate and identify the specific activities and costs associated with each of the project co-benefits.

25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?
Please respond in 300 words or less.

The federal government has played a significant role in helping foster projects that may have significant carbon benefits, regardless of whether programs were designed explicitly to maximize carbon. Existing projects funded with federal program dollars may have trouble passing what's referred to as a financial additionality test as these projects did not require the revenue generated from the sale of offsets to make them economically viable, a traditional test for measuring additionality. If existing programs are used in the future to engage in offset markets, they will likely need to be redesigned to comply with offset protocols and these protocols will have to detail how these sorts of projects are treated (i.e. is there a cost-share threshold past which a landowner would fail a financial additionality test?). Beyond offsets, there is a critical role for federal investments in an array of landowner and community assistance programs as well as public lands programs for strategies to adapt to and mitigate climate change.

26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?

Please respond in 300 words or less.

To partially address the issue of reversals, credits for offset activities should only be generated ex-post (i.e. after the emissions reduction or sequestration has been measured and verified). Utilizing ex-post crediting inhibits project owners from fraudulently claiming emissions reductions or sequestration. If credits are issued this way, there are a variety of approaches for risk management that may be implemented and several methods should made be available to manage these risks and may provide a first line of control over the potential for negative environmental results. Buffer pools and insurance policies to cover the stored carbon or its market value are two of the most discussed approaches in current protocols to manage the risk of reversals.

The risk of reversals owing to natural disturbances should be managed through appropriate buffer pools that hold carbon benefits in reserve, insurance policies, or other tools that may be established in contractual arrangements that stipulate the particular details of assigning liability based on risk. The minimum requirements for insurance should be clearly outlined in any protocol and the contractual arrangements for insurance should be left to private parties. Although biological sequestration projects have the potential for impermanence (or reversals) of stored carbon, the mere existence of risk should not disqualify these project types.

27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

Please respond in 300 words or less.

A properly design offset program will require a considerable amount of detail, informed by experts from a broad community (i.e. science, policy, economics). The degree to which Congress could adequately address the level of detail required of an offset program is limited (i.e. politics, timing). Congress should provide direction, however, through principles that guide the establishment of an offset program including ensuring quality offsets, a system in which small scale businesses can easily participate, and procedures and protocols that value a full range of ecosystem service benefits from natural systems even as it maintains a focus on GHG reduction.

The details of an offset program will benefit from the expertise of federal agencies and the public comment period provided through an interagency federal rulemaking process. For agriculture and forestry offsets, the Department of Agriculture (USDA) should play a significant role due to the department's knowledge of agriculture and forestry practices, as well as its history of involvement with landowners. Particularly, the Forest Service should be engaged in the design of forestry offsets. The Office of Ecosystem

Services and Markets within the USDA has a distinct mission that includes facilitating the creation of these markets. This office should play a lead role in the development of protocols and procedures. The Environmental Protection Agency will likely be the lead agency implementing a carbon reduction program and should work with the USDA coordinate on the design of an offset program for agriculture and forest activities.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?
Please respond in 600 words or less.

Knowledge is a critical barrier; a significant amount of educational outreach to explain best management practices for carbon sequestration and emissions reduction should be pursued. It will be essential to train local and regional federal personnel, extension agents, and state service foresters to effectively assess the carbon sequestration impacts of traditional conservation and management programs. Private landowners will also need education about the benefits and costs associated with these practices, to include an explanation of public financial assistance programs available for landowners, along with a clear explanation of the contractual obligations and tax liabilities for landowner participation including land-use restrictions on current and future owners.

Cost of measuring some carbon pools (especially soil carbon) may be also prohibitive. The costs of measuring, monitoring, and verification should be considered and designed to enable the participation of small and micro-scale projects through appropriate aggregation or specially-designed approval programs. The Kyoto Protocol's Clean Development Mechanism has designed a special pathway for micro-projects to cut down on verification and compliance costs and could be used as guidance.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?
Please respond in 300 words or less.

Current conservation and forestry programs do not provide sufficient guidance on strategies and actions to adapt to and mitigate climate change, systems for monitoring and measuring the climate change benefits of such strategies and actions, financial investment in federal and state agency capacity to effectively implement such programs, or financial incentives for landowners to participate in such programs. Congress needs to address these, beginning with investments in applied research and capacity to transfer information to landowners and communities.

If forestry carbon projects are expected to be competitive with timber values, the price of offset credits will likely need to be higher than the prevailing market prices. To further incentivize adoption of conservation projects with carbon benefits, a supplemental tax benefit or subsidy may encourage these activities. The USDA's Conservation Reserve Program is an example of such a program. Federal private lands technical assistance providers (NRCS, USFS, CRSEES, etc.) could provide modeling in relation to baseline and

additionality services to privates, cutting costs and providing a layer of validation. Both an economic development service in relation to mitigation as well as an adaptation measure for improved forest management.

Part III: Carbon Reduction Program Additional Thoughts

Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.

Cassandra Moseley and Kathy Lynn are both participants of the Rural Voices for Conservation Coalition. The Rural Voices for Conservation Coalition (RVCC) is particularly concerned with how climate change will impact rural communities in the Western U.S. and the forests, watersheds and rangelands that dominate this landscape. RVCC is comprised of western rural and local, regional, and national organizations that have joined together to promote balanced conservation-based approaches to the ecological and economic problems facing the West. The following is an excerpt from the 2009 RVCC Climate Change issue paper (http://www.sustainablenorthwest.org/quick-links/resources/rvcc-issue-papers):

"National policy addressing climate change will have dramatic effects on rural communities and landscapes. Specific components of national climate change policy, such as how resources are prioritized, credit allocation or distribution, offset eligibility, or the opportunity to participate in emerging markets will affect rural communities and landscapes. Therefore, rural communities should have a role in the collaborative development of national climate change policies. RVCC believes several key principles for rural communities and landscapes should guide how climate change policies are developed and adopted in the U. S.

1) Federal and state governments should foster the development and dissemination of reliable climate change information and tools to help build public understanding of climate change issues. Governments should assist rural communities in developing climate change assessments, strategies, and plans, and monitoring strategies to enhance collaborative learning and adaptive management.

2) Federal and state climate change policies must include strategies to ensure that low-income and other vulnerable populations receive assistance with climate change impacts. The needs of these populations in rural areas may be significantly different than those of urban low-income and vulnerable populations.

3) Federal and state strategies for public and private forest land management should integrate climate change considerations within collaborative, landscape-scale forest restoration efforts.

4) Markets for forest carbon-offsets and ecosystem services should encourage broad and diverse participation, provide access and opportunity for rural communities, and clearly address issues related to project scale, sustainability, and benefits to local communities.

Federal and state climate change policies should provide technical and financial assistance to rural communities for capacity building and workforce training to implement both adaptation and mitigation strategies."

As an alternative to completing the following table, we would like to provide some broad recommendations on forestry practices for participation in offset markets and associated issues.

Forest related activities commonly cited as pertinent in relation to the verifiable sequestration of carbon for offset credits include:

- afforestation/reforestation
- avoided conversion/deforestation
- improved forest management

Each of these areas reflects a range of challenges and opportunities related to sequestration effectiveness, verification, and costs and capacity related to project implementation.

Afforestation/reforestation quickly sequesters carbon, but may need to offer assurances related to permanence. Site preparation and planting costs vary widely, but can be achieved by project developers at many scales.

Avoided deforestation offers a verifiable demonstration of reduced emissions through carbon storage in forest preservation and conservation, particularly in tropical forests. However, it remains to be seen if carbon markets in themselves will be sufficient to engage project developers when other high return land-use options may exist. This realm commonly will require participation by broad-ranging and large-scale partners.

Improved forest management has been shown to be effective in sequestering carbon through, for instance, longer rotations and reduced impact forestry, and often generates addition ecosystem benefits and can play a role in ecosystem adaptation measures. However, verification costs can make project development less than cost-effective and difficult for small producers.

Each of these activities can play an effective, verifiable, cost efficient role in offset generation, able to be utilized by project developers at various scales. However, federal policy discussions should recognize the distinctive contributions and challenges related to these various activities, and promote flexibility in policy design in order to maximize adaptation and mitigation contributions.

Respondent did not complete the chart at the end of the questionnaire.