EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

ADMINISTRATOR
OFFICE OF
INFORMATION AND
REGULATORY AFFAIRS

July 10, 2008

The Honorable Stephen L. Johnson
Administrator
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

Dear Administrator Johnson:

I am writing with regard to the draft Advance Notice of Proposed Rulemaking (ANPR) "Regulating Greenhouse Gas Emissions Under the Clean Air Act," submitted to the Office of Management and Budget (OMB) on June 17, 2008 pursuant to Executive Order 12866. The issues raised during interagency review are so significant that we have been unable to reach interagency consensus in a timely way, and as a result, this staff draft cannot be considered Administration policy or representative of the views of the Administration. However, given the Administration's commitment to respond to the Supreme Court's decision in *Massachusetts v. EPA*, we have determined in this case that consensus is not necessary in order for EPA to seek public comment on the wide-ranging issues raised by the draft regarding the potential regulation of greenhouse gases under the Clean Air Act. Thus, as we have discussed, you are withdrawing the draft from review under Executive Order 12866, and I am waiving the requirement for review due to the extraordinary circumstances presented here. Of course, given the significance of any actions to address greenhouse gas emissions under the Clean Air Act, any future notice would be subject to interagency review under Executive Orders 12866 and 13342.

The enclosed letter from the Secretaries of Agriculture, Commerce, Transportation, and Energy, along with summaries of issues raised by their departments, and letters from the Chairman of the Council on Environmental Quality, the Director of the Office of Science and Technology Policy and the Chairman of the Council of Economic Advisors, and the Chief Counsel for Advocacy at the Small Business Administration identify important concerns. As reflected in these letters, there is strong disagreement with many of the legal, analytical, economic, science and policy interpretations in the draft; however, these letters do reflect agreement with you that the Clean Air Act is a deeply flawed and unsuitable vehicle for reducing greenhouse gas emissions. Interagency reviewers concluded upon reading the draft that trying to address greenhouse gas emissions through the existing provisions of the Clean Air Act will not only harm the U.S. economy, but will fail to provide an effective response to the global challenge of climate change.

As the President observed in April:

> Decisions with such far-reaching impact should not be left to unelected regulators and judges. Such decisions should be debated openly [and] made by the elected representatives of the people they affect.

EPA should seek public comment on the issues raised in the attached letters and should address these issues before it considers, and before OMB reviews, a notice of proposed rulemaking under the Clean Air Act.

The draft sets out a hypothetical roadmap outlining ways in which different provisions of the Clean Air Act could be applied to address greenhouse gas emissions. Following such a regulatory roadmap could result in the piecemeal application of command-and-control regulation—based on EPA staff determinations of the availability and suitability of a wide range of technology—covering both U.S. manufacturing activity and a broad range of commercial and household activities to an extent well beyond the scope of current regulation. To illustrate:

- The draft observes that regulation under almost any section of the Act would trigger the prevention of significant deterioration (PSD) program, which could require case-by-case EPA permitting covering building design for large office and residential buildings, hotels, retail stores and other similarly-sized projects;

- The draft discusses potential requirements that would regulate the design of plants in the U.S. manufacturing sector to increase energy efficiency;

- The draft discusses various technologies to achieve greenhouse gas emission reductions in the trucking industry, including devices to limit vehicle speed;

- In the agricultural sector, the draft discusses animal feeding operations, agricultural soil management, and fire management practices as a source of greenhouse gas emissions;

- The draft discusses approaches to reduce greenhouse gas emissions from households, for example, it notes that it "could require a different unit of measure tied to [a] machine's mission or output—such as grams per kilogram of cuttings from a 'standard' lawn for lawnmowers";

- The draft suggests reducing greenhouse gases from shipping through both ship design and marine operations, including redesigning ship hulls, limiting ship speed, using less ballast, and regulating route planning and port management. (It notes that "innovative strategies for reducing hull friction include coatings with textures similar to marine animals…").

To mitigate the far reaching and potentially harmful effects of regulating greenhouse gases under the Clean Air Act, the draft offers several untested legal propositions for "flexible" interpretations of the Act. In the case of PSD permitting, which could capture thousands of small sources never before regulated under the Clean Air Act, the draft specifically acknowledges that these novel theories violate the plain meaning of the Act, but suggests "the plain meaning of

legislation is not conclusive…" The draft also relies on untested legal theories to suggest that some Clean Air Act provisions could be adapted to provide economic incentives to reduce greenhouse gas emissions. For example, it suggests that a regulatory program based on National Ambient Air Quality Standards might permit the adoption of a nationwide cap-and-trade program. Even if this regulatory approach legally could support economic incentives, it would likely be narrowly focused to cover a limited set of activities, and would not successfully engage the ingenuity and creativity of American citizens so that future generations can continue to enjoy both prosperity and environmental quality.

Addressing greenhouse gas emissions may be the most significant environmental policy decision of our generation, and I respect that you are engaging public debate on the appropriateness of relying on the Clean Air Act, written decades ago to address different air quality concerns, to guide these policies. I appreciate that EPA will publish in the *Federal Register* this letter along with the enclosed letters from your Cabinet and other colleagues in addition to the June 17th EPA draft in order to facilitate public understanding of, and public comment on, the issues associated with regulating greenhouse gases under the Clean Air Act.

Sincerely,

Susan E. Dudley
Administrator
Office of Information and Regulatory Affairs
Office of Management and Budget

United States Department of Agriculture | United States Department of Commerce | United States Department of Transportation | United States Department of Energy

July 9, 2008

The Honorable Susan E. Dudley
Administrator
Office of Information and Regulatory Affairs
Office of Management and Budget
Washington, D.C. 20503

Dear Administrator Dudley:

The Departments of Agriculture, Commerce, Transportation, and Energy have serious concerns with the draft Advance Notice of Proposed Rulemaking "Regulating Greenhouse Gas Emissions under the Clean Air Act" ("draft") submitted by the Environmental Protection Agency to the Office of Management and Budget on June 17, 2008.

Climate change is a significant issue for both our environment and our economy, and the nations of the world must act together to address greenhouse gas ("GHG") emissions. The United States currently is working with the world's major emitting economies to devise a new international framework to replace the one that expires in 2012. In addition, since 2001 our agencies have committed billions of dollars and have taken other actions to confront climate change through the development and deployment of new technologies; through rulemakings to increase fuel economy, energy efficiency, and the production and use of alternative fuels; and through significantly increased investment in new climate science research. These and other serious efforts to address climate change must continue.

The EPA staff now has prepared a draft suggesting that the Clean Air Act can be both workable and effective for addressing global climate change by regulating GHG emissions from stationary and mobile sources of virtually every kind. Our agencies have serious concerns with this suggestion because it does not fairly recognize the enormous—and, we believe, insurmountable—burdens, difficulties, and costs, and likely limited benefits, of using the Clean Air Act to regulate GHG emissions.

First, the Clean Air Act is fundamentally ill-suited to the effective regulation of GHG emissions. Indeed, the draft acknowledges that "the [Clean Air Act] was not specifically designed to address GHGs." Instead, the Clean Air Act is premised on the idea that controlling emissions in the United States will improve air quality in the United States, and that a State or region can improve its air quality by controlling emissions in that area. This is not true in the case of GHGs. Controlling GHG emissions in the United States will reduce atmospheric concentrations of those gases only if our emissions reductions are not simply replaced with emissions increases elsewhere in the world. Moreover, under the Clean Air Act, emissions requirements generally are related to a health-based or public-welfare-based air quality standard. Yet there is no such

standard for GHGs in the Act or elsewhere, and thus the draft seems to take the approach of seeking emissions reductions with no precise idea of exactly what goal is being pursued or what GHG concentration-level objective is to be achieved.

Second, the use of the Clean Air Act to regulate GHG emissions unilaterally as envisioned in the draft would harm America's international competitiveness. Applying Clean Air Act regulations to U.S. businesses in order to address global climate change—outside of any international framework that brings together all of the world's major economies, both developed and developing—would simply export economic activity and emissions to less-regulated countries and might not generate any net reduction in worldwide GHG emissions. According to the Energy Information Administration, carbon dioxide emissions in non-OECD (Organization for Economic Cooperation and Development) nations already surpass those of OECD nations and are estimated to exceed them by 72 percent in 2030. The draft does not take account of these realities, and instead builds a regime that would impose enormous costs on U.S. consumers, workers, and businesses without addressing the fundamental shift in emissions growth from the developed world to the developing world.

Third, while acknowledging that "the complexity and interconnections inherent in [Clean Air Act] regulation of GHGs" has caused EPA staff to "not believe that all aspects of the Act are well designed for establishing the kind of comprehensive GHG regulatory program that could most effectively achieve the GHG emission reductions that may be needed over the next several decades," the draft nevertheless suggests that regulating GHGs under the Clean Air Act would be workable. We disagree. The draft offers a number of legal constructs to support its position, but there is no certainty of how those theories will work in actuality, or whether they would be upheld by the courts. Such legal uncertainty simply emphasizes the risk to the Nation's energy, economic, and environmental security of seeking to shoehorn a GHG regulatory program into the Clean Air Act. Moreover, some might read the draft's discussion of an array of GHG regulatory constructs to prejudge the question of endangerment, even though there are critical open issues that must be addressed and resolved in making that legal determination and which must be decided before GHG emissions can be regulated under the Clean Air Act.

Even if the Act could support all of the legal theories outlined in the draft, the suggested permitting regimes would be extraordinarily intrusive and burdensome. In fact, the draft recognizes that regulation of GHG emissions under the Clean Air Act would likely extend permitting requirements and emissions controls to many sources not previously subject to Clean Air Act regulation, such as large buildings heated by natural gas. This could lead to EPA exercising de facto zoning authority through control over thousands of what formerly were local or private decisions, impacting the construction of schools, hospitals, and commercial and residential development.

Fourth, although the draft sets forth data and analysis that could be useful in the overall debate about GHGs, our agencies disagree with many of the assumptions in the draft about the costs of controlling GHGs, the technologies currently available and potentially available in the future, the timeline for the development of some of those technologies, and the potential harm from and benefits of controlling GHG emissions from specific sources. Moreover, there are important

differences between the draft and the peer-reviewed reports recently issued by the U.S. Climate Change Science Program—an interagency program in which EPA has been a key participant.

Finally, the draft suggests approaches to control GHG emissions that would needlessly duplicate newly passed laws and effectively ignore regulatory initiatives currently underway. For example, the Department of Transportation is already conducting a rulemaking to update fuel economy standards for light trucks and automobiles, pursuant to the recently enacted Energy Independence and Security Act of 2007. The draft suggests the possibility of an overlapping regulatory mandate using the Clean Air Act, potentially creating inconsistent regulatory mandates and uncertainty for U.S. industries and consumers, with minimal if any improvements in U.S. greenhouse gas emissions.

In sum, global climate change presents a serious challenge, and a workable and meaningful approach must be crafted to address that challenge. Unfortunately, using the Clean Air Act is not such an approach, as the draft sometimes acknowledges, but does not realistically address. In the enclosures with this letter, our respective agencies have provided brief analyses of some of the key technical, economic, and analytical difficulties with the draft, and our agencies may supplement these comments at a later date.

Sincerely,

Edward T. Schafer
Secretary
U.S. Department of Agriculture

Carlos M. Gutierrez
Secretary
U.S. Department of Commerce

Mary E. Peters
Secretary
U.S. Department of Transportation

Samuel W. Bodman
Secretary
U.S. Department of Energy

Enclosures

U.S. Department of Transportation
U.S. Department of Energy
U.S. Department of Commerce
U.S. Department of Agriculture

DEPARTMENT OF TRANSPORTATION

The Department of Transportation ("the Department" or "DOT") hereby submits the following preliminary comments on the Environmental Protection Agency ("EPA") staff's draft Advance Notice of Proposed Rulemaking "Regulating Greenhouse Gas Emissions under the Clean Air Act," which was submitted to the Office of Management and Budget on June 17, 2008 ("June 17 draft" or "draft"). In view of the very short time the Department has had to review the document, DOT will offer a longer, more detailed response by the close of the comment period.

General Considerations

In response to *Massachusetts v. EPA* and multiple rulemaking petitions, the EPA must consider whether or not greenhouse gases may reasonably be anticipated to endanger public health or welfare, within the meaning of the Clean Air Act. Such a determination requires the resolution of many novel questions, such as whether global or only U.S. effects should be considered, how imminent the anticipated endangering effects are, and how greenhouse gases are to be quantified, to name just a few. Without resolving any of these questions, let alone actually making an endangerment finding, the June 17 draft presents a detailed discussion of regulatory possibilities. In other words, the draft suggests an array of specific regulatory constructs in the transportation sector under the Clean Air Act without the requisite determinations that greenhouse gas emissions endanger public health or welfare and that regulation is feasible and

appropriate. In fact, to propose specific regulations prejudices those critical determinations and reveals a predilection for regulation that may not be justified.

Policymakers and the public must consider a broader question: even if greenhouse gas regulation using a law designed for very different environmental challenges is legally permissible, is it desirable? We contend that it is not. We are concerned that attempting to regulate greenhouse gases under the Clean Air Act will harm the U.S. economy while failing to actually reduce global greenhouse gas emissions. Clean Air Act regulation would necessarily be applied unevenly across sources, sectors, and emissions-causing activities, depending on the particular existing statutory language in each section of the Act. Imposing Clean Air Act regulations on U.S. businesses, without an international approach that involves all of the world's major emitters, may well drive U.S. production, jobs, *and emissions* overseas, with no net improvement to greenhouse gas concentrations.

The Department believes that the Nation needs a well considered and sustainable domestic climate change policy that takes into account the best climatological, technical and economic information available. That policy – as with any significant matter involving Federal law and regulation – should also reflect a national consensus that the actions in question are justified and effective, and do not bring with them substantial unintended consequences or unacceptable economic costs. Reducing greenhouse gas emissions across the various sectors of our economy is an enormous challenge that can be met effectively only through the setting of priorities and the efficient allocation of resources in accordance with those priorities.

It is an illusion to believe that a national consensus on climate policy can be forged via a Clean Air Act rulemaking. Guided by the provisions of a statute conceived for entirely different purposes – and unconstrained by any calculation of the costs of the specific regulatory approaches it contemplates – such a rulemaking is unlikely to produce that consensus.

Administrator Johnson of the EPA said in a recent speech, "now is the time to begin the public debate and upgrade [the Clean Air Act's] components." Administrator Johnson has called for fundamental changes to the Clean Air Act "to consider benefits, costs, risk tradeoffs and feasibility in making decisions about how to clean the air." This, of course, is a criticism of the Clean Air Act's ability to address its *intended* purposes, let alone purposes beyond those Congress contemplated. As visualized in the June 17 draft, the U.S. economy would be subjected to a complex set of new regulations administered by a handful of people with little meaningful public debate and no ability to consider benefits, costs, risk tradeoffs and feasibility. This is not the way to set public policy in an area critical to our environment and to our economy.

As DOT and its fellow Cabinet departments argue in the cover letter to these Comments, using the Clean Air Act as a means for regulating greenhouse gas emissions presents insurmountable obstacles. For instance, Clean Air Act provisions that refer to specific pollutants, such as sulfur dioxide, have been updated many times over the past three decades. In contrast, the language referring to unspecified pollutants, which would apply to greenhouse gases, retains, in fossil form, the 1970s idea that air pollution is a local and regional scale problem, with pollution originating in motor vehicles and a few large facilities, for which "end of pipe" control technologies exist or could be invented at

acceptable cost. Greenhouse gas emissions have global scale consequences, and are emitted from millions of sources around the world. If implemented, the actions that the draft contemplates would significantly increase energy and transportation costs for the American people and U.S. industry with no assurance that the regulations would materially affect global greenhouse gas atmospheric concentrations or emissions.

Transportation-Related Considerations

As the Nation's chief transportation regulatory agency, the Department has serious concerns about the draft's approach to mobile sources, including, but not limited to, the autos, trucks, and aircraft that Section VI of the draft considers regulating.

Title II of the Clean Air Act permits the use of technology-forcing regulation of mobile sources. Yet Section VI of the draft appears to presume an endangerment finding with respect to emissions from a variety of mobile sources and then strongly suggests the EPA's intent to regulate the transportation sector through an array of source-specific regulations. Thus, much of Section VI is devoted to describing and requesting information appropriate to setting technology-forcing performance standards for particular categories of vehicles and engines based on an assessment of prospective vehicle and engine technology in each source category.

In its focus on technology and performance standards, the draft spends almost no effort on assessing how different regulatory approaches might vary in their effectiveness and compliance costs. This despite the fact that picking an efficient, effective, and relatively unintrusive regulatory scheme is critically important to the success of any

future program -- and far more important at this stage than identifying the cost-effectiveness of speculative future technologies.

The draft fails to identify the market failures or environmental externalities in the transportation sector that regulation might correct, and, in turn, what sort of regulation would be best tailored to correcting a specific situation. Petroleum accounts for 99 percent of the energy use and greenhouse gas emissions in the transportation sector. Petroleum prices have increased fivefold since 2002. Rising petroleum prices are having a powerful impact on airlines, trucking companies, marine operators, and railroads, and on the firms that supply vehicles and engines to these industries. Petroleum product prices have doubled in two years, equivalent to a carbon tax of $200 per metric ton, far in excess of the cost of any previously contemplated climate change measure. Operators are searching for every possible operating economy, and capital equipment manufacturers are fully aware that fuel efficiency is a critical selling point for new aircraft, vehicles, and engines. At this point, regulations could provide no more powerful incentive for commercial operators than that already provided by fuel prices. Badly designed performance standards would be at best non-binding (if private markets demand more efficiency than the regulatory standard) or would actually undermine efficient deployment of fuel efficient technologies (if infeasible or non-cost-effective standards are required).

Light Duty Vehicles

On December 19, 2007, the President signed the Energy Independence and Security Act ("EISA"), which requires the Department to implement a new fuel economy standard for passenger cars and light trucks. The Department's National Highway Traffic Safety Administration ("NHTSA") has moved swiftly to comply with this law, issuing a Notice of Proposed Rulemaking ("NPRM") on April 22, 2008. The comment period for this NPRM closed on July 1, 2008. If finalized in its present form, the rule would reduce U.S. carbon dioxide emissions by an estimated 521 million metric tons over the lifetime of the regulated vehicles.

This NPRM is only the latest in a series of NHTSA Corporate Average Fuel Economy ("CAFE") program rules proposed or implemented during this Administration. Indeed, these proposals together represent the most aggressive effort to increase the fuel economy (and therefore to reduce the emissions) of the U.S. fleet since the inception of the CAFE program in 1975.

In enacting EISA, Congress made careful and precise judgments about how standards are to be set for the purpose of requiring the installation of technologies that reduce fuel consumption. Although almost all technologies that reduce carbon dioxide emissions do so by reducing fuel consumption, the EPA staff's June 17 draft not only ignores those congressional judgments, but promotes approaches inconsistent with those judgments.

The draft includes a 100-page analysis of a tailpipe carbon dioxide emissions rule that has the effect of undermining NHTSA's carefully balanced approach under EISA. Because each gallon of gasoline contains approximately the same amount of carbon, and essentially all of the carbon in fuel is converted to carbon dioxide, a tailpipe carbon

dioxide regulation and a fuel economy regulation are essentially equivalent: they each in effect regulate fuel economy.

In the draft's analysis of light duty vehicles, the external benefits of reducing greenhouse gas emissions account for less than 15 percent of the total benefits of improving vehicle efficiency, with the bulk of the benefits attributable to the market value of the gasoline saved. Only rather small marginal reductions in fuel consumption or greenhouse gas emissions would be justified by external costs in general, and climate change benefits in particular. Thus, the draft actually describes fuel economy regulations, which generate primarily fuel savings benefits, under the rubric of environmental policy.

Though it borrows an analytical model provided by NHTSA, the draft uses differing assumptions and calculates the effects of the Agency's standard differently than does the rule NHTSA proposed pursuant to EISA. The draft conveys the incorrect impression that the summary numbers such as fuel savings, emission reductions, and economic benefits that are presented in the draft are comparable with those presented in NHTSA's NPRM, when in fact the draft's numbers are calculated differently and, in many cases, using outdated information.

The draft does not include the provisions of EISA or past, current, or future CAFE rulemakings in its baseline analysis of light duty vehicle standards. Thus, the draft inflates the apparent benefits of a Clean Air Act light duty vehicle rulemaking when much of the benefits are already achieved by laws and regulations already on the books. The draft fails to ask whether additional regulation of light duty vehicles is necessary or

desirable, nor gives any serious consideration how Clean Air Act and EISA authorities might be reconciled.

The draft comprehensively mischaracterizes the available evidence on the relationship between safety and vehicle weight. In the draft, EPA asserts that the safety issue is "very complex," but then adds that it disagrees with the views of the National Academy of Sciences (NAS) and NHTSA's safety experts, in favor of the views of a two-person minority on the NAS panel and a single, extensively criticized article.

Much of the text of this portion of the draft is devoted to a point-by-point recitation and critique of various economic and technological assumptions that NHTSA, the Office of Management and Budget, and other Federal agencies – among them EPA – painstakingly calculated over the past year, but that EPA now unilaterally revises for this draft. It is not clear why it is necessary or desirable to use one set of analytical assumptions, while the rest of the Federal Government uses another.

The public interest is ill-served by having two competing proposals, put forth by two different agencies, both purporting to regulate the same industry and the same products in the same ways but with differing stringencies and enforcement mechanisms, especially during a time of historic volatility in the auto industry and mere months after Congress passed legislation tasking another agency with regulation in this area. The detailed analysis of a light duty vehicle rule in the draft covers the same territory as does NHTSA's current rulemaking – and is completely unnecessary for the purposes of an endangerment finding or for seeking comment on the best method of regulating mobile source emissions.

Setting Air Quality Standards

The discussion of the process for setting National Ambient Air Quality Standards ("NAAQS") and development of state/Federal implementation plans for greenhouse gases is presented as an option for regulating stationary sources, and is placed in the discussion of stationary sources. The draft describes a scenario in which *the entire country* is determined to be in nonattainment.

Such a finding would reach beyond power plants and other installations to include vital transportation infrastructure such as roads, bridges, airports, ports, and transit lines. At a time when our country critically needs to modernize our transportation infrastructure, the NAAQS that the draft would establish – and the development of the implementation plans that would follow – could seriously undermine these efforts. Because the Clean Air Act's transportation and general conformity requirements focus on local impacts, these procedures are not capable of assessing and reducing impacts of global pollutants without substantial disruption and waste.

If the entire Nation were found to be in nonattainment for carbon dioxide or multiple greenhouse gases, and transportation and general conformity requirements applied to Federal activities, a broad range of those activities would be severely disrupted. For example, application of transportation conformity requirements to all metropolitan area transportation plans would add layers of additional regulations to an already arduous Federal approval process and expand transportation-related litigation without any assurance that global greenhouse gas emissions would be reduced. Indeed, needed improvements to airports, highways and transit systems that would make the

transportation system more efficient, and thus help reduce greenhouse gas and other emissions, could be precluded due to difficulties in demonstrating conformity. Though the potential for such widespread impact is clear from even a cursory reading of the draft, it ignores the issue entirely.

For these reasons, we question the practicality and value of establishing NAAQS for greenhouse gases and applying such a standard to new and existing transportation infrastructure across the Nation.

Heavy Duty Vehicles

The draft contemplates establishing a greenhouse gas emissions standard for heavy duty vehicles such as tractor-trailers. The draft's discussion of trucks makes no mention of the National Academy of Sciences study required by Section 108 of EISA that would evaluate technology to improve medium and heavy-duty truck fuel efficiency and costs and impacts of fuel efficiency standards that may be developed under 49 U.S.C. Section 32902(k), as amended by section 102(b) of EISA. This section directs DOT, in consultation with EPA and DOE, to determine test procedures for measuring and appropriate procedures for expressing fuel efficiency performance, and to set standards for medium- and heavy-duty truck efficiency. DOT believes that it is premature to review potential greenhouse gas emission standards for medium- and heavy-duty trucks in light of this study and anticipated future standard-setting action under EISA, and, in any event, that it is problematic to do so with no accounting of the costs that these standards might impose on the trucking industry.

In the case of light duty vehicles, it can be argued that consumers do not accurately value fuel economy, and regulation can correct this failure. Heavy-duty truck operators, on the other hand, are acutely sensitive to fuel costs, and their sensitivity is reflected in the product offerings of engine and vehicle manufacturers. The argument for fuel economy or tailpipe emissions regulation is much harder to make than in the case of light duty vehicles.

The medium and heavy truck market is more complex and diverse than the light duty vehicle market, incorporating urban delivery vans, on-road construction vehicles, work trucks with power-using auxiliaries, as well as the ubiquitous long-haul truck-trailer combinations. Further, a poorly designed performance standard that pushes operators into smaller vehicles may result in greater and not fewer of the emissions the draft intends to reduce. Because freight-hauling performance is maximized by matching the vehicle to the load, one large, high horsepower truck will deliver a large/heavy load at a lower total and fuel cost than the same load split into two smaller, low horsepower vehicles.

Railroads

The Clean Air Act includes a special provision for locomotives, Section 213(a)(5), which permits EPA to set emissions standards based on the greatest emission reduction achievable through available technology. The text of the draft suggests that EPA may consider such standards to include hybrid diesel/electric locomotives and the application of dynamic braking.

As in other sectors, it is hard to imagine how a technology-forcing regulation can create greater incentives than provided by recent oil prices. And sensible public policy dictates caution against imposing unrealistic standards or mandating technology that is not cost-effective, not reliable, or not completely developed.

Marine Vessels

The International Maritime Organization ("IMO") sets voluntary standards for emissions from engines used in ocean-going marine vessels and fuel quality through the MARPOL Annex VI (International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto ("MARPOL"), Annex VI, Prevention of Air Pollution from Ships). Member parties apply these voluntary standards through national regimes. The IMO is also working to consider ways to address greenhouse gas emissions from vessels and marine transportation, including both vessel-based and operational measures. The U.S. is a participant in these discussions. We believe that the discussion of ways to reduce greenhouse gas emissions from vessels and marine transportation should reference the IMO voluntary measures and discussions, and need not address detailed technological or operational measures.

Aviation

The draft includes a lengthy discussion of possible methods by which to regulate the greenhouse gas emissions of aircraft. For all its detail, however, the draft does not

provide adequate information (and in some instances is misleading) regarding aviation emissions related to several important areas: 1) the overwhelming market pressures on commercial airlines to reduce fuel consumption and therefore carbon dioxide emissions and the general trends in aviation emissions growth; 2) expected technology and operational improvements being developed under the interagency Next Generation Air Transportation System ("NextGen") program; 3) the work and role of the International Civil Aviation Organization ("ICAO") in aviation environmental matters; 4) limits on EPA's ability to impose operational controls on aviation emission; and 5) the scientific uncertainty regarding greenhouse gas emissions from aircraft.

First, the draft does not provide the public an accurate picture of aviation emissions growth. Compared to 2000, U.S. commercial aviation in 2006 moved 12 percent more passengers and 22 percent more freight while burning less fuel, thereby reducing carbon output. Further, the draft's projections of growth in emissions are overstated because they do not reflect technology improvements in aircraft or air traffic operations and apparently do not take into account the industry's ongoing contraction or even the sustained increase in aviation jet fuel prices in 2007 and 2008. That increase (in 2008, U.S. airlines alone will spend $60 billion for fuel, compared to $16 billion in 2000) provides an overwhelming economic incentive for a financially troubled industry to reduce fuel consumption. Because reduction of a gallon of jet fuel displaces about 21 pounds of carbon dioxide, that incentive is the single most effective tool for reducing harmful emissions available today. Yet the draft makes no note of the trend.

Second, the draft does not adequately address the multi-agency NextGen program, one of whose principal goals is to limit or reduce the impact of aviation emissions on the

global climate. This includes continued reduction of congestion through modernization of the air traffic control system, continued research on aircraft technologies and alternative fuels, and expanded deployment of operational advances such as Required Navigation Performance that allow aircraft to fly more direct and efficient routes in crowded airspace. Through NextGen, the Department's Federal Aviation Administration (FAA), in cooperation with private sector interests, is actively pursuing operational and technological advances that could result in a 33 percent reduction in aircraft fuel burn and carbon dioxide emissions.

Third, the draft gives short shrift to the Administration's efforts to reduce aviation emissions through a multilateral ICAO process, and it contemplates regulatory options either never analyzed by EPA or the aviation community for aircraft ("fleet averaging"[1]) or previously rejected by ICAO itself (flat carbon dioxide standards). The FAA has worked within the ICAO process to develop guidance for market-based measures, including adoption at the 2007 ICAO Assembly of guidance for emissions trading for international aviation. ICAO has established a Group on International Aviation and Climate Change that is developing further recommendations to address the aviation impacts of climate change.[2] The FAA's emphasis on international collaboration is

[1] The concept of "fleet averaging," though used for automobiles, has never been applied to aviation or considered by either ICAO or FAA as a basis for standard setting. The draft offers little indication of why the concept would be worth serious consideration, and it is difficult to understand how that could be, given that manufacturers turn out only several hundred commercial airplanes for "averaging" annually, compared to over a million light duty vehicles per year built by large manufacturers. In any event, if further analysis supports the viability of fleet averaging, the appropriate venue for pursuing this would be through ICAO – so that aviation experts from around the world can assess the concept.

[2] In this context, we note that the draft invites comment on proposals in the European Union regarding an emissions trading scheme to be imposed by the EU on all Europe-connected commercial operations. The U.S. Government, led by the Department of State, has repeatedly argued that any of these proposals, if enacted, would violate international aviation law and has

compelled by the international nature of commercial aviation and the fact that performance characteristics of engines and airframes – environmental and otherwise – work best when they maximize consistency among particular national regulations.[3]

Fourth, the draft invites comments on potential aviation operational controls that might have emissions benefits. But proposals for changes to airspace or air traffic operational procedures usurp the FAA's responsibility as the Nation's aviation safety regulator and air traffic manager. It is inappropriate for the EPA to suggest operational controls without consideration of the safety implications that the FAA is legally required to address.

Finally, the draft does not accurately present the state of scientific understanding of aviation emissions and contains misleading statements about aviation emissions impacts. The report of the Intergovernmental Panel on Climate Change (cited in the draft but often ignored) more clearly conveys cautions about underlying uncertainties associated with regulating aviation emissions. For instance, the IPCC specifically concludes that water vapor is a small contributor to climate change, yet the draft focuses on condensation trails produced by water vapor and includes an inaccurate statement that carbon dioxide and water vapor are "the major compounds from aircraft operations that are related to climate change." Further, the draft does not convey the significant scientific uncertainty associated with measuring particulate matter (PM) emissions from

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made clear its opposition to the proposals in ICAO and other international fora. It is curious that the EPA would solicit comments on the benefits of proposals that the United States (along with numerous other nations) opposes as unlawful and unworkable.

[3] The draft is potentially misleading in suggesting that the fuel flow rate data reported for the ICAO landing and takeoff cycle engine emissions certification process, and the carbon dioxide emissions concentrations data collected for calculation and calibration purposes may be used as the basis for a carbon dioxide standard.

aircraft engines. That understanding needs to be significantly improved before any "tailpipe" PM standard could sensibly be considered.

Conclusion

The EPA has made an enormous effort in assembling the voluminous data that contributed to the draft as published today. However, because the draft does not adequately identify or discuss the immense difficulties and burdens, and the probable lack of attendant benefits, that would result from use of the Clean Air Act to regulate GHG emissions, DOT respectfully submits these preliminary comments to point out some of the problematic aspects of the draft's analysis regarding the transportation sector. We anticipate filing additional comments before the close of the comment period.

DEPARTMENT OF ENERGY

I. Introduction

The U.S. Department of Energy (Department or DOE) strongly supports aggressively confronting climate change in a rational manner that will achieve real and sustainable reductions in global greenhouse gas (GHG) emissions, promote energy security, and ensure economic stability. In support of these goals, DOE believes that the path forward must include a comprehensive public discussion of potential solutions, and the foreseeable impacts of those proposed solutions – including impacts on energy security and reliability, on American consumers, and on the Nation's economy.

The Department supports the actions taken by the United States to date to address global climate change and greenhouse gas emissions, and believes these efforts should be continued and expanded. These actions have included a broad combination of market-based regulations, large increases in funding for climate science, new government incentives for avoiding, reducing or sequestering GHG emissions, and enormous increases in funding for technology research. The Department has played a significant role in implementing many of these initiatives, including those authorized by the Energy Policy Act of 2005 and the Energy Independence and Security Act of 2007.

The Department believes that an effective and workable approach to controlling GHG emissions and addressing global climate change should not simply consist of a unilateral and extraordinarily burdensome Clean Air Act (CAA or the Act) regulatory program being layered on top of the U.S. economy, with the Federal Government taking

the position that energy security and indeed the American economy will just have to live with whatever results such a program produces. Rather, the United States can only effectively address GHG emissions and global climate change in coordination with other countries, and by addressing how to regulate GHG emissions while considering the effect of doing so on the Nation's energy and economic security. Considering and developing such a comprehensive approach obviously is enormously difficult.

Unfortunately, and no doubt due in part to the limitations of the Clean Air Act itself, the draft Advance Notice of Proposed Rulemaking prepared by the staff of the Environmental Protection Agency (EPA) does not take such an approach. That draft Notice, entitled "Regulating Greenhouse Gas Emissions under the Clean Air Act" ("draft"), which was submitted to the Office of Management and Budget on June 17, 2008, instead seeks to address global climate change through an enormously elaborate, complex, burdensome and expensive regulatory regime that would not be assured of significantly mitigating global atmospheric GHG concentrations and global climate change. DOE believes that once the implications of the approach offered in the draft are fully explained and understood, it will make one thing clear about controlling GHG emissions and addressing global climate change – unilaterally proceeding with an extraordinarily burdensome and costly regulatory program under the Clean Air Act is not the right way to go.

DOE has had only a limited opportunity to review the June 17 EPA staff draft, and therefore anticipates providing additional comments at a later date. Based on the limited review DOE has been able to conduct so far, it is apparent that the draft reflects extensive work and includes valuable information, analyses and data that should help

inform the public debate concerning global climate change and how to address GHG emissions.

However, DOE has significant concerns with the draft because it lacks the comprehensive and balanced discussion of the impacts, costs, and possible lack of effectiveness were the United States, through the EPA, to use the CAA to comprehensively but unilaterally regulate GHG emissions in an effort to address global climate change. The draft presents the Act as an effective and appropriate vehicle for regulating GHG emissions and addressing climate change, but we believe this approach is inconsistent with the Act's overarching regulatory framework, which is based on States and local areas controlling emissions of air pollutants in order to improve U.S. air quality. Indeed, the Act itself states that Congress has determined "air pollution prevention . . . and air pollution control at its source is the primary responsibility of States and local governments," CAA § 101(a)(3); that determination is reflected in the Act's regulatory structure. The CAA simply was not designed for establishing the kind of program that might effectively achieve global GHG emissions controls and emissions reductions that may be needed over the next decades to achieve whatever level of atmospheric GHG concentration is determined to be appropriate or necessary.

Although the draft recognizes that the CAA does not authorize "economy-wide" cap and trade programs or emission taxes, it in essence suggests an elaborate regulatory regime that would include economy-wide approaches and sector and multi-sector trading programs and potentially other mechanisms yet to be conceived. The draft has the overall effect of suggesting that under the CAA, as it exists today, it would be possible to develop a regulatory scheme of trading programs and other mechanisms to regulate GHG

emissions and thus effectively address global climate change. It is important to recognize, however, that such programs have not yet been fully conceived, in some cases rely on untested legal theories or applications of the Act, would involve unpredictable but likely enormous costs, would be invasive into virtually all aspects of the lives of Americans, and yet would yield benefits that are highly uncertain, are dependent on the actions of other countries, and would be realized, if at all, only over a long time horizon.

The draft takes an affirmative step towards the regulation of stationary sources under the Act – and while it is easy to see that doing so would likely dramatically increase the price of energy in this country, what is not so clear is how regulating GHG emissions from such sources would actually work under the CAA, or whether doing so would effectively address global climate change. Other countries also are significant emitters of GHGs, and "leakage" of U.S. GHG emissions could occur – that is, reduced U.S. emissions simply being replaced with increased emissions in other countries – if the economic burdens on U.S. GHG emissions are too great. In that regard, CAA regulation of GHG emissions from stationary sources would significantly increase costs associated with the operation of power plants and industrial sources, as well as increase costs associated with direct energy use (*e.g.* natural gas for heating) by sources such as schools, hospitals, apartment buildings, and residential homes.

Furthermore, in many cases the regulatory regime envisioned by the draft would result in emission controls, technology requirements, and compliance costs being imposed on entities that have never before been subject to direct regulation under the CAA. Before proceeding down that path, EPA should be transparent about, and there should be a full and fair discussion about, the true burdens of this path – in terms of its

monetary cost, in terms of its regulatory and permitting burden, and in terms of exactly who will bear those costs and other burdens. These impacts are not adequately explored or explained in the draft. What should be crystal clear, however, is that the burdens will be enormous, they will fall on many entities not previously subject to direct regulation under the Act, and all of this will happen even though it is not clear what precise level of GHG emissions reduction or atmospheric GHG concentration level is being pursued, or even if that were decided, whether the CAA is a workable tool for achieving it.

In the limited time DOE has had to review the draft, DOE primarily has focused on the extent to which the draft addresses stationary sources and the energy sector. Based on DOE's review, we briefly discuss below (1) the inadequacy of CAA provisions for controlling greenhouse gas emissions from stationary sources as a method of affecting global GHG concentrations and addressing global climate change; (2) the potential costs and effects of CAA regulation of GHG emissions on the U.S. electric power sector; and (3) considerations for U.S. action to address GHG emissions from stationary sources in the absence of an effective global approach for addressing climate change and worldwide GHG emissions.

II. The Ineffectiveness and Costs Associated with CAA Regulation of Greenhouse Gas Emissions from Stationary Sources

The draft states that it was prepared in response to the decision of the United States Supreme Court in Massachusetts v. EPA, 549 U.S. ___, 127 S. Ct. 1438 (2007). In that case, the Court held that EPA has the authority to regulate GHG emissions from new

motor vehicles because GHGs meet the Clean Air Act's definition of an "air pollutant." *Id.* at 1460. As a result, under section 202(a) of the Act, the EPA Administrator must decide whether, "in his judgment," "the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines" "cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." If the EPA Administrator makes a positive endangerment finding, section 202(a) states that EPA "shall by regulation prescribe . . . standards applicable to the emission of" the air pollutant with respect to which the positive finding was made.

The Supreme Court stated that it did not "reach the question whether on remand EPA must make an endangerment finding, or whether policy concerns can inform EPA's actions in the event that it makes such a finding." Instead, the Court said that when exercising the "judgment" called for by section 202(a) and in deciding how and when to take any regulatory action, "EPA must ground its reasons for action or inaction in the statute."

As a result, and based on the text of section 202(a) of the Clean Air Act, any EPA "endangerment" finding must address a number of issues that involve interpretation of statutory terms and the application of technical or scientific data and judgment. For example, an endangerment determination must involve, among other things, a decision about the meaning of statutory terms including "reasonably be anticipated to," "cause, or contribute to," "endanger," and "public health or welfare." Moreover, because the Act refers to "air pollutant" in the singular, presumably EPA should make any endangerment finding as to individual greenhouse gases and not as to all GHGs taken together, but this also is a matter that EPA must address and resolve. There are other issues that must be

resolved as well, such as: whether the "public health and welfare" should be evaluated with respect to the United States alone or, if foreign impacts can or should or must be addressed as well, what the statutory basis is for doing so and for basing U.S. emissions controls on foreign impacts; what time period in the future is relevant for purposes of determining what is "reasonably anticipate[d]"; whether and if so how EPA must evaluate any beneficial impacts of GHG emissions in the United States or elsewhere in making an endangerment determination; and whether a particular volume of emissions or a particular effect from such emissions from new motor vehicles must be found before EPA may make a "cause or contribute" finding, since the Act explicitly calls for the EPA Administrator to exercise his "judgment," and presumably that judgment involves more than simply a mechanistic calculation that one or more molecules will be emitted.

If EPA were to address these issues and resolve them in favor of a positive endangerment finding under section 202(a) of the Act with respect to one or more greenhouse gases and in favor of regulating GHG emissions from new motor vehicles, then the language similarities of various sections of the CAA likely would require EPA also to regulate GHG emissions from stationary sources. A positive endangerment finding and regulation of GHGs from new motor vehicles likely would immediately trigger the prevention of significant deterioration (PSD) permit program which regulates stationary sources that either emit or have the potential to emit 250 tons per year of a regulated pollutant or, if they are included on the list of source categories, at least 100 tons per year of a regulated pollutant. Because these thresholds are extremely low when considered with respect to GHGs, thousands of new sources likely would be swept into the PSD program necessitating time consuming permitting processes, costly new

investments or retrofits to reduce or capture GHG emissions, increasing costs, and creating vast areas of uncertainty for businesses and commercial and residential development.

In addition to the PSD program, it is widely acknowledged that a positive endangerment finding could lead to three potential avenues of stationary source regulation under the CAA: (1) the setting of national ambient air quality standards (NAAQS) under sections 108 and 109; (2) the issuance of new source performance standards (NSPS) under section 111; and/or (3) the listing of one or more greenhouse gases as hazardous air pollutants (HAP) under section 112. Each of these approaches, and their associated deficiencies with respect to GHG emissions and as a method of addressing global climate change, are briefly discussed below.

a. Sections 108-109: NAAQS

Section 108 of the CAA requires EPA to identify and list air pollutants that "cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare." For such pollutants, EPA promulgates "primary" and "secondary" NAAQS. The primary standard is defined as the level which, in the judgment of the EPA Administrator, based on scientific criteria, and allowing for an adequate margin of safety, is requisite to protect the public health. The secondary standard is defined as the level which is requisite to protect the public welfare. Within one year of EPA's promulgation of a new or revised NAAQS, each State must designate its regions as non-attainment, attainment, or unclassifiable. Within three years from the NAAQS promulgation, States

are required to adopt and submit to EPA a State implementation plan (SIP) providing for the implementation, maintenance, and enforcement of the NAAQS.

At least three major difficulties would be presented with respect to the issuance by EPA of a NAAQS for one or more greenhouse gases: (1) the determination of what GHG concentration level is requisite to protect public health and welfare; (2) the unique nature of GHGs as pollutants dispersed from sources throughout the world and that have long atmospheric lifetimes; and (3) GHG concentrations in the ambient air are virtually the same throughout the world meaning that they are not higher near major emissions sources than in isolated areas with no industry or major anthropogenic sources of GHG emissions.

While much has been said and written in recent years about the need to reduce greenhouse gas emissions to address climate change, there is far less agreement on the acceptable or appropriate atmospheric concentration level of CO2 or other GHGs. As the draft states, "[d]etermining what constitutes 'dangerous anthropogenic interference' is not a purely scientific question; it involves important value judgments regarding what level of climate change may or may not be acceptable." While the Department agrees with this statement, the courts have held that when setting a NAAQS, EPA cannot consider important policy factors such as cost of compliance. This limitation inhibits a rational balancing of factors in determining and setting a GHG NAAQS based on the science available, the availability and cost of emission controls, the resulting impact on the U.S. economy, the emissions of other nations, etc.

Unlike most pollutants where local and regional air quality, and local and regional public health and welfare, can be improved by reducing local and regional emissions,

GHGs originate around the globe, and are mixed and dispersed such that there is a relatively uniform atmospheric GHG concentration level around the world. There is little or nothing that a single State or region can do that will appreciably alter the atmospheric GHG concentration level in that particular State or region. Thus, it is hard to see how a GHG NAAQS, which required States to take action to reduce their emissions to meet a particular air quality standard, would actually work. A GHG NAAQS standard would put the entire United States in either attainment or non-attainment, and it would be virtually impossible for an individual State to control or reduce GHG concentrations in its area and, thus, to make significant strides towards remaining in or reaching attainment with the NAAQS.

Whatever level EPA might eventually establish as an acceptable NAAQS for one or more GHGs, EPA's setting of such a level would immediately implicate further issues under the NAAQS regime, including the ability of States and localities to meet such a standard. If the GHG NAAQS standard for one or more gases is set at a level below the current atmospheric concentration, the entire country would be in nonattainment. All States then would be required to develop and submit State Implementation Plans (SIPs) that provide for meeting attainment by the specified deadline. And yet, as the draft states, "it would appear to be an inescapable conclusion that the maximum 10-year horizon for attaining the primary NAAQS is ill-suited to pollutants such as greenhouse gases with long atmospheric residence times…[t]he long atmospheric lifetime of…greenhouse gases…means that atmospheric concentrations will not quickly respond to emissions reduction measures…in the absence of substantial cuts in worldwide emissions, worldwide concentrations of greenhouse gases would continue to increase despite any

U.S. emission control efforts. Thus, despite active control efforts to meet a NAAQS, the entire United States would remain in nonattainment for an unknown number of years."

As the draft also recognizes, if the NAAQS standard for GHGs is set at a level above the current atmospheric concentration, the entire country would be in attainment. In a nationwide attainment scenario, the PSD and new source review (NSR) permitting regimes would apply and States would have to submit SIPs for the maintenance of the primary NAAQS and to prevent interference with the maintenance by other States of the NAAQS; tasks, that as applied to GHGs, are entirely superfluous given the inability of any single State to change through its own unilateral action the global or even local concentration level of GHGs.

As the difficult choices and problematic results outlined above demonstrate, the inability of a single State to appreciably change atmospheric GHG concentrations in its own area through its own emission reduction efforts is inconsistent with a fundamental premise of the Clean Air Act and of the NAAQS program – that States and localities are primarily responsible for air pollution control and maintaining air quality, and that State and local governments can impose controls and permitting requirements that will allow the State to maintain or attain air quality standards through its own efforts.

b. Section 111: NSPS

Section 111 of the CAA requires the EPA Administrator to list categories of stationary sources if such sources cause or contributes significantly to air pollution which may reasonably be anticipated to endanger public health or welfare. The EPA must then

issue new source performance standards (NSPS) for such sources categories. An NSPS reflects the degree of emission limitation achievable through the application of the "best system of emission reduction" which the EPA determines has been adequately demonstrated. EPA may consider certain costs and non-air quality health and environmental impact and energy requirements when establishing NSPS. Where EPA also has issued a NAAQS or a section 112 maximum achievable control technology (MACT) standard for a regulated pollutant, NSPS are only issued for new or modified stationary sources. Where no NAAQS has been set and no section 112 MACT standard issued, NSPS are issued for new, modified, and existing stationary sources.

Regulation of GHGs under section 111 presents at least two key difficulties. First, EPA's ability to utilize a market system such as cap and trade has not been confirmed by the courts. EPA's only attempt to establish a cap and trade program under section 111, the "Clean Air Mercury Rule," was vacated by the U.S. Court of Appeals for the District of Columbia Circuit, though on grounds unrelated to EPA's authority to implement such a program under section 111. DOE believes EPA does have that authority, as EPA previously has explained, but there is legal uncertainty about that authority, which makes a GHG market-oriented program under section 111 uncertain.

Second, EPA's regulation of small stationary sources (which account for a third of all stationary source emissions) would require a burdensome and intrusive regulatory mechanism unlike any seen before under the CAA. If EPA were to determine that it cannot feasibly issue permits to and monitor compliance for all of these sources, a section 111 system presumably would cover only large stationary sources, which would place the

compliance burden completely on electric generators and large industrial sources, and reduce any overall effect from the GHG control regime.

However, there are questions about whether it would be permissible for EPA to elect not to regulate GHG emissions from small stationary sources. Section 111(b)(1) indicates that the Administrator must list a category of sources if, in his judgment, it causes, or contributes significantly to, air pollution which may reasonably be anticipated to endanger public health and welfare. Given the volume of greenhouse gases that are emitted from small stationary sources in the aggregate, it is uncertain whether, if EPA makes a positive endangerment finding for emissions of one or more GHGs from new motor vehicles, EPA could conclude that small stationary sources do not cause "or contribute significantly" to air pollution that endangers the public health or welfare. This might well turn on the interpretation and application of the terms in CAA section 202(a), noted above. Regardless, it is uncertain whether, and if so where, EPA could establish a certain GHG emission threshold for determining what sources or source categories are subject to GHG regulations under section 111. What does seem clear is that regulating GHG emissions under section 111 would entail implementation of an enormously complicated, costly, and invasive program.

c. Section 112: HAP

Section 112 contains a list of hazardous air pollutants subject to regulation. A pollutant may be added to the list because of adverse health effects or adverse environmental effects. DOE believes it would be inappropriate for greenhouse gases to

be listed as HAPs given, among other things, EPA's acknowledgment that ambient GHG concentrations present no health risks. Nevertheless, if one or more GHGs were listed under section 112, EPA would have to list all categories of "major sources" (defined as sources that emit or potentially emit 10 tons per year of any one HAP or 25 tons per year of any combination of HAPs). For each major source category, EPA must then set a maximum available control technology (MACT) standard.

It is entirely unclear at this point what sort of MACT standard would be placed on which sources for purposes of controlling GHG emissions, what such controls would cost, and whether such controls would be effective. However, complying with MACT standards with respect to GHG emission controls likely would place a significant burden on States and localities, manufacturing and industrial facilities, businesses, power plants, and potentially thousands of other sources throughout the United States. As the draft explains, section 112 "appears to allow EPA little flexibility regarding either the source categories to be regulated or the size of sources to regulate…. EPA would be required to regulate a very large number of new and existing stationary sources, including smaller sources…we believe that small commercial or institutional establishments and facilities with natural gas fired furnaces would exceed this major source threshold; indeed, a large single family residence could exceed this threshold if all appliances consumed natural gas."

Compliance with the standards under section 112 is required to be immediate for most new sources and within 3-4 years for existing sources. Such a strict timeline would leave little to no time for emission capture and reduction technologies to emerge, develop, and become cost-effective.

d. Effects of CAA Regulation of GHGs on the U.S. Energy Sector

While the Department has general concerns about the portrayal of likely effects of proposals to regulate GHGs under the CAA on all sectors of the U.S. economy, DOE is particularly concerned about the effects of such regulation on the energy sector. The effects of broad based, economy-wide regulation of GHGs under the CAA would have significant adverse effects on U.S. energy supplies, energy reliability, and energy security.

Coal is used to generate about half of the U.S. electricity supply today, and the Energy Information Administration (EIA) projects this trend to continue through 2030. (EIA AEO 2008, at 68) At the electricity generating plant itself, conventional coal-fired power stations produce roughly twice as much carbon dioxide as a natural gas fired power station per unit of electricity delivered. Given this reality, the effect of regulating emissions of GHGs from stationary sources under the CAA could force a drastic shift in the U.S. power sector. As Congressman John D. Dingell, Chairman of the U.S. House of Representatives Committee on Energy and Commerce, explained in a statement issued on April 8, 2008:

> "As we move closer to developing policies to limit and reduce emissions, we must be mindful of the impact these policies have on the price of all energy commodities, particularly natural gas. What happens if efforts to expand nuclear power production and cost-effectively deploy carbon capture and storage for coal-fired generation are not successful? You know the answer. We will drive

> generation to natural gas, which will dramatically increase its price tag. We don't have to look too far in the past to see the detrimental effect that high natural gas prices can have on the chemical industry, the fertilizer industry, and others to know that we must be conscious of this potential consequence."

Chairman Dingell's view is supported by studies of the climate bill recently considered by the United States Senate. EIA's analysis of the Lieberman-Warner bill stated that, under that bill, and without widespread availability of carbon capture and storage (CCS) technology, natural gas generation would almost double by 2030. *See* Energy Information Administration, *Energy Market and Economic Impacts of S. 2191, the Lieberman-Warner Climate Security Act of 2007* at 25.[4]

If CAA regulation of GHG emissions from stationary sources forces or encourages a continued move toward natural gas fired electric generating units, there will

[4] DOE's Energy Information Administration (EIA) prepared an analysis of the proposed Lieberman-Warner Climate Security Act of 2007 and projected that if new nuclear, renewable and fossil plans with carbon capture and sequestration are not developed and deployed in a time frame consistent with emissions reduction requirements, there would be increased natural gas use to offset reductions in coal generation, resulting in markedly higher delivered prices of natural gas. *See Energy Market and Economic Impacts of S. 2191, the Lieberman-Warner Climate Security Act of 2007* (EIA, April 2008) EIA estimated price increases from 9.8 cents per kilowatthour in 2020 to 14.5 cents per kilowatthour in 2030, ranging from 11 to 64 percent higher by 2030. *Id., p. 27, Figure 16.* EPA's analysis of the proposed legislation similarly projected electricity prices to increase 44% in 2030 and 26% in 2050 assuming the growth of nuclear, biomass or carbon capture and storage technologies. *See EPA Analysis of the Lieberman-Warner Climate Security Act of 2008* (March 14, 2008), pp. 3, 57. If the growth of nuclear, biomass, or carbon capture and storage technologies was constrained, EPA projected that electricity prices in 2030 would be 79% higher and 2050 prices would be 98% higher than the reference scenario prices. Other analyses of the legislation also projected substantial increases in energy costs for consumers. *See, e.g. Analysis of the Lieberman-Warner Climate Security Act (S. 2191) Using the National Energy Modeling* System (A Report by the American Council for Capital Formation and the National Associate of Manufacturers, conducted by Science Applications International Corporation (SAIC))(study finding increases in energy prices for residential consumers by 26% to 36% in 2020, and 108% to 146% in 2030 for natural gas, and 28% to 33% in 2020, and 101% to 129% in 2030 for electricity). Further, in its analysis o the bill the Congressional Budge Office estimated that costs of private sector mandates associated with the legislation would amount to more than $90 billion each year during the 2012-2016 period, most of which cost would ultimately be passed on to consumers in the form of higher prices for energy and energy-intensive goods and services. *See Congressional Budget Office Cost Estimate, S.* 2191 (April 10, 2008), pp. 2, 19.

be significantly increased demand for natural gas. Given the limitations on domestic supplies, including the restrictions currently placed on the production of natural gas from public lands or from areas on the Outer Continental Shelf, much of the additional natural gas needed likely would have to come from abroad in the form of liquefied natural gas (LNG). This LNG would have to be purchased at world prices, currently substantially higher than domestic natural gas prices and generally tied to oil prices (crude or product). To put this into perspective, natural gas closed on June 27, 2008, at about $13.20/mcf for August delivery, about twice as high as last year at this time, despite increasing domestic natural gas production. The reason is that unlike last year, the U.S. has been able to import very little LNG this year, even at these relatively high domestic prices. United States inventories of natural gas in storage currently are about 3% below the five year average, and are 16% below last year at this time. Among other effects, a large policy-forced shift towards increased reliance on imported LNG would raise energy security and economic concerns by raising domestic prices for consumers (including electricity prices) and increasing U.S. reliance on foreign sources of energy.

In order for coal to remain a viable technology option to help meet the world's growing energy demand while at the same time not addressing GHG emissions, CCS technologies must be developed and widely deployed. While off-the-shelf capture technologies are available for coal power plant applications, current technologies are too costly for wide scale deployment for both new plant construction and retrofit of the existing fleet of coal-fired power plants. DOE studies (e.g., DOE/NETL Report: "Cost and Performance Baseline for Fossil Energy Plants," May 2007) show that capturing and sequestering CO2 with today's technology is expensive, resulting in electricity cost

increases on the order of 30%-90% above the cost of electricity produced from new coal plants built without CCS.

The impact of a policy that requires more production of electricity from natural gas will be felt not just in the United States but in worldwide efforts to reduce GHG emissions. Unless U.S. policy supports rapid development of CCS technologies to the point that they are economically deployable (i.e., companies are not forced to switch to natural gas fired electric generating facilities), CCS will not be installed as early as possible in the China or other developing nations. In a global climate sense, most of the benefit from new technology installation will come from the developing countries, and much of the international benefit would come from providing countries like China and India with reasonable-cost CCS options for development of their massive coal resources, on which we believe they will continue to rely.

III. Energy Policy Considerations for Addressing Climate Change

The Department is concerned that the draft does not properly acknowledge collateral effects of using CAA regulation to address global climate change, particularly in the absence of a regime that actually will effectively address global climate change by addressing global GHG emissions. DOE strongly supports efforts to reduce GHG emissions by advancing technology and implementing policies that lower emissions, but doing so in a manner that is conscious of and that increases, rather than decreases, U.S. energy security and economic security. With these goals in mind, DOE believes policymakers and the public should be mindful of the considerations briefly described

below as the United States seeks to effectively address the challenge of global climate change.

Secretary Bodman has stated that "improving our energy security and addressing global climate change are among the most pressing challenges of our time." This is particularly true in light of the estimate by the International Energy Agency that the world's primary energy needs will grow by over 50% by 2030.

In order to address these challenges simultaneously and effectively, the United States and other countries must make pervasive and long-term changes. Just as the current energy and environmental situation did not develop overnight, neither can these challenges be addressed and resolved immediately.

To ensure that we *both* improve energy security and reduce GHG emissions, rather than address one at significant cost to the other, DOE believes that a number of actions must be taken. None of these actions is sufficient in itself, and none of these actions can be pursued to the exclusion of the others.

Specifically, the United States and other nations must: bring more renewable energy online; aggressively deploy alternative fuels; develop and use traditional hydrocarbon resources, and do so in ways that are clean and efficient; expand access to safe and emissions-free nuclear power, while responsibly managing spent nuclear fuel and reducing proliferation risks; and significantly improve the efficiency of how we use energy. In all of these things, the Department believes that technological innovation and advancement is the key to unlocking the future of abundant clean energy and lower GHG emissions. Therefore, this innovation and advancement – through government funding,

private investment, and public policies that promote both of these – should be the cornerstone of any plan to combat global climate change.

In recent years, DOE has invested billions of dollars to advance the development of technologies that advance these objectives. For example, in 2007 DOE funded the creation of three cutting-edge bioenergy research facilities. These facilities, which are already showing progress, will seek to advance the production of biofuels that have significant potential for both increasing the Nation's energy security and reducing GHG emissions. Since the start of 2007, DOE has invested well over $1 billion to spur the growth of a robust, sustainable biofuels industry in the United States.

DOE also has promoted technological advancement and deployment in other renewable energy areas such as wind, solar and geothermal power, and these advancements and policies are producing results. For example, in 2007, U.S. cumulative wind energy capacity reached 16,818 megawatts – more than 5,000 megawatts of wind generation were installed in 2007 alone. The United States has had the fastest growing wind power capacity in the world for the last three years in a row. In addition, DOE recently issued a solicitation offering up to $10 billion in federal loan guarantees, under the program authorized by Title XVII of the Energy Policy Act of 2005, to incentivize the commercial deployment of new or significantly improved technologies in projects that will avoid, reduce or sequester emissions of GHGs or other air pollutants.

DOE strongly believes that nuclear power must play an important role in any effective program to address global climate change. Indeed, we believe that no serious effort to effectively control GHG emissions and address climate change can exclude the advancement and development of nuclear power. DOE continues to seek advancements

in nuclear power technology, in the licensing of new nuclear power facilities, and in responsibly disposing of spent nuclear fuel. With respect to new nuclear power plants, DOE has put in place a program to provide risk insurance for the developers of the first new facilities, and recently issued a solicitation offering up to $18.5 billion in federal loan guarantees for new nuclear power plants.

Significant advancements have been made in recent years toward the development of new nuclear facilities. There now are pending at the Nuclear Regulatory Commission several applications, all of which have been filed in 2007 or 2008, to license new nuclear generating facilities. DOE views the filing of these applications and the interest in licensing and building new nuclear power facilities as very positive developments from the perspectives of the Nation's electric reliability and energy security, as well as the effort to control greenhouse gas emissions. But there still is much to be done, and it will take a sustained effort both by the private sector and by federal, State and local governments, to ensure that these facilities are licensed, built and placed into service.

As noted above, DOE believes that coal can and must play an important role in this Nation's energy future. Moreover, regardless what decisions about coal U.S. policy officials may wish to make, it seems clear that coal will continue to be used by other countries to generate electricity for decades to come. It has been noted that China is building new coal power plant capacity at the incredible rate of one per week. As a result, it is critically important that we develop and deploy cost-effective carbon capture and sequestration technology, both to ensure that we can take advantage of significant energy resources available in the United States, but also to help enable the control of emissions in other countries as well.

DOE believes that cost effective CCS technology must be developed over the next 10-15 years that could be deployed on new plants built to meet increasing demand and to replace retiring capital stock, and retrofitted on existing plants with substantial remaining plant life. DOE is helping to develop technologies to capture, purify, and store CO2 in order to reduce GHG emissions without significant adverse effects on energy use or on economic growth. DOE's primary CCS research and development objectives are: (1) lowering the cost and energy penalty associated with CO2 capture from large point sources; and (2) improving the understanding of factors affecting CO2 storage permanence, capacity, and safety in geologic formations and terrestrial ecosystems.

Once these objectives are met, new and existing power plants and fuel processing facilities in the U.S. and around the world will have the potential to deploy CO2 capture technologies. Roughly one third of the United States' carbon emissions come from power plants and other large point sources. To stabilize and ultimately reduce atmospheric concentrations of CO2, it will be necessary to employ carbon sequestration – carbon capture, separation and storage or reuse. The availability of advanced coal-fired power plants with CCS to provide clean, affordable energy is essential for the prosperity and security of the United States.

The DOE carbon sequestration program goal is to develop at R&D scale by 2012, fossil fuel conversion systems that offer 90 percent CO2 capture with 99 percent storage permanence at less than a 10 percent increase in the cost of energy services from new plants. For retrofits of existing facilities, the task will be much harder, and the penalties in terms of increased cost of power production from those plants likely will be much higher. We expect that these integrated systems for new plants will be available for full

commercial deployment – that is, will have completed the demonstration and early deployment phase – in the 2025 timeframe. Of course, there are inherent uncertainties in these projections and long-term research, development, demonstration and deployment goals.

In line with the Department's CCS R&D goals, DOE is working with regional carbon sequestration partnerships to facilitate the development of the infrastructure and knowledge base needed to place carbon sequestration technologies on the path to commercialization. In addition, DOE recently restructured its FutureGen program to accelerate the near-term deployment of advanced clean coal technology by equipping new integrated gasification combined cycle (IGCC) or other clean coal commercial power plants with CCS technology. By funding multiple projects, the restructured FutureGen is expected to at least double the amount of CO2 sequestered compared to the concept that previously had been announced in 2003. The restructured FutureGen approach also will focus on the challenges associated with avoidance and reduction of carbon emissions and criteria pollutants through sequestration.

In order to reduce the demand on our power sector and the associated emissions of GHGs and other pollutants, we must continue to support expanded efforts to make our society more efficient, from major power plants to residential homes. DOE has helped lead this effort with, among other things, its Energy Star program, a government-backed joint effort with EPA to establish voluntary efficiency standards that help businesses and individuals protect the environment and save money through greater energy efficiency. By issuing higher efficiency standards for an increasing number of products, the Energy Star program helps consumers make fully-informed and energy-conscious decisions that

result in reduced emissions of GHGs and other pollutants. Last year alone, with the help of the Energy Star program, American consumers saved enough energy to power 10 million homes and avoid GHG emissions equivalent to the emissions from 12 million cars – all while saving $6 billion in energy costs.

IV. Conclusion

The Department believes the draft does not address and explain in clear, understandable terms the extraordinary costs, burdens and other adverse consequences, and the potentially limited benefits, of the United States unilaterally using the Clean Air Act to regulate GHG emissions. The draft, while presenting useful analysis, seems to make a case for the CAA being the proper vehicle to meaningfully combat global climate change, but we believe it understates the potential costs and collateral adverse effects of attempting to regulate GHG emissions and address climate change through a regulatory scheme that is forced into the Clean Air Act's legal and regulatory mold.

Any effective and workable approach to controlling GHG emissions and addressing global climate change should not simply consist of a unilateral and extraordinarily burdensome CAA regulatory program that is placed on top of the U.S. economy with all other existing mandates, restrictions, etc. simply remaining in place and the Government taking the position that U.S. energy security and indeed the American economy will just have to live with whatever results the GHG control program produces. Rather, the Nation can only effectively address GHG emissions and global climate change in coordination with other countries, and by addressing how to regulate GHG

emissions while considering the effect of doing so on the Nation's energy and economic security. Considering and developing such a comprehensive approach obviously will be very difficult. But what seems clear is that it would be better than the alternative, if the alternative is unilaterally proceeding with the enormously burdensome, complex and costly regulatory program under the Clean Air Act discussed in the draft, which in the end might not even produce the desired climate change benefits.

U.S. Department of Commerce

Analysis of Draft Advanced Notice of Proposed Rulemaking

"Regulating Greenhouse Gas Emissions under the Clean Air Act"

Overview: This analysis reviews some of the implications of regulating greenhouse gas (GHG) emissions under the Clean Air Act (CAA) as outlined in the draft Advance Notice of Proposed Rulemaking submitted to the Office of Management and Budget on June 17, 2008 (the draft). The Department of Commerce's fundamental concern with the draft's approach to using the CAA to regulate GHGs is that it would impose significant costs on U.S. workers, consumers, and producers and harm U.S. competitiveness without necessarily producing meaningful reductions in global GHG emissions.

Impact on U.S. Competitiveness and Manufacturing: The draft states that competitiveness is an important policy consideration in assessing the application of CAA authorities to GHG emissions. It also acknowledges the potential unintended consequences of domestic GHG regulation, noting "[t]he concern that if domestic firms faced significantly higher costs due to regulation, and foreign firms remained unregulated, this could result in price changes that shift emissions, and possibly some production capacity, from the U.S. to other countries."[5] This is a real issue for any domestic regulation implemented without an international agreement involving the world's major emitters.

However, the draft does not detail the shift in global emissions that is currently taking place. As the chart below shows, the emissions of countries outside of the

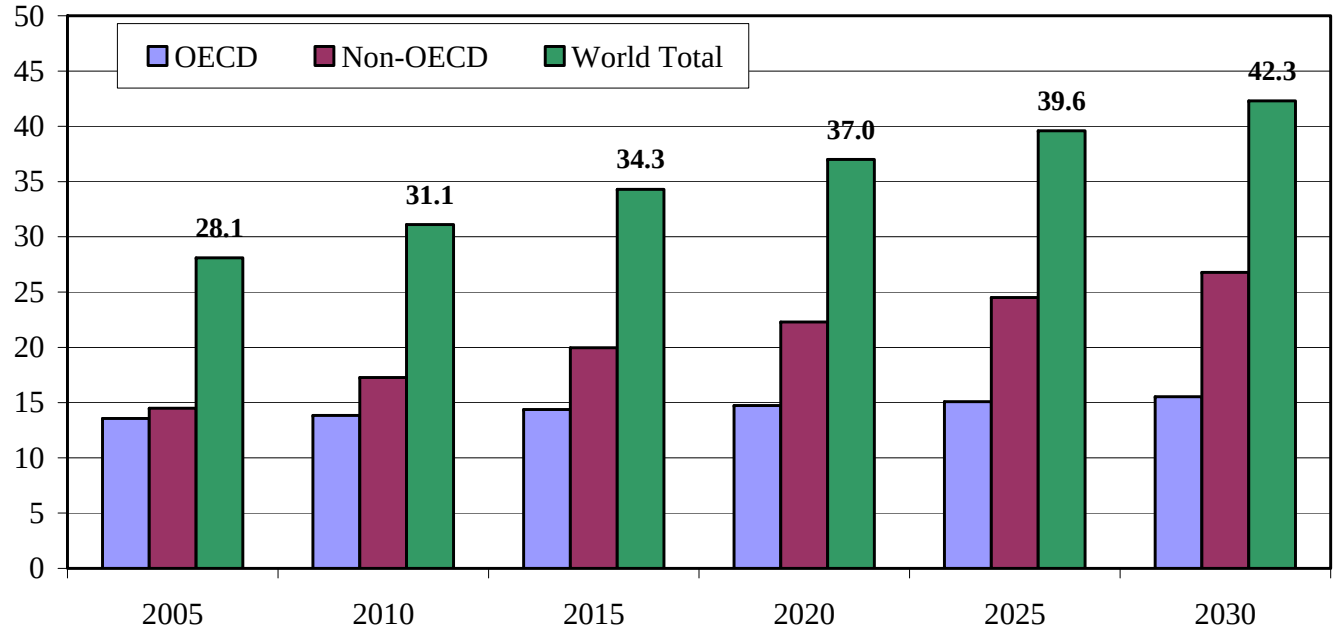
[5] EPA draft, pg. 36

Organization of Economic Cooperation and Development (OECD) already exceed those of OECD countries. By 2030, non-OECD emissions are projected to be 72 percent higher than those of their OECD counterparts.[6]

[6] EIA International Energy Outlook 2008, http://www.eia.doe.gov/oiaf/ieo/highlights.html

World Carbon Dioxide Emissions
2005-2030

Billion Metric Tons



Source: Energy Informatin Administration, World Energy Projections Plus (2008).

Any climate change regulation must take this trend into account. Greenhouse gas emissions are a global phenomenon, and, as documented in the draft, require reductions around the world in order to achieve lower concentrations in the atmosphere. However, the costs of emissions reductions are generally localized and often borne by the specific geographic area making the reductions. As a result, it is likely that the U.S. could experience significant harm to its international competitiveness if GHGs were regulated under the CAA, while at the same time major sources of emissions would continue unabated absent an international agreement.

Because the draft does not specify an emissions target level, the implications of national regulation for the U.S. economy as a whole and for energy price-sensitive sectors in particular are difficult to forecast. However, recent analysis of emissions targets similar to those cited in the draft provides a guide to the estimated level of impacts.

In April 2008, the Energy Information Administration (EIA) released an analysis of legislation that set emission reduction targets of 30 percent below 2005 levels by 2030 and 70 percent below 2005 levels by 2050. The EIA estimated that in the absence of international offsets and with limited development of alternatives, achieving those emission targets would reduce manufacturing employment by 10 percent below currently projected levels in 2030. Under the same scenario, the EIA estimate indicated the emission targets would reduce the output of key energy-intensive manufacturing industries, such as food, paper, glass, cement, steel, and aluminum, by 10 percent and the output of non-energy intensive manufacturing industries by nine percent below currently projected levels in 2030.[7]

The European Union's experience with implementation of its cap-and-trade system is also instructive from a competitiveness standpoint. Key energy intensive industries in Europe have raised concerns about the competitiveness impacts of the emissions trading system (ETS),

[7] Energy Market and Economic Impacts of S. 2191, Figure 28 & 29, http://www.eia.doe.gov/oiaf/servicerpt/s2191/economic.html

arguing that the ETS would force them to relocate outside of Europe. EU leaders have responded to these concerns by considering the possibility of awarding free emissions permits to certain industries, provided the industries also agreed to reduce emissions.[8] This illustrates one of the challenges of crafting an effective national or regional solution to a global problem.

International Trade: In order to address the concern that GHG regulation in the United States will lead to emissions leakage and movement of certain sectors to countries without strict carbon regulations, the draft requests comment on "trade-related policies such as import tariffs on carbon or energy content, export subsidies, or requirements for importers to submit allowances to cover the carbon content of certain products."[9]

Applying tariffs to imports from countries without carbon regulations would have a number of significant repercussions. In addition to exposing the United States to World Trade Organization challenges by our trading partners, unilateral U.S. carbon tariffs could spark retaliatory measures against U.S. exporters, the brunt of which would fall on U.S. workers, consumers, and businesses. For example, a World Bank study found that carbon tariffs applied to U.S. exports to Europe "could result in a loss of about 7 percent in U.S. exports to the EU. The energy intensive industries, such as steel and cement … could suffer up to a 30 percent loss."[10]

Moreover, carbon tariffs would actively undermine existing U.S. trade policy. The U.S. Government has consistently advocated for reducing tariffs, non-tariff barriers, and export subsidies. Introducing new tariffs or export subsidies for carbon or energy content would undermine those efforts with respect to clean energy technologies specifically and U.S. goods

[8] *Financial Times*, "Brussels softens line on carbon permits," Andrew Bounds, Jan. 22, 2008
[9] EPA draft, pg. 37.
[10]The World Bank, International Trade and Climate Change: Economic, Legal, and Institutional Perspectives, 2008, pg. 12.

and services more broadly, as well as invite other countries to expand their use of tariffs and subsidies to offset costs created by domestic regulations.

Two examples of U.S. efforts to reduce tariffs or enhance exports in this area: the United States Trade Representative is actively engaged in trade talks to specifically reduce tariffs on environmental technologies, which will lower their costs and encourage adoption, while the Department of Commerce's International Trade Administration is currently planning its third "Clean Energy" trade mission to China and India focused on opening these rapidly developing economies to U.S exporters of state-of-the-art clean technologies. Rather than raising trade barriers, the U.S. Government should continue to advocate for the deployment of clean energy technologies through trade as a way to address global GHG emissions

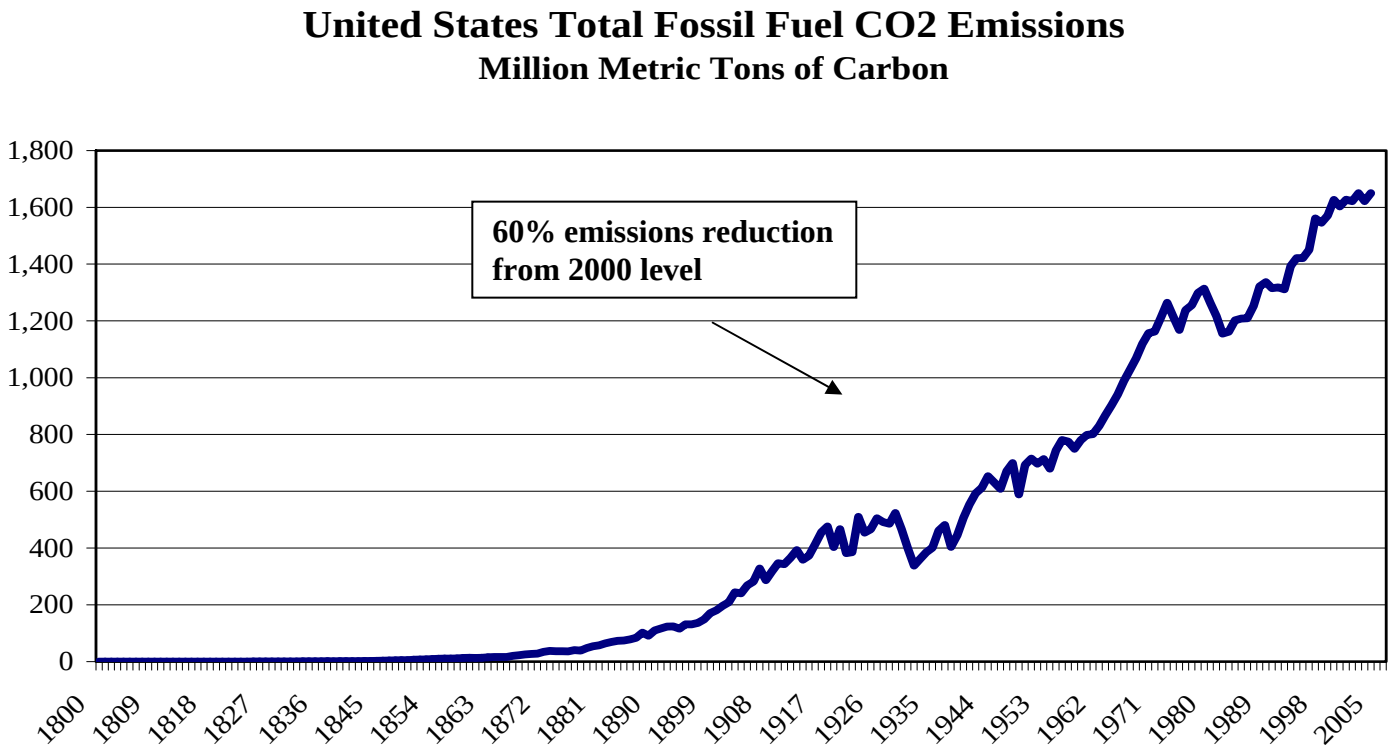
The issue of emissions leakage and the potential erosion of the U.S. industrial base are real concerns with any domestic GHG regulation proposal outside of an international framework. Accordingly, the proper way to address this concern is through an international agreement that includes emission reduction commitments from all the major emitting economies, not by unilaterally erecting higher barriers to trade.

Realistic Goals for Reducing Carbon Emissions: Establishing a realistic goal of emissions reduction is an essential aspect of designing policies to respond to climate change. Although the draft does not "make any judgment regarding what an appropriate [greenhouse gas] stabilization goal may be," the document cites, as an example, the Intergovernmental Panel on Climate Change's projection that global CO2 emissions reductions of up to 60 percent from 2000 levels by 2050 are necessary to stabilize global temperatures slightly above pre-industrial levels.[11]

[11] EPA draft, pg. 14

To provide context, it is useful to note that a 60 percent reduction in U.S. emissions from 2000 levels would result in emissions levels that were last produced in the United States during the 1950s (see chart on next page). In 1950, the population in the United States was 151 million people – about half the current size – and the Gross Domestic Product was $293 billion.[12] Without the emergence of technologies that dramatically alter the amount of energy necessary for U.S. economic output, the reduction of energy usage necessary to achieve this goal would have significant consequences for the U.S. economy.

[12]U.S. Census Bureau, 1950 Decennial Census; Bureau of Economic Analysis, National Income and Product Accounts Table



Source: Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, August 17, 2007 (http://cdiac.ornl.gov/ftp/trends/emissions/usa.dat).

Moreover, as the draft acknowledges, initial emissions reductions under the CAA or other mechanism "may range from only [a] few percent to 17% or more in some cases. Clearly, more fundamental technological changes will be needed to achieve deeper reductions in stationary source GHG emissions over time."[13] But the inability, at this time, to identify either a realistic emissions target or the technical feasibility of achieving various levels of reduction is one of the major flaws of using the draft to assess policy changes of this magnitude.

The draft also notes that "[a]n economy-wide, market-oriented environmental regulation has never been implemented before in the U.S."[14] This point is worth underscoring: the CAA has never been applied to every sector in the U.S. economy. Instead, the CAA is generally applied to specific sectors (such as the power sector) or sources of emissions, and it has included initiatives to address regional and multi-state air quality issues. While these examples clearly provide valuable experience in addressing air pollution issues across state boundaries, using the CAA to regulate GHGs is significantly more ambitious in scope than anything previously attempted under the CAA.

Accountability and Public Input: The draft contemplates a dramatic regulatory expansion under the CAA. However, climate policies of this magnitude are best addressed through legislative debate and scrutiny. Examining these issues in the legislative context would ensure that citizens, through their elected representatives, have ample opportunity to make their views known and to ensure accountability for the decisions that are made.

Economic Implications of Applying CAA Authorities: The draft noted numerous issues of economic significance in analyzing the potential application of the CAA to stationary sources of

[13] EPA draft, pg. 209
[14] EPA draft pg. 32

GHGs. The Department of Commerce highlights below some of the most important issues raised in the draft that could impact U.S. competitiveness, innovation, and job creation.

Compliance Costs of Multiple State Regulations under the CAA: The draft describes the various authorities under the CAA that could be applied to GHGs. One such mechanism involves the development of individual state implementations plans (SIPs) in order to meet a national GHG emissions reduction standard. As the draft notes, "[t]he SIP development process, because it relies in large part on individual states, is not designed to result in a uniform national program of emission controls."[15] The draft also raises the potential implications of this approach: "[u]nder the traditional SIP approach, emissions controls on specific source categories would flow from independent state-level decisions, and could result in a patchwork of regulations requiring different types and levels of controls in different states."[16] If this were the result, it could undermine the benefit of having a national standard and significantly raise compliance costs. The implications of this approach should be examined further.

Viability of Technological Alternatives: The draft notes that some of the authorities in the CAA could impose requirements to use technology that is not commercially viable. For example, when discussing Standards of Performance for New and Existing Sources, the draft notes that "the systems on which the standard is based need only be 'adequately demonstrated' in EPA's view … The systems, and corresponding emission rates, need not be actually in use or achieved in practice at potentially regulated sources or even at a commercial scale."[17] Similarly, in examining the potential application of the New Source Review program to nonattainment areas, the draft outlines the program's required use of the Lowest Available Emissions Rate (LAER)

[15]EPA draft, pg. 181
[16]EPA draft, pg. 187
[17] EPA draft, pg. 196

technology which "does not allow consideration of the costs, competitiveness effects, or other related factors associated with the technology … New and modified sources would be required to apply the new technology even if it is a very expensive technology that may not necessarily have been developed for widespread application at numerous smaller sources, and even if a relatively small emissions improvement came with significant additional cost."[18]

If CAA requirements such as these were used to regulate GHGs, it would impose significant costs on those required to adopt the technology.

Expanding CAA Regulation to Cover Small Businesses and Non-Profits: The draft notes that the use of some CAA authorities could extend regulation to small and previously unregulated emissions sources. For example, the draft states that the use of one authority under the CAA could result in the regulation of "small commercial or institutional establishments and facilities with natural gas-fired furnaces."[19] This could include large single family homes, small businesses, schools, or hospitals heated by natural gas. If the CAA were applied in ways that extended it beyond those traditionally regulated under the Act, it could have significant economic impacts, and the costs of such an application should be further analyzed.

To put this potential expansion in context, in 2003 there were 2.4 million commercial non-mall buildings in the United States that used natural gas, and an estimated 54 percent of these buildings were larger than 5,000 square feet.[20] According to the EIA's 2003 Commercial Building Energy Consumption Survey, a building between 5,001 to 10,000 square feet consumes 408,000 cubic feet of natural gas per year.[21] Based on preliminary calculations using the EPA's

[18] EPA draft, pg. 232
[19] EPA draft pg. 215
[20] Energy Information Agency, 2003 Commercial Buildings Energy Consumption Survey—Overview of Commercial Buildings Characteristics, Table C23.
[21] 2003 Commercial Buildings Energy Consumption Survey.

Greenhouse Gas Equivalencies Calculator, this translates into annual CO2 emissions of 21 metric tons, which would exceed the allowable threshold under one provision of the CAA.[22]

The table below taken from the EIA's 2003 Commercial Building Energy Consumption Survey shows the number and size of U.S. buildings, providing more detail on the type of structures that could be regulated if the CAA were applied to GHGs. Based on the estimate of 21 metric tons of annual emissions from a building 5,000 –10,000 square feet in size, it is likely that schools, churches, hospitals, hotels, and police stations *heated by natural gas* could be subject to the CAA. Clearly, the costs and benefits of such an approach should be examined in greater detail.

[22] Calculation done by converting cubic feet of gas consumed to therms, and the number of therms then inserted into the EPA calculator. According to the EPA draft (pg. 214): If GHGs were listed as a Hazardous Air Pollutant (HAP) under the CAA, the HAP standard's "major source thresholds of 10 tons for a single HAP and 25 for any combination of HAP would mean that very small GHG emitters would be considered major sources."

Non-Mall Buildings Using Natural Gas

Number and Floorspace by Principal Building Activity, 2003

	Number of Buildings	Total Floorspace	Mean Square Feet per Building
	(thousand)	(million sq.ft.)	(thousand)
All Buildings	2,391	43,468	18.2
Education	213	7,045	33.1
Food Sales	98	747	7.6
Food Service	226	1,396	6.2
Health Care	72	2,544	35.5
Inpatient	7	1,805	257.0
Outpatient	65	739	11.4
Lodging	86	4,256	49.7
Mercantile	245	2,866	11.7
Office	488	8,208	16.8
Public Assembly	146	2,723	18.6
Public Order and Safety	36	637	17.7
Religious Worship	220	2,629	11.9
Service	281	2,496	8.9
Warehouse and Storage	187	5,494	29.4
Other	45	1,252	27.9
Vacant	49	1,176	24.2

Source: from Energy Information Administration, 2003 Commercial Buildings Energy Consumption Survey, Table C23. (http://www.eia.doe.gov/emeu/cbecs/cbecs2003/detailed_tables_2003/2003set11/2003excel/c23.xls)

Cost of CAA Permitting: As the draft states, "the mass emissions [of CO2] from many source types are orders of magnitude greater than for currently regulated pollutants," which could result in the application of the CAA's preconstruction permitting requirements for modification or new construction to large office buildings, hotels, apartment building and large retail facilities.[23] The draft also notes the potential time impacts (i.e., the number of months necessary to receive a CAA permit) of applying new permit requirements to projects and buildings like those noted above that were not previously subject to the CAA.[24] The potential economic costs of applying the CAA permitting regimes to these areas of the economy, such as small businesses and commercial development, merit a complete assessment of the costs and benefits of such an approach.

Conclusion: Climate change presents real challenges that must be addressed through focused public policy responses. However, the draft raises serious concerns about the use of the CAA to address GHG emissions. The CAA is designed to reduce the concentration of pollutants, most of which have a limited lifetime in the air, while climate change is caused by GHG emissions that linger in the atmosphere for years. The CAA uses regulations that are often implemented at the state and regional level, while climate change is a global phenomenon. The CAA is designed to regulate major sources of traditional pollutants, but applying those the standards to GHGs could result in Clean Air Act regulation of small businesses, schools, hospitals, and churches.

[23] EPA draft, pg. 224,225
[24] EPA draft, pg. 227

Using the CAA to address climate change would likely have significant economic consequences for the United States. Regulation of GHG emissions through the CAA would mean that the United States would embrace emissions reductions outside of an international agreement with the world's major emitters. This would put U.S. firms at a competitive disadvantage by raising their input costs compared to foreign competitors, likely resulting in emissions leakage outside of the United States and energy-intensive firms relocating to less regulated countries. Such an outcome would not be beneficial to the environment or the U.S. economy.

DEPARTMENT OF AGRICULTURE

Americans enjoy the safest, most abundant, and most affordable food supply in the world. Our farmers are extraordinarily productive, using technology and good management practices to sustain increased yields that keep up with growing populations, and they are good stewards of the land they depend upon for their livelihoods. Because of their care and ingenuity, the United States is projecting an agricultural trade surplus of $30 billion in 2008.

Unfortunately, the approach suggested by the Environmental Protection Agency ("EPA") staff's draft Advance Notice of Proposed Rulemaking "Regulating Greenhouse Gas Emissions under the Clean Air Act," which was submitted to the Office of Management and Budget on June 17, 2008 ("June 17 draft" or "draft ANPR"), threatens to undermine this landscape. If EPA were to exercise a full suite of the Clean Air Act ("CAA") regulatory programs outlined in the draft ANPR, we believe that input costs and regulatory burden would increase significantly, driving up the price of food and driving down the domestic supply. Additionally, the draft ANPR does not sufficiently address the promise of carbon capture and sequestration, and how a Clean Air Act regulatory framework could address these issues.

Input Costs

Two of the more significant components of consumer food prices are energy and transportation costs, and as these costs rise, they will ultimately be passed on to

consumers in the form of higher food prices. As the past several months have demonstrated to all Americans, food prices are highly sensitive to increased energy and transportation costs. From May 2007 to May 2008, the price of crude oil has almost doubled, and the price consumers in the United States paid for food has increased by 5.1%.

We do not attempt here to address the effects on energy and transportation costs that would likely flow from a Clean Air Act approach to regulating greenhouse gases. The expert agencies—the Department of Energy and the Department of Transportation—have each included their own brief assessments of such effects. Our analysis begins with the assumption that these input costs would be borne by agricultural producers.

United States commercial agriculture is a highly mechanized industry. At every stage—field preparation, planting, fertilization, irrigation, harvesting, processing, and transportation to market—modern agriculture is dependent on technically complex machinery, all of which consume energy. Direct energy consumption in the agricultural sector includes use of gas, diesel, liquid petroleum, natural gas, and electricity. In addition, agricultural production relies on energy indirectly through the use of inputs such as nitrogen fertilizer, which have a significant energy component associated with their production.

Crop and livestock producers have been seeing much higher input prices this year. From June 2007 to June 2008, the prices paid by farmers for fertilizer are up 77%, and the prices paid for fuels have risen 61%. The prices paid by farmers for diesel fuel alone have increased by 72% over the past year. In practical terms, these figures mean that it is becoming far more costly for the producer to farm. Currently, USDA forecasts that

expenditures for fertilizers and lime, petroleum fuel and oils, and electricity will exceed $37 billion in 2008, up 15% from 2007.

Depending on the extent to which the Clean Air Act puts further pressure on energy prices, input costs for indispensible items such as fuel, feed, fertilizer, manufactured products, and electricity will continue to rise. A study conducted by USDA's Economic Research Service (Amber Waves, April 2006) found the impact of energy cost changes on producers depends on both overall energy expenditures and, more importantly, energy's share of production costs, with the potential impacts on farm profits from changes in energy prices greatest for feed grain and wheat producers. The study also found that variation in the regional distribution of energy input costs suggests that changes in energy prices would most affect producers in regions where irrigation is indispensable for crop production. Less use of irrigation could mean fewer planted acres or lower crop yields, resulting in a loss of production. In addition to potential financial difficulties, farmers fear that future tillage practices could be mandated and livestock methane management regulated.

However, the impact of higher energy prices on farmers is only part of the story. Only 19% of what consumers paid for food in 2006 went to the farmer for raw food inputs. The remaining 81% covered the cost of transforming these inputs into food products and transporting them to the grocery store shelf. Of every $1 spent on U.S.-grown foods, 3.5 cents went toward the costs of electricity, natural gas, and other fuels used in food processing, wholesaling, retailing, and food service establishments. An additional 4 cents went toward transportation costs. This suggests that for every 10 percent increase in energy costs, retail food prices could increase by as much as 0.75

percent if fully passed onto consumers. The resulting impact to the consumer of higher energy prices will be much higher grocery bills. More important, however, will be the negative effect on our abundant and affordable food supply.

Regulatory Burden on Agriculture

In its draft ANPR, EPA contemplates regulating agricultural greenhouse gas (GHG) emissions under the three primary CAA programs—National Ambient Air Quality Standards ("NAAQS"), New Source Performance Standards ("NSPS"), or Hazardous Air Pollutant ("HAP") standards. Like the Act itself, these programs were neither designed for, nor are they suitable to, regulation of greenhouse gases from agricultural sources. If agricultural producers were covered under such complex regulatory schemes, most (except perhaps the largest operations) would be ill-equipped to bear the costly burdens of compliance, and many would likely cease farming altogether.

The two common features of each CAA program are permitting and control requirements:

Permitting: Operators who are subject to Title V permitting requirements—regardless of which CAA program is applicable—are required to obtain a permit in order to operate. These Title V permits are subject to a public notice and comment period and contain detailed requirements for emission estimation, monitoring, reporting, and recordkeeping. Title V permits may also contain control requirements that limit the operation of a facility. If a producer desired, or were compelled by changed circumstances (e.g., changing market demand, weather events, or pest infestation) to

modify his operational plans, he would be required to first seek a permit modification from EPA or the State.

If GHG emissions from agricultural sources are regulated under the CAA, numerous farming operations that currently are not subject to the costly and time-consuming Title V permitting process would, for the first time, become covered entities. Even very small agricultural operations would meet a 100-tons-per-year emissions threshold. For example, dairy facilities with over 25 cows, beef cattle operations of over 50 cattle, swine operations with over 200 hogs, and farms with over 500 acres of corn may need to get a Title V permit. It is neither efficient nor practical to require permitting and reporting of GHG emissions from farms of this size. Excluding only the 200,000 largest commercial farms, our agricultural landscape is comprised of 1.9 million farms with an average value of production of $25,589 on 271 acres. These operations simply could not bear the regulatory compliance costs that would be involved.

Control: Unlike traditional point sources of concentrated emissions from chemical or manufacturing industries, agricultural emissions of greenhouse gases are diffuse and most often distributed across large open areas. These emissions are not easily calculated or controlled. Moreover, many of the emissions are the result of natural biological processes that are as old as agriculture itself. For instance, technology does not currently exist to prevent the methane produced by enteric fermentation associated with the digestive processes in cows and the cultivation of rice crops; the nitrous oxide produced from the tillage of soils used to grow crops; and the carbon dioxide produced by soil and animal agricultural respiratory processes. The only means of controlling such

emissions would be through limiting production, which would result in decreased food supply and radical changes in human diets.

The NAAQS program establishes national ambient concentration levels without consideration of specific emission sources. The determination of which source is required to achieve emission reductions and how to achieve those reductions is specified in the State Implementation Plans ("SIPs") developed by each State. Under a NAAQS regulatory program, agricultural sources may need to employ Reasonably Available Control Measures ("RACM") or, at a minimum, include the use of Reasonably Available Control Technologies ("RACT"). In the past, such control measures were established with a national focus for typical industrial sources. In previously regulated sectors, these control measures and technologies have typically been associated with improved engineering or chemical processes; however, agriculture is primarily dependent upon biological processes which are not readily re-engineered. Given the nature of many agricultural source emissions, RACM and RACT may not exist or may be cost prohibitive.

The NSPS program regulates specific pollutants emitted from industrial categories for new, modified, or reconstructed facilities. EPA, rather than individual States, determines who is regulated, the emission reductions that must be achieved, and the associated control technologies and compliance requirements. Should EPA choose to regulate agriculture under NSPS, control requirements would be established at the national level using a "one-size-fits-all" approach. Differences in farming practices make it difficult to comply with this approach, as variability exists between types of operations and between similar operations located in different regions of the United States.

In addition, regulation of the agricultural sector under a NSPS program would likely trigger the added challenge of compliance with the pre-construction permitting process under the Prevention of Significant Deterioration ("PSD") program. Triggering pre-construction permits could result in a requirement to utilize Best Available Control Technologies ("BACT") or technologies that achieve the Lowest Available Emission Reductions ("LAER"). Given the state of available control methods for agricultural area sources, compliance with these requirements may not currently be achievable in many instances. Should BACT or LAER technologies exist, the ability to utilize them across the variety of farming operations is questionable, and the costs to employ these technologies would be high since they would be relatively new technologies.

Similar to the NSPS program, the HAP program focuses on industrial categories. EPA must list for regulation all categories of major sources that emit one or more HAP at levels that are very low (i.e., 10 tons per year of a single HAP or 25 tons per year of a combination of HAP). Under a HAP program, EPA can regulate both major sources and smaller (i.e., area) sources. In addition to the Title V permit requirement, this program would result in emission control requirements for all agricultural sources regardless of the size of the operation. These requirements are driven by the best-performing similar sources, with EPA determining the similarity between sources. This approach does not lend itself to compliance by agricultural sources whose practices vary farm-by-farm and locality-by-locality. In addition, the cost of controls used by the best-performing sources would increase the operating expenses for all farms regardless of size.

While this discussion only begins to address the practical difficulties that agricultural producers will face if EPA were to regulate GHGs under the CAA, these

questions have not been raised in the draft ANPR in the context of agriculture. USDA believes that these issues must be thoroughly considered before a rule is finalized.

Capture and Sequestration

The draft ANPR does not sufficiently address the promise of carbon capture and sequestration, or how a Clean Air Act regulatory framework could address these issues. In describing emissions by sector, the draft ANPR does contain the following brief introductory statement:

> *Land Use, Land-Use Change, and Forestry*: Land use is not an economic sector per se but affects the natural carbon cycle in ways that lead to GHG emissions and sinks. Included in this category are emissions and sequestration of CO_2 from activities such as deforestation, afforestation, forest management and management of agricultural soils. Emissions and sequestration depend on local conditions, but overall land use in the United States was a net sink in 2006 equivalent to 12.5 percent of total GHG emissions.

Thus, the United States Government, as well as private landowners throughout the country, possess land resources that hold potentially tremendous economic and environmental value in a carbon-limited environment.

Unfortunately, in the draft ANPR's extensive discussion of regulatory alternatives, the EPA staff does not even attempt to make the case that the Clean Air Act could or should be used to ensure that a regulatory scheme maximizes opportunities and

incentives for carbon capture and sequestration. Had the draft ANPR raised these issues, it would become evident that there are substantial questions as to whether the CAA could provide an effective vehicle to account for such beneficial actions.

Additionally, any regulatory program should avoid needless duplication and conflict with already existing efforts. The recently enacted Food, Conservation and Energy Act of 2008 ("Farm Bill") requires the Secretary of Agriculture to establish technical guidelines to create a registry of environmental services benefits from conservation and land management activities, including carbon capture and sequestration. USDA is including EPA and other Federal agencies as participants in this process, which we believe holds substantial promise.

Executive Office of the President
Council of Economic Advisers

Executive Office of the President
Office of Science and Technology Policy

July 10, 2008

The Honorable Susan E. Dudley
Administrator
Office of Information and Regulatory Affairs
Office of Management and Budget
Washington, D.C. 20503

Subject: Environmental Protection Agency's Advance Notice of Proposed Rulemaking "Regulating Greenhouse Gas Emissions under the Clear Air Act"

Dear Administrator Dudley:

The Council of Economic Advisers and Office of Science and Technology Policy would like to offer our views on the science and economics that relate to EPA's ANPR entitled "Regulating Greenhouse Gas Emissions under the Clean Air Act." Our comments are divided into two parts. In the first, we address complexities associated with the phenomenon of anthropogenic climate change that distinguish it from traditionally regulated phenomena and that significantly increase the technical difficulty of regulation. In the second, we address the likely consequences for public welfare of various proposals for mitigating greenhouse gas (GHG) emissions.

Part I: Implications of the Complex Nature of Anthropogenic Climate Change

According to the Intergovernmental Panel on Climate Change (IPCC), "Warming of the climate system is unequivocal," "…Most of the observed increase in global average temperatures…is very likely due to the observed increase in anthropogenic greenhouse gas concentrations" and "…evidence from all continents and most oceans shows that many natural systems are being affected by regional climate changes, particularly temperature increases" (IPCC Fourth Assessment). These straightforward and widely accepted scientific conclusions cover a huge range in the diversity, timing, and severity of climate change impacts on the public welfare that greatly complicate their analysis. While it is true, as the ANPR authors point out, that "The exact benefits and costs of virtually every environmental regulation are at least somewhat uncertain," (p 39) the authors nevertheless acknowledge that "In the case of climate change, the uncertainty inherent in most economic analyses of environmental regulations is magnified by the long-term and global scale of the problem and the resulting uncertainties regarding socioeconomic futures, corresponding GHG emissions, climate responses to emissions changes, the bio-physical and economic impacts associated with changes in climate, and the

costs of reducing GHG emissions." The ability to assess potential costs and benefits of a particular regulatory mechanism is critical to informed policymaking. However, the long-term nature and global scale of climate change and the nature of the associated uncertainties, such as those raised in the ANPR and listed above, is such as to overwhelm the capability of existing technical means to trace public welfare impacts to specific regulated activities.

GHG emissions, especially of CO_2, arise from a very wide variety of natural, domestic, and industrial activities, nearly all of which are beneficial to society. Because the geographical and temporal patterns of emissions vary with technology and market-driven human choices, a regulatory approach to the mitigation of GHGs that is based on an assortment of activity-specific regulatory mechanisms, such as those described in the ANPR, must necessarily be responsive on relatively short time-scales to the changing emissions picture. No reliable model of technical innovation exists to forecast how these patterns are likely to change even in the immediate future. Current rapid changes in transportation and energy production and use, for example, came as a surprise to economists and markets around the world. In the absence of much more accurate forecasting for the array of CO_2 emitting activities, the regulatory process will be continually out of step with reality unless it can be designed to adjust itself on realistic time scales. Historical time scales for environmental regulation in the U.S. suggest that this will be impossible, especially for the very large array of interconnected activities that would need to be regulated to mitigate CO_2 emissions.

This technical complexity is indeed one of the reasons why economists and policy-makers favor broad market-oriented frameworks such as carbon taxes, technology-neutral subsides, or carbon trading schemes for GHG mitigation. The widespread support for such schemes is itself evidence for the impracticality of the array of regulatory mechanisms on which the ANPR seeks comment.

The diversity and complex distribution in space and time of GHG sources combine with intrinsic features of relevant climate phenomena to multiply further the obstacles to traditional regulation. Anthropogenically driven climate impacts are in nearly every case indistinguishable from naturally occurring phenomena. The anthropogenic contribution is apparent primarily in retrospective statistical analyses, and its adverse impacts cannot be readily distinguished from impacts that would have occurred in the absence of anthropogenic warming. Although few deny that anthropogenic causes underlie much of the general observed patterns, it is not the case that all "new" impacts exceeding historical means can be attributed to anthropogenic warming. The individual phenomena causing the impacts show strong regional variation and differing sensitivity to human behavior. Hurricane impacts, for example, are linked to coastal development patterns and to long term ocean circulation trends that occur with and without anthropogenic warming. Efforts to identify and evaluate specific localized adverse impacts uniquely associated with activities that lend themselves to regulation are nearly impossible under such circumstances. Tracing climate change causes to effects invariably requires simulations of the entire climate system. Such simulations are feasible for broad measures such as global and annually averaged surface temperatures, on whose link to GHG emissions there is broad agreement among scientists. The success of these simulations depends on thorough mixing of GHGs from all sources, so the individual characteristics and global distribution of different sources can be ignored. This same feature renders attribution of public welfare impacts to

specific regulated activities subject entirely to elaborate schemes for accounting and allocating emissions on a global basis. Such attributions cannot be accomplished based on U.S. data alone. And the global atmospheric CO_2 budget is not simply the sum of all emissions – the Earth "breathes" seasonally in a striking pattern whose details depend on a mix of human behaviors (*e.g.* deforestation) and natural causes (*e.g.* volcanic activity). Consequently a useful model for assessing significance and attributing share of public welfare impacts will necessarily be extremely complicated. As the ANPR authors note: "Quantifying the *exact* (emphasis added) nature and timing of impacts due to climate change over the next few decades and beyond, and across all vulnerable elements of U.S. health, society and the environment, is currently not possible." Nor is it currently possible to quantify impacts even to a *less exact* standard that is needed to regulate GHGs through the Clean Air Act.

Overarching all these complexities is the unprecedented temporal quality of global climate change. Activities currently proposed for regulation will have no impact on public welfare for decades (except for possible beneficial side effects on traditional pollutants). Consequently, all approaches to the assessment of impacts necessarily involve forecasts. While the physical phenomena involved in anthropogenically induced global climate change are reasonably well understood, despite their complexity, the social phenomena that influence GHG producing activities are not at all well understood, which creates huge uncertainties in climate projections. All current forecasts of global warming that extend beyond roughly a decade are based on scenarios that assume a pattern of human behavior. These scenarios vary widely, but probably not widely enough given the very weak ability of science to predict how nations, markets, and individuals respond to their environments. Within its continually expanding limits, science can estimate the implications of social scenarios for anthropogenic global warming, but it has little power to assess the validity of the scenarios themselves.

Of all the effects that complicate the scientific analysis of GHG regulation, none is more profound and less tractable than the unpredictability of human behavior. Because the largest sources of anthropogenic CO_2 are linked to the use and production of energy, and because energy is an essential ingredient of all economically productive activity, GHG producing activities cannot be simply extracted from the tightly woven matrix of any economy. And economic globalization ensures that the matrix of anthropogenic climate influence is global. Regulation of specific GHG producing activities to achieve a specific target entails an analytical framework that gives some assurance that the targets can be reasonably met. No credible framework exists for this purpose. This fact seems to have been appreciated by political leaders who have endeavored to forge broad international agreements to reduce GHG emissions. As President Bush noted when launching a new U.S. policy for limiting emissions earlier this year, "The Clean Air Act, the Endangered Species Act, and the National Environmental Policy Act were never meant to regulate global climate." Given the long-term nature and global scale of climate change and the nature of the uncertainties inherent in its associated impacts, the machinery of the Acts' regulatory frameworks are clearly not adequate to the task.

Part II: Consequences of Proposed Remedies

Any attempt to use the Clean Air Act to regulate greenhouse gases efficiently is fraught with difficulties, for two reasons. First, the EPA, which is charged with overseeing the Clean Air Act, is unlikely to have the statutory authority to implement economically neutral approaches such as a carbon tax, a cap-and-trade with a safety valve, and/or technology-neutral subsidies. Such approaches, which are typically the centerpiece of economic mechanisms to GHG regulation, allow markets to choose the best and most cost-effective way to deal with GHGs and do the least harm to the economy. Limitations on authority are mentioned in EPA's Advanced Notice of Proposed Rule-Making (ANPR). Second, and perhaps as a consequence of such limitations, the regulations considered by the authors of the ANPR are a cumbersome set of rules and restrictions that are in some cases excessive, inadequate, redundant, inordinately burdensome to the economy, and almost certain to fail to produce the desired climate results. Because of specific limitations in the law, the Clean Air Act does not permit the EPA to attain economic efficiency while reducing GHG emissions, even in the narrow context of emissions by the United States. It is even less effective when viewed in the global context appropriate for greenhouse gases. We detail some of our concerns in what follows.

First, the Clean Air Act would result in excessive regulation. Under one likely scenario, the same standard for GHG emissions would be required from each state in the country, which might force the EPA to regulate GHGs much too stringently in some situations. To obtain economic efficiency, it is necessary to equalize marginal abatement costs across sources, which is extremely unlikely to occur if states are required to meet the same standard. Consequently, some states would be required to reduce emissions in an extremely expensive manner, while others that are better able to reduce emissions cheaply would have little incentive to do so. The consequence would be higher costs to the economy than necessary, borne disproportionately by specific industries, workers and consumers. Ann Klee, former General Counsel for the EPA, stated in her Senate testimony of April 24, 2007:

> "Although the argument could be made that CO_2 meets the statutory threshold for designation and regulation as a criteria pollutant, it is evident that this would make little sense from a regulatory perspective. If the standard were set at a level intended to force reductions in emissions, i.e., at some atmospheric concentration below current levels (approximately 370-380 parts per million CO_2), then the entire country would be designated as being in nonattainment. This would trigger the regulatory mechanisms of the NAAQS program … This should be of concern to States that face potentially significant penalties for persistent nonattainment."

An alternative scenario under the Clean Air Act would regulate GHG emissions by requiring every source to meet some average emissions standard, irrespective of costs. This means that each sector would be required to reduce emissions to a point that is considered technologically achievable rather than economically efficient.

The Clean Air Act also makes it very difficult to loosen constraints, once regulations have been promulgated. Because the inherent benefits of limiting emissions remain uncertain, it is important to retain the ability to adjust stringency up or down over time.

Second, the Clean Air Act may be inadequate. The ANPR recognizes that the Clean Air Act was designed to protect local and regional air quality by controlling emissions with a limited range of impacts. GHGs however, become relatively evenly distributed through the atmosphere, irrespective of their point of origin. The specific source of emission reduction has little or no bearing on the benefit of reduction, but the cost of reductions may vary greatly by source. However, the Clean Air Act generally precludes decision makers from considering costs, and does not permit regulations to depend on mitigation actions taken by other countries. The failure to allow for contingencies of this sort removes an important tool for inducing other countries to take actions that benefit Americans and the rest of the world.

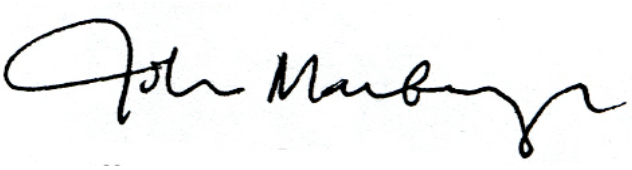
Third, regulation of GHG through the Clean Air Act will prove inordinately burdensome. For instance, one section of the Act specifies threshold levels, which, for traditional pollutants, captures only the larger polluters. The same thresholds applied to GHGs would increase the number of affected sources by an order of magnitude, implying the regulation of sources that were not previously regulated nor intended to be regulated under the Clean air Act. The statute sets a "major source" threshold value of, at most, 100 tons per year of any air pollutant (or less in non-attainment areas.)[1] Small manufacturing facilities, schools, and shopping centers have potential emissions of 100 tons per year or more. If GHGs are regulated under the Clean Air Act, those sources will become a "major sources" and must undergo full major source permitting and would be required to adhere to EPA regulations.

Fourth, the Clean Air Act entails redundancy. The ANPR acknowledges that even if an economy-wide program were legally possible under the Clean Air Act, it would have to be accompanied by source-specific or sector-based requirements as a result of other Clean Air Act provisions. This could result in multiple, overlapping and perhaps conflicting incentives to reduce GHG emissions.

Finally, any GHG regulation imposed under the Clean Air Act is almost certain to fail. Even an economy-wide system will not be effective unless it is coupled with significant GHG reductions by all major economies. The Clean Air Act is not the appropriate vehicle to accomplish worldwide reductions in GHG emissions. Furthermore, acting in a globally uncoordinated fashion will put the United States at a competitive disadvantage, will induce economic distortions and may actually be counter productive in reducing GHGs. The most obvious example of this involves "leakage," where the U.S. imposes costs on businesses that emit greenhouse gases to which other countries are not subject. If businesses in other countries do not suffer the penalty for emitting GHGs, production has an incentive to move abroad, even when producing in the U.S. would be more economically efficient.

[1] EPA. Advanced Notice of Proposed Rulemaking. Section VII, Part E.2.

We believe that the Clean Air Act is not the appropriate statutory framework for dealing with climate change. The Clean Air Act was never intended to address issues with the global complexity of GHG emissions. Challenges in addressing climate change under the Clean Air Act are compounded by intrinsic characteristics in both its science and its economics. Instead, Congress needs to examine this issue directly, make the difficult choices that are inherent in any regulatory policy, and come up with an approach that imposes the minimum economic distortion for the maximum climate change benefit.



Edward P. Lazear
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Director
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EXECUTIVE OFFICE OF THE PRESIDENT
COUNCIL ON ENVIRONMENTAL QUALITY
WASHINGTON, D.C. 20503

CHAIRMAN

July 10, 2008

Honorable Susan E. Dudley
Administrator
Office of Information and Regulatory Affairs
Office of Management and Budget
Washington, DC 20503

Re: Environmental Protection Agency Draft Advance Notice of Proposed Rulemaking

Dear Administrator Dudley,

Thank you for the opportunity to provide comments on the Environmental Protection Agency's Draft Advance Notice of Proposed Rulemaking "Regulating Greenhouse Gases Under the Clean Air Act" produced by agency staff for interagency review. Regrettably, the staff draft and supporting technical documents run several hundred pages in length and we have had a limited period of time to consider the material. Therefore, we are able to provide only a few preliminary and highly general comments, focusing on important areas of inquiry that the draft either does not address or does not adequately address as a basis for seeking public comment during the advanced notice of propose rulemaking stage. In the short time provided, we have not been able to work through specific questions and issues with the Agency, and therefore are not able to support or otherwise endorse the draft document in its present form.

Overarching Comment

In his Rose Garden speech on April 16, 2008, President Bush announced a new national goal for reducing greenhouse gas emissions and outlined the new federal mandates, incentives, and other programs now in place that will help us achieve the goal. Acknowledging that further policies for the power generation sector would be necessary to fully achieve the goal, the President outlined the right way and the wrong way to proceed with any new policies. The EPA staff draft ANPR demonstrates why unaccountable new regulation under the existing Clean Air is the wrong way to accomplish our goals.

The staff draft does not provide a full and meaningful discussion of the broader policy and economic context in which it is considering, in the event of an endangerment finding, triggering the prospect of essentially automatic and immediate regulation over a vast range of community and business activity and an equally vast range of potential discretionary regulations with respect to the same and additional activities. In Massachusetts v. EPA, the Supreme Court reaffirmed that "EPA no doubt has significant latitude as to the manner, timing, content and coordination of its regulations with those of other agencies." 127 S.Ct. 1438,1462 (2007) The staff draft, however, is long on "manner" and "content," and short on "timing," "coordination," and any meaningful sense of context. It myopically focuses on the Clean Air Act and ignores or understates major intended and unintended consequences that would flow from misapplying decades-old regulatory tools applicable to local and regional pollution that were never designed to address greenhouse gas emissions and the global nature of these emissions.

The staff draft employs a kitchen sink approach to the innumerable ways in which EPA would use the Clean Air Act to automatically or discretionarily regulate an unprecedented range of activities giving rise to greenhouse gas emissions. Yet the staff draft provides little or no discussion of the extent to which new EPA regulations would duplicate, contradict, or effectively countermand the numerous mandates, incentives, and public private partnerships that are already underway and producing real results in addressing greenhouse gas emissions. This concern is particularly acute to the extent EPA action would effectively override the deliberate, bi-partisan decisions of elected federal and state legislatures on certain policies, as well as overriding some of EPA's own successful programs.

For example, less than one year ago, the U.S. Congress passed the Energy Independence and Security Act of 2007 (EISA) which prescribes new mandatory programs and specifies targets for vehicle fuel efficiency, renewable fuels, lighting efficiency, appliance efficiency, and federal government vehicle and building operations. The Department of Transportation, in consultation with other agencies, including EPA, has already proposed an aggressive path to greater vehicle fuel efficiency in accordance with Congress' direction. EPA itself is already working to implement new renewable fuel requirements. And the Department of Energy is working on a new round of appliance efficiency standards and, in accordance with new EISA requirements, is embarking on a new round of standard-setting. These and other EISA requirements will prevent billions of tons of greenhouse gas emissions from entering the atmosphere. In order to better inform and guide appropriate public comment, EPA's ANPR should provide a full discussion of these authorities and a preliminary analysis of how they intersect with and obviate duplicative or contradictory approaches under the Clean Air Act.

In addition to the EISA mandates, the potential for duplication, conflict, and misplaced prioritization and methods can arise in a number of other contexts, including:

- The parties to the Montreal Protocol recently adopted a proposal advance by the United States and a number of other countries to accelerate the phaseout of HCFCs—producing emission reductions that could exceed those of the Kyoto Protocol. A statutory framework for such emissions is already in place.
- A significant number of states have already enacted renewable portfolio standards carefully tailored to each state's unique energy system and capacity.
- The Department of Energy has produced new model building energy efficiency codes, tailored to different geographic regions and circumstances, and is working constructively with states and localities interested in adopting the relevant model code.
- Through the Energy Policy Act of 2005 and other legislation, Congress has chosen to use an incentive-based, rather than mandatory approach to addressing energy security and greenhouse gas emissions in certain sectors through a broad range and billions of dollars of subsidies for commercial deployment of cleaner, more efficient technologies including, nuclear power, more efficient coal power, renewable power (wind, solar, biomass, etc.), bio-fuels, highly fuel efficient vehicles. And more than 40 billion dollars in loan guarantee authority is being made available this year alone for nuclear power plants, large scale renewable power, carbon capture and storage, and other large scale opportunities to avoid, reduce, or capture greenhouse gas emissions.
- Through its multi-billion dollar conservation programs, the Department of Agriculture is directly subsidizing farmers and other landowners to compete for funding for projects

that will help biologically sequester carbon dioxide emissions. The Department is also providing substantial incentives for biofuel and biomass production facilities.

- DOE's Climate Vision partnership, EPA's Climate Leaders Partnership, and numerous subject specific partnerships such as EPA's Natural Gas Star and the EPA/DOE Energy Star programs are successfully establishing and meeting targets for greenhouse gas mitigation through public-private commitments and programs that are producing measurable results.

These programs, and the numerous others comprising the federal government's comprehensive climate change strategy, should be the starting point for any discussion as to whether further legislation, let alone regulation should be considered. EPA's ANPR should provide a full discussion of these authorities and a preliminary analysis of how they intersect with and obviate duplicative or contradictory approaches under the Clean Air Act in order to better inform and guide appropriate public comment.

Endangerment Finding

EPA should include in the ANPR and the docket the material, analysis, and final agency determinations that formed the basis for the agency's original denial of the petition for rulemaking as to mobile sources of pollution and should take public comment on the implications of that analysis in the agency's decision as to whether it can or should make an endangerment finding at this time. In Massachusetts v. EPA, the Supreme Court did not address the substantive merits of EPA's original analysis ("We need not and do not reach the question whether on remand EPA must make an endangerment finding, or whether policy concerns can inform EPA's actions in the event that it makes such a finding.") 127 S.Ct. at 1463. Instead, the court took issue with EPA reaching a "judgment" not to proceed with regulation without basing the reasons for its decision on the text of the Clean Air Act. The court held "only that EPA must ground its reasons for action or inaction in the statute"—in this case, running the analysis through the prism of the endangerment provisions of the Clean Air Act. (*Id.*). Doing so would seem to be the most immediate and essential response to the Court's remand. In this regard, however, the staff draft omits major elements and in some instances appears to be inconsistent with elements of the prior final agency determinations, signed by the EPA Administrator, concerning the state of the science, which are clearly relevant to the question of endangerment and which were not addressed one way or the other by the court.

EPA should take comment on the issues raised in the recent remarks by the Director of the Office of Science and Technology Policy concerning the current and future capability of the science with respect to predictions and projections of negative and positive climate impacts on a national, regional, and local scale. "Reflections on the Science and Policy of Energy and Climate Change," American Geophysical Union Fall Meeting, December 10, 2007. Any endangerment finding in the context of greenhouse gas emissions must draw from the emerging science of climate impacts. The Director's remarks provide helpful context for how to think through such issues and should be included in the docket.

EPA should take comment on the appropriate scope of activity that should be considered in making an endangerment decision in the context of greenhouse gas emissions. The remand

from the Court focused on the issue of endangerment with respect to the relative contribution of emissions from new motor vehicles to associated health or welfare impacts. Yet, the staff draft suggests an unprecedented approach of aggregating emissions of all greenhouse gases from all sources as the basis of an endangerment determination.

EPA should take comment on the extent to which it should subtract from the emissions projections for a source, reductions that are substantially likely to occur as a result of existing mandatory and incentive-based policies. For example, with respect to mobile sources, the 2007 EISA contains new mandates for vehicle fuel efficiency and for renewable fuel, supported by substantial federal budgets incentives that will substantially reduce the greenhouse gas portfolio of such mobile sources.

EPA should also take comment on the extent to which its emissions projections for a source category should account for the problem of carbon leakage, occasioned by the current lack of meaningful and predictable international participation in greenhouse gas mitigation efforts. The IPCC has projected that most of the future increase in emissions will be produced by the major developing countries, whose cumulative emissions will also exceed those of the developed world relatively soon. Accordingly, EPA's assumptions about the relative benefits of reducing greenhouse gas emissions at a certain cost here in the U.S. would need to be offset by reasonable assumptions about 1) the growth in emissions in countries that are not taking comparable steps and 2) the prospect that increased costs in the U.S. will drive a certain amount of production and associated emissions to other countries not taking comparable steps, thereby increasing emissions in those countries. EPA provided relevant analysis when it modeled the impact of S. 2191 earlier this year and found that the economy-wide emissions reductions that would be required by that bill (approx. 70% reductions by covered entities) would have resulted in a miniscule 1-2% change in global greenhouse gas concentrations at a cost of trillions of dollars. The S.2191 analysis and other relevant analysis should be included in the docket.

Regulatory Content

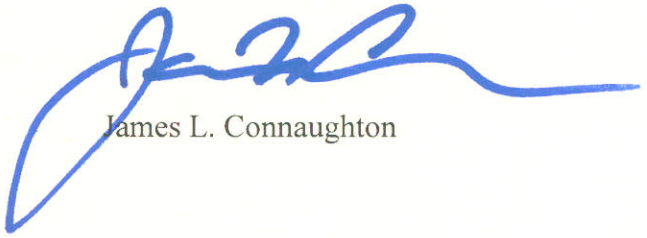
EPA should provide for public comment a much more complete technical, institutional, and economic analysis of the far reaching consequences that will arise from the automatic application of existing regulations that would occur in the event EPA makes an endangerment finding. The existing regulations as to conventional pollutants were never designed for the unique global characteristics and environmental aspects of greenhouse gas emissions. Also, the existing regulations were designed and implemented gradually over the course of more than thirty years, during which time states were able to build the capacity to implement, monitor and enforce an increasingly complex set of regulations, and entities subject to regulations were able to transition their activities to new levels of performance over time. In the event of an endangerment finding with respect to greenhouse gases, however, the cumulative impact of more than thirty years of regulation will immediately be imposed on the states and currently regulated entities in one fell swoop.

To complicate matters, the staff draft downplays the significance of the fact that applying regulations designed for relatively concentrated pollutants to relatively unconcentrated and voluminous emissions such as carbon dioxide will subject tens or even hundreds of thousands of community and business enterprises to Clean Air Act regulation for the first time. The

administrative implications and costs of this alone would be daunting for and federal budgets and staff. But the novel, case-by-case application of old regulations to an entirely new set of circumstances and parties foreshadows unrelenting confusion, conflicts over compliance, and decades long litigation windfall for attornies, consultants, and activists, as communities and the courts strive to sort it all out.

Another issue that requires a full and complete analysis is the potential for the unintended consequences of conflicting efforts with respect to possible automatic regulation of substances for which we have existing obligations under the Montreal Protocol. For example, the successful acceleration of the phaseout of HCFCs in developed and developing countries depends on the accessibility of HFCs substitutes with zero-ozone depleting potential but are greenhouse gases. Any additional regulation on HFCs as a greenhouse gas could lead to a delay in the transition away from ozone-depleting compounds, which could increase risk to human health and undermine the significant domestic and global progress in protecting the ozone layer. EPA should give careful consideration and solicit comment on the potential for this consequence.

Yours sincerely,



James L. Connaughton

Office of Advocacy
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Advocacy: the voice of small business in government

July 8, 2008

BY ELECTRONIC MAIL

The Honorable Stephen L. Johnson
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The Honorable Susan E. Dudley
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RE: Docket ID No. EPA-HQ-OAR-2008-0318, Comments on EPA's draft Advance Notice of Proposed Rulemaking "Regulating Greenhouse Gas Emissions under the Clean Air Act"

Dear Administrator Johnson and Administrator Dudley:

The Office of Advocacy of the U.S. Small Business Administration (Advocacy) respectfully submits the following comments in response to the draft Advance Notice of Proposed Rulemaking (ANPR) prepared by the U.S. Environmental Protection Agency (EPA) entitled "Regulating Greenhouse Gas Emissions under the Clean Air Act."

Congress established the Office of Advocacy under Pub. L. No. 94-305 to advocate the views of small entities before Federal agencies and Congress. Because Advocacy is an independent body within the U.S. Small Business Administration (SBA), the views expressed by Advocacy do not necessarily reflect the position of the Administration or the SBA.[1]

[1] 15 U.S.C. § 634a, *et. seq.*

Advocacy has reviewed the draft ANPR, and, based on our initial reading, we have serious concerns with how EPA's regulation of greenhouse gases (GHGs) through the Clean Air Act framework would negatively impact small entities.[2] We believe that the regulatory approaches outlined in the ANPR, taken in part or as a whole, would impose significant adverse economic impacts on small entities throughout the U.S. economy. The draft ANPR acknowledges that using existing Clean Air Act regulatory approaches to control GHGs would subject large numbers of firms to costly and burdensome new requirements.

Expanding the Prevention of Significant Deterioration/New Source Review (PSD/NSR) program to cover carbon dioxide (CO2) emissions, in and of itself, would make many small businesses that have not previously had to deal with the Clean Air Act subject to extensive new clean air requirements. Because relatively small facilities can generate substantial quantities of CO2 and exceed the PSD/NSR regulatory threshold,[3] small entities would be captured by the CO2 PSD/NSR permitting requirement when they are constructed or modified. These small entities would include small businesses operating office buildings, retail establishments, hotels, and other smaller buildings. Buildings owned by small communities and small non-profit organizations like schools, prisons, and private hospitals would also be regulated. It is difficult to overemphasize how potentially disruptive and burdensome such a new regulatory regime would be to small entities. In our view, those costs would likely be imposed on large numbers of small entities with little corresponding environmental benefit in terms of reduced GHG emissions.

I. THE CLEAN AIR ACT REGULATORY FRAMEWORK

The ANPR demonstrates that the Clean Air Act regulatory framework is poorly suited as a mechanism to control GHG emissions. Several key examples illustrate this:

A. Prevention of Significant Deterioration/New Source Review (PSD/NSR). The PSD/NSR program currently requires the owners and operators of major stationary sources of air pollutants[4] to obtain construction permits before they can build or modify their facilities. Issuance of permits to construct or modify these facilities is predicated upon the completion of measures designed to ensure that the facility will not degrade local air quality. Firms seeking PSD/NSR permits must install the most advanced emission controls, meet stringent emission standards, and provide data to show that their

[2] Under the RFA, small entities are defined as (1) a "small business" under section 3 of the Small Business Act and under size standards issued by the SBA in 13 C.F.R. § 121.201, or (2) a "small organization" that is a not-for-profit enterprise which is independently owned and operated and is not dominant in its field, or (3) a "small governmental jurisdiction" that is the government of a city, county, town, township, village, school district or special district with a population of less than 50,000 persons. 5 U.S.C. § 601.

[3] For PSD, the thresholds are 100 tons per year of pollutant for 28 listed industrial source categories, 250 tons per year for other sources. See 40 C.F.R. §§ 51.166(b)(1) and 52.21(b)(1). For nonattainment NSR, the major source threshold is generally 100 tons per year.

[4] A "major stationary source" for PSD meets or exceeds the annual emission thresholds listed in the note 3, *supra*.

emissions will not harm air quality. Currently, obtaining a PSD/NSR permit for a coal-powered source typically requires at least a year of preparation time and costs up to $500,000, not including the cost of purchasing, installing, and maintaining control equipment.

Today, EPA estimates that 200 to 300 of these permits are issued each year by federal, state, and local authorities. Processing PSD/NSR permits represents a major resource commitment for these permitting authorities, as well as for the permit applicant. As EPA has noted, "there have been significant and broad-based concerns about [PSD/NSR] implementation over the years due to the program's complexity and the costs, uncertainty, and construction delays that can sometimes result from the [PSD/NSR] permitting process."[5] This problem would be greatly exacerbated by regulating GHGs under the PSD/NSR program. EPA believes that "if CO2 becomes a regulated NSR pollutant, the number of [PSD/NSR] permits required to be issued each year would increase by more than a factor of 10 (i.e., more than 2,000 – 3,000 permits per year) . . . the additional permits would generally be issued to smaller industrial sources, as well as large office and residential buildings,[6] hotels, large retail establishments, and similar facilities."[7] Not only would many more facilities become subject to PSD/NSR permitting requirements, but smaller firms that have never been subject to Clean Air Act permitting requirements would become regulated for the first time. EPA has likely greatly underestimated the large number of sources that would be required to obtain PSD/NSR permits if GHGs were included in the program. Neither EPA nor state and local permitting authorities have the resources to administer such a large volume of PSD/NSR permit applications; as a result, construction and modification activities would virtually come to a standstill. Any marginal reductions in GHGs achieved would not justify the tremendous costs and regulatory burdens imposed. Even if EPA is correct in its estimate, and the increase in businesses that must obtain PSD/NSR permits is only a tenfold increase, and even if the cost and administrative burdens associated with obtaining a PSD/NSR permit were to be dramatically reduced, a substantial number of small entities can be expected to experience a significant adverse economic impact by having to obtain CO2 PSD/NSR permits.

B. Hazardous Air Pollutant (HAP) Standards. Section 112 of the Clean Air Act requires EPA to regulate air pollutants classified as hazardous under section 112(b).[8] While GHGs are not currently listed as hazardous air pollutants (HAPs), EPA has solicited comments on whether GHGs should be regulated as HAPs. Based on Advocacy's experience with rules designed to regulate HAPs, particularly the area source rules that regulate non-major sources of HAPs,[9] many of which are small entities, the section 112 framework would be a poor mechanism for regulating GHGs. Typically, HAPs are emitted at relatively low volumes and are known to have health effects, which

[5] Draft ANPR (June 17, 2008) at 230.
[6] "Large residential buildings" presumably means homes. According to Office of Advocacy research, 53% of all small businesses are home-based businesses.
[7] Draft ANPR (June 17, 2008) at 225.
[8] 42 U.S.C. § 74129(b).
[9] Area sources are stationary sources of HAPs that emit less than 25 tons per year of any combination of HAPs and less than 10 tons per year of any single HAP. 42 U.S.C. § 112(a)(1),(2).

are generally localized, at low thresholds. HAP emission rules often require very costly technologies to eliminate relatively small amounts of HAP from being emitted to the air. Because the HAPs are recognized as causing serious health effects, HAP regulations often impose control costs that are much higher on a per ton basis than any other type of air pollutant.

By contrast, GHGs (and CO2 in particular) are ubiquitous, are distributed uniformly throughout the atmosphere, and have no demonstrated adverse health effects at ordinary atmospheric concentrations. Using section 112 to control GHGs would not be a reasonable regulatory approach. Imposing high per-ton GHG control costs through a HAP standards-type regime would yield small reductions in GHG at enormous cost to sources, especially small entities.

C. Title V Permit Program. EPA also solicits comments on whether and how GHG requirements could be included in Title V operating permits. Based on the cost, complexity, and administrative burdens associated with obtaining Title V operating permits, Advocacy believes that Title V permits should not be required of sources on the basis of GHG emissions. Currently, federal, state, and local permitting authorities issue Title V operating permits to a limited subset of the stationary sources of air pollution in the United States. Applying for and obtaining a Title V permit is time-consuming and expensive. In the late 1990's, for example, many major stationary sources spent more than $100,000 to obtain initial Title V permits, when the cost of hiring consultants and technical personnel is considered. Again, even if EPA were able to dramatically decrease the cost of applying for and complying with GHG Title V permits, the cost and burden would be an enormous new impact, particularly on small entities.

EPA has taken steps to ensure that Title V permits are principally required for larger stationary sources. EPA initially administratively deferred Title V applicability for non-major sources, and, more recently, EPA has allowed area sources of HAPs to satisfy Title V compliance demonstrations through less burdensome means. EPA understands that administering Title V permits is a resource-intensive process for all parties, and that forcing smaller facilities to comply imposes great burden and cost for little commensurate environmental gain. Requiring small firms that would otherwise not be subject to Title V to obtain Title V permits on the basis of GHG emissions would not be worth the cost to companies or the heavy additional load placed on permitting authorities' resources.

D. National Ambient Air Quality Standards. EPA further solicits comments on whether it should develop a National Ambient Air Quality Standard (NAAQS) for CO2 and other GHGs. In Advocacy's view, EPA should not seek to develop a GHG NAAQS. GHGs are fundamentally different than any of the current NAAQS criteria pollutants. CO2, for example, is distributed broadly through the atmosphere and is ubiquitous, rendering geographic determinations useless in mitigating CO2 levels. The wide and uniform distribution of CO2 would mean that the entire country would either be classified as in attainment or out of attainment. Either way, small entities, in turn, would become subject to rigid new "one-size-fits-all" GHG requirements, regardless of local conditions or their actual emissions of GHGs.

Therefore, rather than merely serving as a useful vehicle to administer a national GHG cap and trade program, establishing a GHG NAAQS would set in motion a number of statutory control measures that would be costly, inefficient, and ineffective. Small entities could have to contend with new barriers to construction and expansion, new restrictions on operating cars and trucks, and the potential for having to retrofit their existing buildings with GHG controls or to purchase equivalent credits. These NAAQS control measures would subject vast numbers of small entities across the country to standardized, inflexible GHG control requirements for the very first time. The full impact of these new burdens on these small entities could be devastating.

E. Mobile Source Requirements. EPA also solicits comments on using the Mobile Source provisions of the Clean Air Act to control GHGs. EPA would impose new regulatory requirements on on-highway motor vehicles, as well as non-road vehicles and equipment. These GHG requirements would be imposed in addition to the renewable fuel standards contained in the Energy Independence and Security Act of 2007 (EISA),[10] which requires 36 billion gallons of renewable fuel to be blended into the nation's gasoline and diesel fuel supply by 2022. To a large degree, the goal of EISA was to address GHGs from mobile sources.

In Advocacy's view, using the mobile source provisions of the Clean Air Act to further impose new GHG requirements are likely to have serious adverse impacts on small entities that rely on vehicles and equipment. On-board GHG control measures such as speed limiters would have a major impact on small entities that operate trucks or other vehicle fleets. Other requirements designed to limit the use of vehicles will similarly impact small businesses that depend on being able to pick up and deliver goods, or to travel to and from their clients. These requirements could be a particular hardship for trucking companies, and the numerous small communities that depend entirely on long-haul trucks for delivery of their food supplies and other goods.

II. DISPROPORTIONATE IMPACTS ON SMALL ENTITIES

Our concerns about the advisability of regulating GHGs under a massive and unwieldy new environmental regulatory scheme that will capture hundreds of thousands of small businesses is motivated by our knowledge of how regulations often unfairly impact small entities.

A. Advocacy's Research. An Advocacy-funded report that details the $1.1 trillion cumulative regulatory burden on enterprise in the United States shows how the smallest businesses bear a 45 percent greater burden than their larger competitors.[11] The annual cost per employee for firms with fewer than 20 employees is $7,747 to comply with all

[10] Pub. L. No. 110-140 (2007).
[11] W. Mark Crain, *The Impact of Federal Regulations on Small Firms*, funded by the U.S. Small Business Administration, Office of Advocacy (2005).

federal regulations.[12] That cost is more, on a per-household basis, than what Americans pay for health insurance. When it comes to compliance with environmental requirements, small firms with fewer than 20 employees spend four times more, on a per-employee basis, than do businesses with more than 500 employees.[13]

B. Any GHG Rule Must Be Subject to a SBAR Panel. The owners of small businesses want to comply with applicable environmental rules. However, the growing thicket of clean air, solid waste, water quality, and other environmental requirements emanating from local, state, federal, and global authorities is daunting. If EPA chooses to go forward with plans to use the Clean Air Act to address climate change, the Office of Advocacy will insist that the views of small entities be considered in the pre-proposal stage as required by the Small Business Regulatory Enforcement Fairness Act (SBREFA).[14] The direct involvement of small entities has benefited over 30 EPA rulemakings since President Clinton signed SBREFA in 1996. The "Small Business Advocacy Review" (SBAR) panels required by SBREFA provide EPA with on-the-ground, real world, experienced views from small business representatives who are relied upon to provide practical solutions for regulatory challenges faced by EPA. Nine prior SBAR panels have dealt with planned EPA rules issued under the Clean Air Act and, because small entities were involved, the final rules reflect a better understanding of how the regulations would impact small business. Millions of dollars have been saved because poorly designed approaches and unintended consequences are filtered out of proposed regulations with the help of small entities and government officials.[15] These changes are accomplished without compromising valuable protections for human health and the environment.[16]

C. EPA Should Not Ignore the Impact of GHG Regulation on Small Entities. Unfortunately, EPA has ignored small business input when issuing Clean Air Act regulations in the past. In 1997, for example, EPA determined that the revision of the NAAQS for ozone and particulate matter did not "directly regulate" small entities and was, therefore, exempt from the SBAR panel requirement to consider small entity input. In Advocacy's view, any movement forward by EPA to capture small entities in a reinterpretation of the Clean Air Act designed to address climate change will properly constitute direct EPA regulatory action. Even if EPA were to construct a legal argument that claims GHG regulations do not significantly impact a substantial number of small entities,[17] EPA would be better served by carefully considering the impact of GHG regulations on small businesses, small organizations, and small communities.

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[12] *Id.*
[13] *Id.*
[14] 5 U.S.C. § 609.
[15] See the annual reports of the Regulatory Flexibility Act at: http://www.sba.gov/advo/laws/flex/
[16] 5 U.S.C. § 603 (c) explicitly requires that any alternatives to a regulatory proposal that would minimize the impact on small entities must "accomplish the stated objectives of applicable statutes."
[17] Under 5 U.S.C. § 605(b), EPA is not required to convene a SBAR panel if it certifies that the regulation will not have a significant economic impact on a substantial number of small entities.