

## Written Statement of

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on

"The American Clean Energy Security Act of 2009"

before the

Energy and Commerce Committee U.S. House of Representatives

**April 24, 2009** 

#### I. <u>Introduction</u>

Good morning, Chairman Waxman, Ranking Member Barton, and Members of the Committee. My name is Charlie Drevna. I am President of the National Petrochemical and Refiners Association (NPRA). NPRA is a national trade association with more than 450 members, including those who own or operate virtually all U.S. refining capacity, as well as most of the nation's petrochemical manufacturers who supply "building block" chemicals necessary to produce products ranging from pharmaceuticals to fertilizer to Kevlar. I appreciate the opportunity to testify at today's hearing regarding the impacts of climate legislation on the transportation sector.

#### II. Summary of NPRA's Views on the Discussion Draft

Climate change is a complex public policy challenge that must be addressed with realistic, long-term strategies recognizing the vital role that all forms of energy – traditional, alternative and renewable – will play in maintaining our country's freedom, economic strength and quality of life. NPRA supports the advancement and deployment of new technologies that bring reliable, affordable, and clean supplies of domestic energy to consumers. However, we have serious concerns with the ability of the "American Clean Energy and Security Act of 2009" discussion draft to achieve these goals, particularly in relation to the transportation sector.

NPRA members produce the gasoline, diesel and jet fuels that power virtually all of our nation's transportation needs. In addition to providing the energy necessary for the driving public, these fuels are essential for shipping companies to deliver products and packages to homes and store shelves daily. They also fuel the thousands of planes that move people around the country each day and are the primary energy source for the United States military. Petroleum-based fuels are and will continue to be a critical component of our nation's energy needs and economic growth for decades to come. As currently written, the Committee's draft climate legislation could have several adverse impacts on refiners' ability to produce the fuels necessary to drive an economic recovery and enhance the transition to an even more diverse energy future. If key issues are not addressed, this

legislation could drive up not only consumer costs at the pump and on home heating oil bills, but possibly costs for products ranging from food to medicine.

The discussion draft contains three main areas of concern for the refining industry: 1) multiple layers of regulation on the refining sector, with the proposed "Low Carbon Fuels Standard" or LCFS of primary concern; 2) international competitiveness and American energy security, and 3) achievability, jobs and economic cost. Effective and efficient federal climate change legislation need not contain duplicative provisions aimed at the nation's refining and petrochemical industries. NPRA urges Members of this Committee to address these issues as this draft proceeds through the legislative process.

If Congress and President Obama decide that federal climate change legislation must be adopted, then such legislation must: (1) set a realistic carbon reduction target without political preconceptions or punitive provisions and allow the innovative nature of American businesses to achieve those goals through the most efficient means; (2) protect impacted American industries and the existing jobs of the employees in these industries from international competition from companies in countries that do not constrain CO2 emissions; (3) prevent mandating contradictory or redundant policies; (4) establish a single federal carbon constraint program that supersedes all other federal, state and local statutes and programs; and, (5) not advantage or disadvantage one form of energy over another with respect to carbon constraints.

### III. Specific Comments on the Discussion Draft

#### A. The Continued Role of Crude Oil in Our Nation's Energy Portfolio

NPRA's central concern with this discussion draft is that it underestimates the vital role products derived from crude oil play in the U.S. economy and energy marketplace. By far, crude oil is the dominant source of energy for transportation fuels in the United States and across the world.

Crude oil is responsible for 96 percent of the energy used in the U.S. transportation sector.<sup>1</sup> The products made by NPRA members will and must continue to be an important energy resource as we transition toward using new alternative and renewable energy sources. Policies imposing overlapping and overly costly regulations on the producers of petroleum-based fuels, particularly under the current economic circumstances, will impact the ability of these producers to operate – driving more production of finished products overseas and increasing costs for consumers. Such economic impacts will affect not only the oil industry, but the entire economy. In addition, policies that not only overlap, but look to aggressively achieve reductions before sufficient technologies are available could serve to threaten current economic conditions and inhibit future investment in advanced technologies. The discussion draft currently requires that refiners comply with the existing Renewable Fuels Standard (RFS), an LCFS that overlaps the RFS as it is gradually phased out in the bill, and hold allowances for the greenhouse gas (GHG) emissions that will result from consumer combustion of motor fuels. The LCFS alone will prove challenging and could create unintended consequences.

#### B. Adoption of a Low Carbon Fuel Standard is Redundant and Punitive

The discussion draft calls for phasing out the RFS and phasing in an LCFS. The LCFS would completely replace the RFS beginning in 2023. From 2014 - 2022, the LCFS would require that the petroleum portion of the fuel supply alone (excluding renewable fuels required by the RFS) cannot have annual average lifecycle GHG emissions greater than the 2005 baseline for transportation fuels (e.g. gasoline, diesel and jet fuel). Beginning in 2023, the Act would require a five percent reduction in lifecycle GHG emissions from the 2005 baseline and a 10 percent reduction beginning in 2030. NPRA has several concerns with this proposal.

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<sup>&</sup>lt;sup>1</sup> U.S. Energy Information Administration, *Annual Energy Review 2007*, http://www.eia.doe.gov/emeu/aer/pecss\_diagram.html

First, an LCFS is redundant, because transportation fuels would already be covered under the cap and trade program that is the dominant feature of the discussion draft. Manufacturers of transportation fuels will be forced to pay more for the carbon content of these fuels each year as the cap on carbon emissions decreases over time. In making carbon-based fuels more expensive and restricting carbon emissions economy wide, the cap looks to legally reduce the amount of carbon that can be emitted from the transportation sector. The LCFS proposal simply seeks to reduce the use of transportation fuels derived from crude oil faster than the pace required under the cap and trade program. *There is no justification for such a redundancy*.

Second, an LCFS could threaten American energy security by significantly decreasing viable and available options – limiting the supply menu. Canada currently is the largest exporter of crude oil to the United States. Much of this crude oil is derived from the ample oil sands deposits located in Canada's western provinces. The use of Canadian oil sands has increased exponentially so that many refiners throughout the United States are utilizing economical, heavier crudes to make their finished products. For example, refiners producing fuels and petroleum products in PADD II, which incorporates the entire Midwest, receive 74 percent of their oil imports from Canada.<sup>2</sup> Several environmental organizations have initiated efforts to block Canadian crude deliveries to the United States using arguments centered on "lifecycle" carbon emissions. If an LCFS were used to discriminate against or otherwise impede Canadian crude imports into the United States – as is the case in the LCFS California is currently considering – there would be several adverse impacts on American energy security and refinery production. Assuming the artificial unavailability of Canadian oil sands for domestic use, American refiners would be forced to use crude supplies from other regions – including sources from unstable countries or those not aligned with U.S. interests. Such a scenario threatens American energy security by severely constraining and shifting our import

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<sup>&</sup>lt;sup>2</sup> Canadian Association of Petroleum Producers, *Carbon Standards: What is the right choice for Canada and the US?*, Woodrow Wilson Cross Border Energy Forum, October 2, 2008, slide 3.

portfolio away from a near-by, friendly, and strategic ally and increasing our reliance on oil from potentially unreliable sources.

In addition to security concerns, forcing refiners to purchase more costly crude from unstable sources at a time when American refiners are already experiencing huge margin decreases – and even posting losses in some cases – could have the effect of raising the price of such crude slates further. High crude oil prices, combined with high LCFS credit prices, would have an adverse impact on refining capacity in the United States, increasing our reliance on foreign governments for *both our crude oil and refined products* and creating supply problems for U.S. consumers.

Third, crude oil supplies are a global commodity. All crudes produced, regardless of origin, will find their way into the global marketplace. Given this reality, policies requiring a shift in U.S. crude supply from Canada to other crude producers would likely have additional unintended consequences of increasing GHG emissions globally due to incremental transportation of crudes into the United States and out of Canada. Canada has chosen to develop its oil sands and if the United States refuses to import this product, it will find buyers elsewhere. The ensuing "crude shuffle" that could occur from more overseas tanker shipments to the United States and more Canadian tanker shipments of oil sands to Asia or another destination could easily result in global GHG increases. Canada is already taking steps to reduce the carbon footprint of oil sands operations and control carbon emissions generally. Canadian mitigation initiatives combined with the potential for unintended emission consequences leads to a logical conclusion that an LCFS should not be used to discriminate against our nation's top oil supplier.

Fourth, an LCFS could conflict with the existing RFS, adopted under the Energy Security and Independence Act of 2007 (EISA). As previously mentioned, the RFS phases out as the LCFS phases in, with the LCFS completely replacing the RFS in 2023. However, the LCFS proposal in the discussion draft fails to address many of the fundamental legal, scientific, and policy issues that currently exist with respect to the RFS. Under EISA, the fuels sector is already facing mandates that

may not be achievable. Specific GHG emissions reductions are required under these mandates. The achievability of these reductions is being questioned as new science indicates corn-based ethanol may result in more GHG emissions than gasoline on a lifecycle basis. It is ill-advised to regulate further when serious questions remain about what is possible or realistic even under existing mandates. Given this situation, significantly more scientific research needs to be conducted before the government should consider creating a LCFS.

There are many challenges with simply defining an LCFS. How to define lifecycle GHG emissions and determine the points of measurement are questions critical to determining the effectiveness of any program. To date, policymakers wrestling with this issue have yet to develop any workable consensus on these critical definitions. Such determinations would also create overly complex – and costly – regulations. In addition, there is serious concern over what tools are available to achieve an LCFS. One study focusing on the 110<sup>th</sup> Congress' Lieberman-Warner climate legislation assessed the impacts of the LCFS in that bill. It spoke directly to the issue of achievability, noting: "Since the LCFS requirements go beyond what can be accomplished with available low carbon biofuels, gasoline consumption must fall to make the share of low carbon biofuels sufficient to satisfy the LCFS. Therefore, delivered pump prices (including the price of LCFS credits, if a trading system is created) must rise sufficiently to choke off gasoline demand...."<sup>3</sup> The study concluded prices would have to rise more than 140 percent in the early years of the program to dampen demand enough for compliance achievability. It also made the assumption that corn-based ethanol would be available as a compliance tool, which, as previously mentioned, may not be the case. While the LCFS in Lieberman-Warner was more aggressive than that proposed in the Committee's discussion draft, that study highlights the implications of advancing a standard without necessary tools for achievement, which remains a significant concern.

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<sup>&</sup>lt;sup>3</sup> Smith, Anne E. and Montgomery, W. David, "Economic Analysis of the Lieberman-Warner Climate Security Act of 2007 Using CRA's NRM-NEEM Model," CRA International, April 8, 2008.

More recent reports continue to raise additional concerns about advancing an LCFS. A Marshall Institute report described an LCFS as a "highly inefficient means to reduce GHG emissions [because it] implicitly subsidizes consumption of a fuel such as ethanol that results in increased emissions." The same report assessed the annual costs for a hypothetical LCFS effective in 2020 and derived that it would cost \$65.5 billion—equivalent to \$570 per household annually. It also found that the cost per ton of carbon removed by an LCFS is an order of magnitude greater than the estimated costs imposed by GHGs, and also an order of magnitude greater than the costs per ton of other measures that would reduce these gases.

Finally, imposing an LCFS on petroleum refiners places the compliance obligation squarely on an industry that has no ability to control the most critical factors necessary for the achievement of the program – alternative fuels, vehicle production, and infrastructure creation. Petroleum refiners have no method of ensuring the use of alternative and/or renewable fuels that have lower lifecycle GHG emissions than gasoline and diesel. Gasoline is carbon by nature. The only way to significantly reduce carbon from gasoline use is to blend gasoline with another "low carbon" product that petroleum refiners do not produce or to have vehicles on the road capable of running on lower carbon sources of energy (*i.e.*, alternative fuel vehicles). These low-carbon alternative fuels and vehicles currently do not exist in anywhere near commercial quantities and would likely take decades to develop and deploy. Without these compliance tools, the potential consumer impacts could be severe.

#### C. Compliance Timeframes in Discussion Draft Are Overly Aggressive

The discussion draft places a disproportionate and early compliance burden on the refining industry. Refiners must meet the earliest compliance mandate for fuels in 2013, while other sources

<sup>&</sup>lt;sup>4</sup> Canes, Michael and Edward Murphy. "Economics of a National Low Carbon Fuel Standard." The Marshall Institute. April 2009. http://www.marshall.org/pdf/materials/642.pdf.

do not begin to be phased in until 2014. NPRA believes such time frames look to achieve aggressive reductions before adequate compliance tools become available.

Gasoline is carbon by nature and refiners will have few options to reduce compliance costs other than constricting production. In addition, the requisite costs for compliance will be overwhelming. NPRA internally produced informal estimates indicated that one, smaller sized refinery with 100,000 barrels per day of capacity would have to spend over \$360 million annually if it were required to purchase emissions allowances for the fuels it produced. Our estimate was developed assuming a conservative carbon price of \$26 per ton and taking into account 30 days of down-time for maintenance per year. It also assumed that refinery would receive five percent of its allowances for free. In some cases, such compliance costs represent more than one third of the profit for some large independent refiners during a robust year. Based on results from last year, when much of the refining sector saw negative margins, such a cost could easily be more than many of our companies could bear. On an aggregate basis, these costs would add up to approximately \$54 billion per year for the refining industry and escalate over time as the cost of the program increases. In 2008, NPRA commissioned a study of the Lieberman-Warner Climate Security Act, which concluded carbon costs for the refining industry would be \$168 billion a year by 2030 under a cap and trade program similar to that proposed in the discussion draft.

#### D. Refining Industry Is Energy Intensive and Subject to International Competition

The nation's domestic refining industry is incorrectly excluded by definition from qualifying for the rebates provided to other "energy intensive" sectors in Title IV of the discussion draft. The production processes used by the domestic refining industry is extremely energy intensive. Refiners also face intense global competition in the transportation fuels marketplace. As a result, *domestic refining industry should not be excluded from eligibility for rebates under the discussion draft*.

Two factors determine whether an industry impacted by the carbon constraints in the discussion draft is eligible for rebates: 1) the energy intensity of its manufacturing operations; and,

(2) its exposure to international competition. The discussion draft incorrectly concludes that the domestic refining industry is not energy intensive and does not face foreign competition that would prevent it from passing through increased costs caused by carbon constraints.

#### 1. The Domestic Refining Industry Is Energy Intensive

The draft legislation's assumption that the refining industry is not "energy intensive" is derived from a calculation that severely underestimates energy intensity in the refining industry.

Section 403(b) of the discussion draft includes a methodology for calculating energy intensity using the U.S. Census Annual Survey of Manufacturers. While this may be an appropriate method for many industries, it clearly is not for petroleum refineries. Most of the fuel used at petroleum refineries is "still gas." Still gas is a hydrocarbon generated as a byproduct at the refinery and, as such, is not reflected in the U.S. Census Annual Survey of Manufacturers because it is not purchased. Still gas is one of the many components of the crude oil that refiners purchase and process. If it were not indigenous in crude oil, refiners would have to purchase that required energy elsewhere; therefore, it is a real cost because it represents lost production and associated product value.

Similarly, a coal-like substance called petroleum coke is often created and burned in the refining process. Like still gas, "pet coke" is a byproduct derived from crude oil and the energy it produces would have to be purchased elsewhere if it were not processed from the barrel of crude oil. As hydrocarbons, both pet coke and still gas generate CO2 when burned. Therefore, a refinery would be responsible for securing allowances for these CO2 emissions.

If a refinery must secure allowances, then still gas and pet coke volume should be counted when calculating energy intensity. Although still gas and pet coke data are not available in the U.S. Census Annual Survey of Manufacturers, this data is reported by the Energy Information Administration (EIA) reported in its "Petroleum Supply Annual." Recognizing still gas and pet

<sup>&</sup>lt;sup>5</sup> To view EIA's still gas and petroleum coke data for 2007: http://www.eia.doe.gov/pub/oil\_gas/petroleum/data\_publications/refinery\_capacity\_data/historical/2008/table12.pdf

coke use would more accurately measure refinery energy costs used for calculating petroleum refining energy intensity.

# 2. The Domestic Refining Industry Is Uniquely Vulnerable to Foreign Competition

The energy market is global and dynamic, and imposing disproportionate compliance burdens on U.S. refiners will hurt the U.S. economy by increasing our reliance on foreign refiners for refined products. The legislation imposes these compliance burdens because it assumes that refiners:

1) do not have significant exposure to foreign competition and 2) will be able to pass through most additional costs to consumers. These are incorrect and counter-productive assumptions.

The refining industry is unique in that refineries around the world can produce identical and globally fungible grades of finished products. In other words, a gallon of diesel produced in India can be used in the same manner as a gallon of diesel produced in Indiana. Therefore, a U.S. refinery competes directly with other refineries across the world. If U.S. refineries scale back production due to higher marginal operating costs that cannot pass through to the consumer, a refiner in India will make up for that reduction in finished product supply.

America already imports upwards of 10 percent of its finished product and many foreign refineries are being built for the sole purpose of exporting refined products to the U.S. market. These foreign refiners can be built more quickly and at lower cost than American refineries or refinery expansions. The existing cost differences between foreign and domestic refiners are evidenced in permitting and construction time frames. In the same amount of time it took a U.S. refiner to receive the necessary federal, state and local permits for a refinery modernization, another refining company was able to build and bring to full operation a 600,000 barrels per day refinery in India. The Abu

For tables other than Table 12:

 $http://www.eia.doe.gov/pub/oil\_gas/petroleum/data\_publications/refinery\_capacity\_data/historical/2008/refcap2008. \\ html$ 

To view EIA's entire "Petroleum Supply Annual:"

 $http://www.eia.doe.gov/pub/oil\_gas/petroleum/data\_publications/petroleum\_supply\_annual/psa\_volume1/historical/2007/psa\_volume1\_2007.html$ 

Dhabi National Oil Company (ADNOC) is expanding its refinery at Ruwais by 95 percent, from 417,000 barrels per day to 817,000 barrels per day<sup>6</sup> and the total refining capacity of the six Gulf Cooperation Council (GCC) countries (Bahrain, Kuwait, Qatar, Oman, Saudi Arabia, and the UAE) is expected to increase by 45.5 percent in 2010—to 6.3 million barrels per day from 4.33 million barrels per day.<sup>7</sup> Although the domestic refining industry has added capacity over the last 10 years, such expansions pale in comparison to these foreign projects.

In relation to pass through of carbon costs, only two market conditions would lead to full pass through of additional costs to consumers: "perfectly inelastic demand" or "perfectly elastic supply." Perfectly inelastic demand means that consumers will buy the product no matter what it costs. Perfectly elastic supply means that producers can supply any amount of their product at the same marginal costs. Supply and demand for finished petroleum products meets neither of these criteria. The demand for refined products is elastic, as consumers change their behavior to reduce their consumption of fuels when prices rise and have the option to substitute with ethanol and flexible fuel-vehicles. The supply for the refining industry is not elastic—foreign refiners can freely access the U.S. market, and can frequently sell their products for less, particularly if their home country has not committed to an internationally recognized GHG-emission-reduction path.

History has shown that the refining industry is not able to pass through all additional costs. Previous variations in the "crack spread," the difference between the price of a barrel of finished petroleum products and the cost of a barrel of crude oil, demonstrate that there is not a linear correlation between the two prices. Prior empirical evidence from the literature on gasoline tax incidence also indicates that that cost pass through rates may be only 50 percent for various

<sup>&</sup>lt;sup>6</sup> *The National.* "ADNOC committed to expansion." March 24, 2009. http://www.thenational.ae/article/20090324/BUSINESS/833320926/1005.

<sup>&</sup>lt;sup>7</sup> *Oil & Gas Journal*. "GCC countries' refining capacity to rise 45% by 2010." October 10, 2008. http://www.pennenergy.com/index/articles/display/308651/s-articles/s-oil-gas-journal/s-processing/s-gcc-countries-refining-capacity-to-rise-45-by-2010.html

petroleum products.<sup>8</sup> In addition, market conditions from last year highlight the inability of the refining industry to pass costs through, particularly in times of falling demand. When oil prices skyrocketed to over \$140 dollars per barrel, fuel prices increased significantly, but not proportionally. A consumer's willingness to change fuel suppliers over a penny per gallon retail price difference prevented prices from increasing in proportion to cost, causing refiners and retailers to eat much of last year's high crude costs. In addition, the subsequent demand decrease when fuel prices reached record high levels forced refiners to absorb even more costs. The realities of this situation are evidenced by the fact that throughout most of last year, many refiners were actually losing money. Since refiners cannot pass through all of their costs now, it is highly unlikely they will be able to pass through the significant costs of a carbon control program, particularly in light of increasing competition from abroad.

#### E. Allocation of Emissions Allowances

The issue of pass-through speaks directly to the issue of allowance allocations in a cap and trade program. Although the discussion draft does not address allowance allocation, NPRA is concerned about this issue and its potential impact. Past climate change proposals, such as the Lieberman-Warner Climate Security Act, have discriminated against the refining industry with respect to allowance allocations. Such a policy would adversely impact the industry and consumers.

The refining sector is unique under the proposed legislation in that both the product and the facility making it are regulated. The transportation sector represents approximately 30 percent of the nation's total greenhouse gas emissions, but the refining industry would not receive any allocations in order to account for those emissions under several climate proposals introduced to date. In addition, foreign importers are responsible only for their finished product emissions, not the process emissions from refineries abroad. Failing to account for foreign process emissions could

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<sup>&</sup>lt;sup>8</sup> NERA Consulting- Market Conditions and the Pass-Through of Compliance Costs in a Carbon Emission Cap-and-Trade Program, January 2008.

automatically give foreign-based refiners a 10 percent cost advantage over the U.S. refining industry. If emissions allowances are not distributed in an equitable and transparent manner, they will damage the competiveness of U.S. refiners and endanger our domestic supply of gasoline, jet fuel, home heating oil and other petroleum-based products.

#### F. Impact of Discussion Draft on American Jobs

Any climate change legislation enacted by Congress must, in addition to protecting our economy, make every possible effort to protect and preserve existing American jobs. Imposing a CO2 control program that increases costs and operating burdens for American refiners will damage their ability to operate domestically and could lead to lost jobs when refiners are forced to slow or shutter facilities. The promise of "green jobs," as opposed to existing, well-paying refining industry jobs, may prove illusory, to the detriment of our tens of thousands of employees and their families, as well as to the overall U.S. economy.

A recent study found that a "green jobs" creation campaign in Spain actually destroyed jobs and required over half a million dollars to create each job. <sup>9</sup> Spanish researchers found that each "green" megawatt installed in Spain destroyed 5.39 jobs in non-energy sectors and that only one in ten of the "green jobs" was of a permanent nature, as the rest were in construction and administration. The study projected that if the U.S. subsidized renewable producers to achieve a similar portion of "green jobs" as Spain, the U.S. could lose 6.6 million to 11 million jobs while creating three million largely temporary "green jobs."

#### G. International Participation and Achievability

Although the draft legislation seeks to reduce GHG emissions 83 percent by 2050, the structure of the legislation creates two challenges to achieving meaningful global emissions reductions.

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<sup>&</sup>lt;sup>9</sup>"Study of the effects on employment of public aid to renewable energy sources." Universidad Rey Juan Carlos. March 2009. <a href="http://www.juandemariana.org/pdf/090327-employment-public-aid-renewable.pdf">http://www.juandemariana.org/pdf/090327-employment-public-aid-renewable.pdf</a>

First, this legislation does not contain adequate provisions to ensure international participation. While the Obama Administration has signaled its willingness to participate in the UN climate talks later this year, *China has indicated that it will not participate in any program that places restrictions on its emissions*. International participation is a critical issue, as we need to assure that any program we implement will actually create global reductions while also protecting our economic competitiveness. Any legislation enacted must contain provisions to prevent leakages of both jobs and emissions. *Without international participation, any carbon control measures taken by the U.S. would have little or no impact on potential climate change*.

Our second concern with the legislation deals with the achievability of the announced goal. In 2008 NPRA commissioned a study assessing the impact of Lieberman-Warner on the transportation sector and the economy. The study took into account the potential for electric vehicles and other potential alternatives to come into the market and be used as carbon reduction tools in the transportation sector. The study concluded that even after considering the possibility for all alternatives, the most cost effective pathway for reductions would be through the use of ethanol (again, assuming it does not lead to more GHG emissions). NERA projected that 68 billion gallons of ethanol would be needed to achieve transportation emissions reductions under a framework calling for a 70 percent reduction in GHG emissions by 2050. These results mirror EIA's conclusions of what it would take to meet a 25 percent RFS by 2025. In its analysis, EIA, concluded the fuel supply would need to contain 66 million gallons of ethanol – an amount that completely exhausts the entire American biomass supply.<sup>10</sup> These results raise serious sustainability issues, especially in light of two recent studies showing that ethanol production played a role in the rise in food costs<sup>11</sup> and that

<sup>&</sup>lt;sup>10</sup> Executive Summary of "Impacts of Potential Climate Change Policy on the Refining and Petrochemical Sectors." Prepared by NERA Economic Consulting for National Petrochemical & Refiners Association. April 2008. http://www.npra.org/files/NERA\_Report\_Executive\_Summary\_S\_2191.pdf

<sup>&</sup>lt;sup>11</sup> Congressional Budget Office. "The Impact of Ethanol Use on Food Prices and Greenhouse-Gas Emissions." April 2009. <a href="http://www.cbo.gov/ftpdocs/100xx/doc10057/04-08-Ethanol.pdf">http://www.cbo.gov/ftpdocs/100xx/doc10057/04-08-Ethanol.pdf</a>

ethanol production requires the use of more water than previously thought.<sup>12</sup> They also highlight the need for policy makers to assess whether or not the tools necessary for a more diverse transportation energy mix will be available along the timelines for required emissions reductions in the discussion draft.

#### IV. Conclusion

Federal climate change legislation must be fair and effective in achieving its goals. A federal policy to address climate change must be based on cost-effective approaches that maintain the global competitiveness of the entire U.S. economy and treat all sectors and industries equitably. Such policy must enhance our energy security, ensure the strength of our economy, and contain realistic assessments regarding the development of technologies necessary to achieve required emission reductions.

NPRA feels the Committee needs to address critical issues in the discussion draft before the goals of a finalized legislative approach can be achieved, particularly in the transportation sector. Crude oil and the transportation fuels derived from crude are vital pieces of our economy and everyday life. Climate policy must recognize the continuing need for these energy sources in the near future and throughout the long term transition to a more diverse energy portfolio. Failure to do so could result in adverse consequences for our economy, threatening investment in future technologies.

Thank you for the opportunity to testify at this hearing today. I would be pleased to answer any questions my testimony may have raised.

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<sup>&</sup>lt;sup>12</sup> Sattler, Casey. "Study: Corn Ethanol's Water Needs Vary Significantly by Region." Oil Daily. April 16, 2009. <a href="https://www.oildaily.com">www.oildaily.com</a>