

Comments in Response to The National Academies NRC Committee on Economic and Environmental Impacts of Increasing Biofuel Production

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The Respondents appreciate the opportunity to comment on questions posed by the Committee. Douglas Durante currently serves as the executive director of the Washington, DC based Clean Fuels Development Coalition, a non-profit advocacy coalition of public and private organizations. Mr. Durante has served by appointment on several federal commissions and panels dealing with the impact of biofuels for nearly 30 years. Todd Sneller has served for more than 32 years in the State of Nebraska ethanol development program. Since 1979 he has served as director of the program and currently serves on the boards of several national ethanol advocacy organizations. He is a representative to the 35 state Governors' Biofuels Coalition and has served by federal appointment on biofuel advisory panels serving the USDA, EPA and the Department of Defense.

A New Way Forward: Meeting the Goals of RFS2

Progress toward meeting the RFS2 targets for Advanced and Cellulosic biofuels is being undermined by a lack of coordinated resource application. While the biofuel policy objectives outlined by Congress and the Obama Administration have considerable merit, poor execution and lack of coordination among federal programs impedes progress. Near term advanced biofuel targets will not be met. Federal financial programs do not meet the needs of project developers and financial institutions. Capital formation for new biofuel projects is not available due to real or perceived project risk. Domestic energy policy goals are being undermined by lack of focus, resource dilution and a failure to configure program resources in the most productive manner. Oil imports continue to grow and the trade imbalance attributable to increased oil imports pushed the U.S. deficit to \$40.2 billion in December 2009, up 10.4% from November.

A direct response to Committee questions:

- *RFS2 is intended to gradually introduce higher volumes of biofuels into the U.S. market in a predictable manner that helps insure a market for such fuels and a reduction in petroleum imports. Performance requirements ensure that RFS biofuels will be increasingly more beneficial to the environment than fuels they displace. Conventional biofuels have been introduced gradually since 2005 and increased each year without disruption. The net cost of ethanol displacing gasoline has been lower and the toxicity of ethanol is far less than gasoline. The economic impact of jobs in the biofuels sector has been quantified and is significant, especially in rural areas of the country. A wide variety of sectors in addition to agriculture have benefitted from this economic stimulus. Failure to*

progress steadily toward the RFS2 goals will represent a lost opportunity cost to the U.S. economy and the environment.

- *Failure to accurately quantify impacts; failure to adapt public policy that is responsive to meeting the RFS2 goals; failure to adapt automotive systems and infrastructure in a manner that capitalizes on meeting the RFS2 goals.*
- *Refocusing of public policy and coordination of federal programs and resources as described below.*
- *Increased use of renewable materials and waste materials have the potential to increase jobs, mitigate land fill and food processing waste, reinvigorate forestry programs, move toward more bio-products, reduce farm program and waste management payments, add value to agricultural and forestry products, diversifying the economy, reducing oil imports and the related trade deficit, enhancing fuel transportation infrastructure, diversifying the U.S. transportation fuel portfolio, expanding the use of new vehicle technologies, and, improving air quality.*
- *Fuel marketing companies will benefit by increasing the volume of domestic biofuels which reduce refining severity thereby increasing gasoline yields and reducing toxicity. Agricultural and forestry interests will have a more reliable, predictable domestic marketplace for products. Farm to market fuel consumption and costs will be reduced. Rural communities and other communities that host processing plants will realize net job gains and a diversified tax base. Air quality improvements should yield reduced costs for those afflicted with respiratory problems. Wildlife and conservancy organizations should realize environmental benefits under a properly structured RFS program.*
- *Properly structuring performance models for biofuels; increasing fuel infrastructure; delays in permitting production facilities; delays in approving the use of new fuel formulations; delays by automakers in responding to new fuel formulations; improper application of federal resources; capitalizations risks of new technology and new biofuel feedstocks; lack of performance based incentives.*
- *Following are several previously proposed program components reconfigured in a manner that may more effectively contribute to progress in U.S. biofuels development while helping to stimulate the economy and reduce petroleum imports. This is “a new way forward...”*

Identify the “first of a kind” Advanced and Cellulosic biofuel technologies deemed most likely to sustain commercial production.

DoE grant and guarantee programs pick and choose technologies based on a variety of factors but the agency is risk averse in areas where capital is at risk. The idiom that “there is a long line of those who want to be first to be second” is clearly applicable to commercial development of new biofuel technologies. Mitigating risk is essential to

project finance. The application of current federal financial programs is simply not accomplishing the key elements of reducing the technology risks associated with commercial scale biofuels deployment.

Several biofuel advocates have suggested the concept of a reverse auction. This approach would offer a supply solicitation for commercial scale increments of biofuels. The technology companies that are “best of a kind” should be able to identify a price at which they would supply biofuels to the federal government. A recent Novozymes news release indicated a projected price of \$2.25/gal for fuel ethanol. If that is a number in which Novozymes and its partners have a high degree of confidence, a bid to provide ethanol at that price under a five year contract at specified annual volume rates should satisfy a key component of the project risk. The reverse auction is competitive; it can be conducted by technology category ; and contracts could be awarded at volumes that are considered commercial. For example, the woody biomass project that could provide 50 million gallons of biofuel per year at the lowest competitive cost would be awarded a long term contract of five to seven years with annual volume targets specified in the supply contract. This approach provides price stability, a stable marketing outlet, a long term supply commitment and reduced project risk. Managing this risk through this mechanism is ultimately less risky and less expensive than current federal grant or loan guarantee programs. More importantly, it does far more to mitigate risk and make the project bankable. As a result, the pace of commercial development will accelerate in the near term, thereby meeting national biofuel policy goals more quickly and more efficiently than current and past programs.

Supplement the Technology Demonstration Projects with Loan Guarantees.

The DOE and USDA have been reluctant to use loan guarantee authority to mitigate risk. The aforementioned reverse auction contract helps to significantly mitigate risk. Federal agencies should be able to reduce or eliminate loan guarantee conditions that currently make that financial mechanism impractical in the commercial finance sector. Coupling the reverse auction approach with the use of loan guarantees mitigates risk to acceptable levels and better utilizes loan guarantee authority. This approach should have more appeal to commercial lenders and it reduces potential default risk to federal agencies. As a result, the guarantee authority may become a more acceptable risk management tool and enhance to scope of projects on which guarantees may be used.

“Best of a kind, first of a kind” biofuel technologies will more quickly be demonstrated in commercial settings if the project finance structure is viable in the view of financiers. This is a key failing of the current federal approach. The aforementioned approach helps to accomplish the essential objective of making new technologies bankable.

Transform the VEETC Into a More Flexible Incentive

The VEETC is set to expire at the end of 2010. This and prior ethanol incentives have served a key role in advancing the use of ethanol nationally. However, the incentive is not designed to provide maximum advantage to the producer of biofuels. The incentive is captured primarily by the manufacturer of finished fuel products. Allocation of the

incentive currently serves little use in a project financial evaluation. Ethanol producers may better be served by a more flexible application of an incentive.

Policy makers have often been advised to target incentives to accomplish key policy objectives. This approach is far more effective in achieving a desired result than incentives that are too prescriptive or unfocused. For example, incentives intended to encourage the use of biofuels should be focused on rewarding the sale and purchase of a product. Incentives intended to encourage production of biofuels should be fashioned in a manner that facilitates project financing and mitigates the initial risk of new technology processes that may use unconventional feedstocks for advanced biofuels.

The current VEETC is not functioning in a manner that helps to finance new ethanol projects regardless of the technology or feedstock used. By contrast, the Small Alcohol Producer Credit was specifically designed to encourage production of ethanol in small plants during an era when capital availability often constrained plant size. It worked. A properly structured, more flexible ethanol incentive, can be designed to continue incentivizing the sale of ethanol by means of reducing ethanol prices to the final fuel manufacturer. This approach may still be suitable for existing plants and fuel marketers. However, the addition of a producer oriented credit would be far more useful in efforts to finance new biofuel plants regardless of technology or feedstock. This flexible, elective approach is practical in that it provides an option that meets the needs of current and prospective biofuel producers and marketers. This approach would be particularly useful in mitigating risk at “first of a kind” plants. Applied as a production credit, the incentive mitigates technology and feedstock risk while enhancing capital formation opportunities. At a time when new technologies and feedstocks are perceived as “new but risky”, the application of a production credit would be far more practical and useful to advanced biofuel development efforts than the current VEETC structure.

Establish a Strategic Biofuels Reserve.

The federal government maintains a costly national petroleum reserve. Federal audits document the high cost and inefficiency of this Strategic Petroleum Reserve. For decades, biofuel advocates have urged adoption of a similar Strategic Alcohol Fuel Reserve (SAFURE). Today, a Strategic Biofuels Reserve (SBR) could expand on that concept by serving as a repository for ethanol and biodiesel produced under technology demonstration programs. The investment of federal funds in this approach makes far more sense than the inefficient SPR which purchases foreign oil as a buffer against petroleum shortfalls. A SBR presents several opportunities that more quickly and more efficiently provide the necessary buffer to potential “emergency” petroleum shortfalls.

- A SBR immediately creates a demand for “green jobs” at a time when domestic job creation is essential to the U.S. economy. Construction of secure storage for biofuels and related transportation infrastructure would not only enhance the accumulation and distribution of biofuels as needed but the construction jobs generated by such a project would have an immediate impact on job creation goals.
- U.S. Department of Labor job training funds could be targeted to community colleges and other institutions currently offering biofuel and renewable energy job training via a coordinated internship program tied to development of a SBR.

-A SBR would serve as the repository for ethanol produced under the aforementioned long term supply agreements. This approach facilitates the acquisition of biofuels for the strategic reserve while preserving the integrity of supply and demand equilibrium in U.S. markets today.

-Infrastructure developed as part of the SBR would be integrated into existing rail, highway, pipeline and barge transportation in order to efficiently configure supply networks in the event of emergency distribution requirements in the future. This coordination of transportation infrastructure can be integrated with new biorefineries to ensure efficient transportation of biofuels in the near and long term.

-A SBR can be located in one or more geographically diverse areas to help secure the supply of biofuels. Several locations in the country are ideally suited to serve as secure sites. Economic development professionals in many areas of the country are aware of locations which are ideal for long terms storage of biofuels and host intermodal transportation options. Biofuels from the Midwest are currently transported via unit trains to fuel terminals served by barge and truck in the Northeast. Attractive Midwest site options include former government munitions sites in Nebraska near the intersection of national railroad mainlines and the Interstate Highway system.

The former munitions sites included extensive rail infrastructure that can be integrated into other transportation outlets. This configuration offers ingress and egress for biofuels transport and can serve as a regional biofuels supply hub.

-A SBR can serve as a supply management tool for biofuels when agricultural commodities are in long supply. Biofuels can be processed from commodities in periods of excess supply thereby providing government agencies with an option to deficiency payments. The production of biofuels via this approach stimulates employment in a “green jobs” sector which adding to strategic transportation fuel supplies.

Establish a Biofuel Supply Pipeline to Military Bases and Federal Agencies.

Several federal preferencing programs exist for small businesses that manufacture products for use by the military. The U.S. government is a major purchaser of transportation fuels yet federal agencies have a dismal track record when compliance with mandatory biofuel use is evaluated. Federal agencies routinely ignore mandates to use biofuels in federal vehicles. Military installations have, with few exceptions, been slow to move toward replacement of imported petroleum based fuels with domestic biofuels. A SBR, coordinated with the aforementioned transportation network, could quickly move to supply a large percentage of petroleum with domestic biofuels. Many state agencies serve as excellent models for the efficient and seamless transition to biofuels like E85 and Biodiesel. Federal agencies and military installations could easily emulate these examples. Repeated offers to facilitate this process have been ignored or rejected by federal agencies. This is a near term goal that should be adopted without debate. However, federal agencies and policymakers have been slow to adopt models that are prevalent at the state level. This component of a national biofuels strategy has cost reduction, energy security and national security implications that should be considered and implemented in the near term. Such a plan provides additional stimulus for the commercialization of biofuels because of the obvious supply and demand implications. In addition, the geographic diversity of federal agencies and military

installations lends itself to a national network of biofuel plants using feedstocks that are locally sourced and locally produced.

The federal government has a host of assets that can be efficiently matched with key biofuel policy objectives. The lack of a coordinated approach undermines this national policy. A coordinated approach and competent application of resources could more efficiently and more quickly move the U.S. toward expanded biofuel production and use while creating green jobs, stimulating the economy, producing cleaner fuels and enhancing national and energy security.