Creating a Biodiesel Fuels Program

Addressing America's need for energy security could not be more timely or critical. America relies on imports for 60 percent of its petroleum needs. Imported petroleum makes up the single largest component of our national trade deficit, amounting to approximately one third of the total. As crude oil prices continue to rise, America's trade deficit continues to balloon. *Every gallon of domestic, renewable biodiesel that is used to replace diesel fuel refined from imported crude reduces the need for imported crude and finished fuel, extends the diesel supply, and expands domestic refining capacity.* Even a small reduction in demand has a positive effect on straining price pressures.

About Biodiesel:

Biodiesel is a diesel fuel replacement that is made from agricultural fats and oils and meets a specific commercial fuel definition and specification. Soybeans are the primary oilseed crop grown in the United States, and soybean oil makes up about half of the raw material available to make biodiesel. The other half consists of all other vegetable oils and animal fats. Biodiesel is made by reacting the oil with an alcohol to remove the glycerin in order to meet specifications set forth by the American Society for Testing and Materials (ASTM International). Biodiesel is one of the best-tested alternative fuels in the country and the only alternative fuel to meet all of the testing requirements of the 1990 amendments to the Clean Air Act.

Industry Background and Overview:

In the early 1990s, soybean farmers struggled to maintain profitability because of high energy prices and low commodity prices. Investment in the development of a biodiesel industry was a priority to farmers eager to contribute to our energy supply, while finding ways to add value to their crops. Farmers have invested more than $50 million of their checkoff dollars to date to conduct research and development on biodiesel. Much of that effort focused on the testing of biodiesel to ensure performance, establish quality standards, and gain acceptance by engine and equipment manufacturers.

The biodiesel industry is made up of small businesses and has shown steady growth over the last 15 years. In 2006, the industry produced 250 million gallons of biodiesel. Today, there are 165 plants in operation with the capacity to produce more than 1.8 billion gallons of biodiesel and more than 80 new plants under construction or expansion, which will add an estimated new capacity of nearly 1.4 billion gallons. The industry is on track to create at least 40,000 new jobs and add $24 billion to the U.S. economy.

By comparison, the diesel pool in the United States is 60 billion gallons, with 37 billion gallons being used in "on road" markets.

Biodiesel is primarily marketed as a blended product with conventional diesel fuel, typically in concentrations up to 20%. It is distributed utilizing the existing fuel distribution infrastructure with blending most commonly occurring "below the rack" by fuel jobbers. Biodiesel is beginning to be distributed through the petroleum terminal system. To date, biodiesel has positions in approximately 35

terminals. The biodiesel industry has already committed funds to study the technical needs required for moving biodiesel through U.S. pipelines. Already, biodiesel is moved through pipelines in Europe and extending that capability in the U.S. would be substantial.

Creating a Biodiesel Fuels Program:

The time for a "Biodiesel Fuels Program" (BFP) is now. The President and Members of Congress, have committed this country to pursuing environmentally friendly alternative energy sources, and the 60 billion gallons of diesel used in the United States today should not be exempt from this objective.

Biodiesel can be used today, to begin helping meet that goal, because it is a liquid renewable fuel available now, and ready for blending into our existing diesel fuel supply - without having to modify any existing vehicles.

Rising crude oil prices and political uncertainties in strategically sensitive regions of the world are focusing the public's attention on the need to enhance our nation's energy security. Biodiesel is a viable option to begin re-taking control of our energy future.

Biodiesel is and will continue to be a strong player and partner in the growth of the biofuels industry and can be a substantial tool in the nation's overall move toward energy security as it:

- Adds to the volume of diesel fuel in the marketplace
- Adds to U.S. "refining" capacity
- Directly replaces imported finished diesel fuel
- Extends diesel supply
- Utilizes agricultural products
- Creates jobs and stimulates rural and urban economies
- Decreases greenhouse gas emissions
- Contributes to cleaner burning diesel fuel

Contributing to Energy Security:

Biodiesel can play a major role in expanding domestic refining capacity and reducing our reliance on foreign oil. Both the President and Congressional leaders are calling for significant reductions in the nation's use of petroleum and development of new energy sources. Increased use of renewables in the transportation sector can play a significant role in helping achieve these objectives. Biodiesel together with ethanol can be the first tools used to begin reaching that goal, because they are liquid renewable fuels that are available right now, ready for blending into our existing fuel supply and used in our existing vehicles.

As an illustration, note that Iraq is the second largest provider of crude oil into the United States from the Persian Gulf region. Of the crude that comes from Iraq, approximately 1.85 billion gallons of diesel fuel is refined for the U.S. market. If long-term, America was to replace just 5 percent of its 37 billion gallons of on-road diesel fuel with biodiesel, it would equal 1.85 billion gallons – the same amount of diesel fuel that we refine from Iraqi oil.

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Clean Air and Greenhouse Gas Benefits:

Biodiesel is an environmentally safe fuel, and is the most viable transportation fuel when measuring its carbon footprint, life cycle and energy balance. The USDA lifecycle study shows a 78.4% reduction in lifecycle CO2 for B100. 1 billion gallons of biodiesel will reduce current life cycle greenhouse gas emissions by 16.12 billion pounds, the equivalent of removing 1.4 million passenger vehicles from U.S. roads. In 2006 alone, its contribution to reducing greenhouse gas emissions was equal to removing 350,000 passenger vehicles from America's roadways.

Emissions: Biodiesel is the only alternative fuel to voluntarily perform EPA Tier I and Tier II testing to quantify emission characteristics and health effects. That study found that B20 (20% biodiesel blended with 80% conventional diesel fuel) provided significant reductions in the total hydrocarbons; carbon monoxide; and total particulate matter. Typically, emissions of nitrogen oxides are either slightly reduced or slightly increased depending on the duty cycle of the engine and testing methods used. Research also documents the fact that the ozone forming potential of the hydrocarbon emissions of pure biodiesel is nearly 50% less than that of petroleum fuel. Pure biodiesel does not contain sulfur and therefore reduces sulfur dioxide exhaust from diesel engines to virtually zero.

Biodiesel can also help meet national goals for the net reduction of atmospheric carbon: As a renewable fuel derived from organic materials, biodiesel and blends of biodiesel reduce the net amount of carbon dioxide in the biosphere. Carbon dioxide is "taken up" by the annual production of crops such as soybeans and then released when vegetable oil based biodiesel is combusted. This makes biodiesel the best technology currently available for heavy-duty diesel applications to reduce atmospheric carbon.

Health Effects: Biodiesel is safer for people to breathe. Research conducted in the U.S. shows biodiesel emissions have decreased levels of all target polycyclic aromatic hydrocarbons (PAH) and nitrited PAH compounds, as compared to petroleum diesel exhaust. These compounds have been identified as potential cancer causing compounds.

Energy Balance: Biodiesel helps preserve and protect natural resources. For every one unit of energy needed to produce biodiesel, 4.5 units of energy are gained. This is the highest energy balance of any fuel. Because of this high energy balance and since it is domestically produced, biodiesel use can greatly contribute to domestic energy security.

Economic Development:

Economic modeling[1] suggests that a vibrant biodiesel industry will positively impact the U.S. economy in multiple ways. America's biodiesel industry will add $24 billion to the U.S. economy between 2005 and 2015, assuming biodiesel growth reaches 650 million gallons of annual production by 2015. Biodiesel production will create a projected 39,102 new jobs in all sectors of the economy and additional tax revenues from biodiesel production will more than pay for the federal tax incentives provided to the industry. Equally as important, it will keep billions of dollars in America that would otherwise be spent on foreign oil.

[1] "Biodiesel's Contribution to the U.S. Economy"; John M.Urbanchuk of LECG, LLC.

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Benefits to the U.S. Treasury: The additional tax revenues generated by a profitable U.S. biodiesel industry will be significantly larger than the value of the federal tax incentives currently provided to the industry. Assuming the existing volumetric biodiesel tax credit is extended past 2008, this program would cost a total of $3.5 billion by 2015. The industry will generate $8.3 billion of new revenue for the Federal Treasury for a positive net balance of $4.8 billion.

Oil Dollars Stay in America: Expansion of the biodiesel industry as estimated will displace 242 million barrels of crude oil between 2006 and 2015. Since the U.S. is a net importer of oil, this means that less oil will need to be imported. As a consequence, $13.6 billion (2005 dollars) will remain in the American economy instead of being sent abroad to finance oil imports.

Permanent Impacts: The ongoing annual operation of biodiesel plants offers the most significant impact from biodiesel production on the U.S. economy. The biodiesel industry will add $15.6 billion (2005 dollars) to America's Gross Domestic Product (GDP) as it spends $7.6 billion (2005 dollars) on goods and services between 2006 and 2015.

Construction Investments: Biodiesel producers will invest nearly $810 million (2005 dollars) by 2015 to build new biodiesel plants and expand existing facilities. This spending will increase gross output by $2.8 billion (2005 dollars) to gross output, adding $1.5 billion to America's Gross Domestic Product (GDP). Biodiesel construction will create as many as 11,700 jobs in all sectors of the economy.

Benefits to Farm Prices: The additional demand for soybean oil used to produce biodiesel will increase demand for soybeans, raise soybean prices and revenue for soybean growers, and keep land in soybean production. Analysis published by the U.S. Department of Agriculture indicates that every 50 million gallons of biodiesel raises soybean prices one percent. Consequently, this will have a positive farm level impact on income.