National Biodiesel Board
1101 Pennsylvania Ave., NW
Washington, DC 20004
(202) 756-4592
www.biodiesel.org

House Subcommittee on Energy and Air Quality
"Alternative Transportation Fuels: Overview"
April 18, 2007

Testimony of Scott Hughes, Director of Governmental Affairs, National Biodiesel Board

Good morning Mr. Chairman, Ranking Member Hastert, and committee members. It is a pleasure to be here today. We appreciate the committee holding this hearing and providing the opportunity to examine this important issue.

My name is Scott Hughes and I serve as Director of Governmental Affairs for the National Biodiesel Board (NBB). The NBB is the national not-for-profit trade association representing the commercial biodiesel industry as the coordinating body for research and development in the United States. The NBB was founded in 1992 and since that time has developed into a comprehensive industry association, which coordinates and interacts with a broad range of stakeholders including industry, government, and academia. NBB's membership encompasses over 400 members and is comprised of biodiesel producers; fuel marketers and distributors; state, national, and international feedstock and feedstock processor organizations; and technology providers.

We are here today to examine alternative transportation fuels and the roles they can play in helping enhance our nation's energy security. Biofuels, particularly biodiesel and ethanol, are currently experiencing tremendous growth. I would like to focus my comments this morning on why this growth is important to the American people, the factors that have contributed to that growth for biodiesel, and the role we see biodiesel having in the national energy pool.

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.

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). 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 1990's, 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 check-off 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 has shown slow but steady growth since the early 1990's, however, in the past two years, it has grown exponentially. In 2004 there was approximately 25 million gallons of biodiesel sales. That increased to approximately 250 million gallons in 2006. Likewise, we have seen significant additional investment in production facilities growing from 22 biodiesel plants in 2004 to 105 biodiesel plants currently (865 million gallons of production capacity). There are 77 more plants currently under construction and expansion (estimated additional 1.7 billion gallons of production capacity).

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. We anticipate this trend to increase. Additionally, the NBB and biodiesel industry have committed funds to study the technical needs required for moving biodiesel through U.S. pipelines. We are seeing biodiesel moving through pipelines in Europe today and extending that capability in the U.S. would be substantial.

Energy Security: Renewable Transportation Fuels Can Play Significant Role

Reducing our nation's dependence on petroleum and enhancing our energy security are a must. 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 and 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.

With respect to biodiesel, the NBB's vision of the future is that by 2015, biodiesel will be viewed as an integral component of a national energy policy which increasingly relies on clean, domestic, renewable fuels and that it will meet 5% of the nation's demand for diesel fuel.

As an illustration of the role biodiesel can play a role in enhancing our nation's energy security, please 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 get from Iraq.

Economic Development: Biodiesel Can Add Significantly to the U.S. Economy

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.

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.

Environmental and Health Benefits: Biodiesel Contributes to Cleaner Air and Lifecycle Reductions of Greenhouse Gases

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%

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

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. A study by the U.S. Department of Energy has found that biodiesel production and use, in comparison to petroleum diesel, produces 78.5% less CO2 emissions. 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, 3.24 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.

Regulatory and Public Policy

Two federal policy measures have been extraordinarily effective in stimulating biodiesel's increased production and use. Because of these policy measures, biodiesel is beginning to make an impact on our nation's energy supply. These measures are all working extraordinarily well, but are soon scheduled to expire, and must be continued in order to keep the growth in biodiesel going strong.

First, the biodiesel blenders tax credit, which was part of the restructured Volumetric Ethanol Excise Tax credit or "VEETC" legislation in the JOBS Act of 2004. The new blender's tax credit for biodiesel went into effect in January of 2005. It functions similarly to the ethanol tax credit, and it has been extraordinarily effective to incent the blending of biodiesel into the nation's diesel fuel supply. It has been the primary stimulant since 2005 for the dramatic increase in new plants, jobs, and local investment in biodiesel, bringing economic opportunity to both rural and urban areas.

The second policy measure that has been very effective in energizing biodiesel's growth is the Bioenergy Program. The program was initiated by the USDA in 2000 to stimulate the use of crop surpluses for energy needs. It was memorialized as part of the 2002 Farm Bill. This program provides a production incentive which has been highly effective in the growth of the biodiesel industry. A 2005 OMB Program Assessment Rating Tool or "PART" evaluation reported that the program did an excellent job of stimulating biodiesel growth, and indicated that the program could continue to be effective for the emerging biodiesel industry. The report stated, "Increases in the production of biodiesel indicate a rise in the supply of domestically

produced renewable fuels. It's also an indicator of the viability of the biodiesel industry and its expanded consumption of agricultural commodities."

Other programs have played significant roles in biodiesel's maturity. These initiatives such as the USDA's Biodiesel Education Grant Program have helped increase fuel quality measures, acceptance of biodiesel by engine and equipment manufacturers, petroleum partners, users, and the general public. A recent survey done to benchmark the program's progress showed that the public's awareness of biodiesel rose from 27 percent in August 2004 to roughly 50 percent in 2006. Prior surveys have documented the American public's support for policies that help ensure biodiesel is competitive with petroleum based diesel fuel:

- Four-in-five consumers continue to support a tax incentive that would make biodiesel cost-competitive with regular diesel fuel.
- 88 percent of environmental group leaders and 84 percent of health organization leaders support biodiesel as a transitional fuel, because biodiesel can make an immediate impact on reducing emissions until zero emissions technology is developed.

The emerging biodiesel industry is also subject to unintended consequences of public policy. Amidst all of the positive news and investment going on today, there is one potential threat that we all fear could, in a few short years, severely undermine the economic benefits from a growing biodiesel industry. The Internal Revenue Service has issued their interpretation of the Energy Policy Act's Renewable Diesel Tax Credit provision (section 1346 of the Act) that would allow conventional petroleum refineries to co-produce renewable diesel as part of the traditional refining process utilizing existing infrastructure. This policy if continued could negate the economic gains realized by a vibrant biodiesel industry, as well as stymie investment into the industry which has provided the U.S. some it's most recent expansion in "refining capacity".

Conclusion

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. There are many market dynamics that are working in favor of the biofuels industry today and which if continue into the future, as anticipated, will provide a bright future not only for the industry but the nation overall.

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

- Adds to the distillate fuel pool;
- Adds to U.S. "refining" capacity;
- Directly replaces imported finished diesel fuel;
- Utilizes agricultural products;
- Stimulates rural and urban economies and creates jobs; and
- Helps potentially create new chemical industry jobs and activity

Mr. Chairman, members, we appreciate the opportunity to come before you today on this most critical issue. On behalf of the biodiesel industry, I want to thank you for all of the support you have given not only to the biodiesel industry, but the development of the biofuels industry overall. We look forward to continue working with you in this important endeavor. I would be happy to answer any questions you may have.