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National Biodiesel Foundation 2010 Proposed Projects

The mission of the National Biodiesel Foundation (501(c)(3)) is to accomplish outreach, education, research and demonstration activities for the advancement of biodiesel and its co-products to improve rural economic development, national security, air quality and the environment.

The Foundation works in partnership with the industry, donors and the National Biodiesel Board to support projects that support our mission. This document explains the projects that the Foundation seeks to fund. For 2010, the Foundation seeks support with goals and activities in the following three areas: 1. sustainability awareness and analysis; 2. feedstock development; and 3. infrastructure development.

- **Sustainability Awareness and Analysis:** Lifecycle Analysis, Land Use Analysis, Food and Fuel, Water Use
- **Feedstock Development:** Under-Utilized Acres, Algae
- **Infrastructure:** Jet Aircraft Testing, Terminals, UL and ASME Certification

Sustainability Awareness and Analysis

Over the years, biodiesel has become more successful. In order to continue this momentum the industry requires sustainability awareness and program analysis. NBF seeks to proactively educate consumers and policy makers of the sustainable benefits of biodiesel. Biodiesel's on-going success will depend, in large part, on the public's perception of its environmental, societal and economic benefits. Therefore, ensuring targeted audiences are aware of biodiesel's impact on these key areas is a primary objective of the Foundation.

This project would give NBF the resources needed to help correct misconceptions that have been promoted by opponents of biodiesel. Our tactics would include funding third-party studies, surveys, and developing outside experts as industry spokespersons. The project would also include a strong communications component to help spread the truth about biodiesel in the onslaught of a multi-million dollar misinformation campaign.

To provide the public with an accurate understanding of biodiesel's relationship to the world's food supply and environment, NBF seeks to support analysis in the following areas:

Lifecycle Analysis: Lifecycle analysis encompasses energy balance computations as well as greenhouse gas emission (GHG) modeling. NBF seeks to partner with the National Biodiesel Board to continue analysis and refinement and GHG modeling to ensure its place in current and future market places, specifically as it impacts the revised Renewable Fuel Standard. Energy balance and GHG emissions are also of interest to the consuming public. The industry's challenge is to counter accusations that biodiesel GHG emissions are not significantly better than petroleum.

Land Use Analysis: International deforestation as a direct result of biodiesel feedstock growth or as an indirect result of biodiesel's impact on agricultural commodity process has garnered national media attention. NBF in cooperation with National Biodiesel Board seeks to continue third-party studies to find the truths about this practice and examine its impact on the U.S. biodiesel industry. These independent studies will also promote the environmentally positive attributes of biodiesel feedstock used in the U.S. The calculation of land use impacts also affects GHG emission results and, therefore, has significant impact on biodiesel's place in markets and public policy that dictate GHG reductions. **Your funding would help the Foundation as we strive to support third-party studies on land use analysis.**

Food and Fuel: It is often *inaccurately* asserted that biodiesel negatively impacts global food security. For instance, 360 million gallons of biodiesel from soybeans co-produce enough meal for the equivalent of 110 billion rations of protein for the hungry, according to the National Soybean Research Laboratory. NBF, with your contribution, will strive to continue to support projects that conduct scientific analysis to dispel the false assertions and make the reality of biodiesel's relationship to food security more widely known. **Your funding would support a biodiesel education campaign.**

Water Use: Water use implications of biodiesel production can be expected as the next platform of criticism from biofuel opponents. The conversion of natural feedstocks into biodiesel uses a modest amount of water, and there is great potential for water use reductions. Lifecycle analysis must adapt to changes in feedstocks and production. The regional availability and economic value of water also affects the sustainability of feedstock production, and must be included in the public discussion. **Your funding would allow the Foundation to support projects that analysis water use and plans for improvement in water stewardship.**

Feedstock Development Program

U.S. production of biodiesel increased to an estimated 700 million gallons in 2008; however, increased feedstock supplies remain a critical element in future sustained growth. Funding for this program will allow the Foundation to support projects that will expand the supply of oils and fats for biodiesel production to reach the industry's goal of 5% penetration of the diesel fuel market by 2015. **Your funding would support the Foundation in projects that enhance existing crop yields, generate opportunities for under-utilized acres, and create non-traditional feedstocks.**

Under-Utilized Acres: Opportunities to produce feedstock on underutilized acres exist in many forms. Salt-tolerant crops such as *seashore mallow* may be produced on soils that are not highly productive due to factors such as salt-water intrusion, however agronomic improvements are needed. The current *Freeways-to-Fuel* project, supported by the Foundation, focuses on producing crops on unused acreage such as the sides of highways. Accelerating the adoption of new oilseeds and technologies that can be grown on under-utilized acres (e.g. camelina, winter canola, juncea, etc.) requires additional resources.

Algae: An industry-government consortium to advance algae as an energy feedstock is under way. Algae projects would enable industry participation in the research consortium or algae research activities that can assist in overcoming major hurdles such as dewatering and oil extraction technology.

Infrastructure

To fully integrate biodiesel in the marketplace and improve its economic viability, biodiesel must be available at terminals and accessible via major pipelines. Strong infrastructure is critical to the future of the industry. Improved infrastructure over the next five years will decrease fuel cost and increase accessibility, making biodiesel a more competitive and widely used fuel source. In addition, pipeline integration is essential to meet the mandates in the Northeast and the growing BioHeat[®] market. Pipeline testing is needed to gain the aviation industry's acceptance of biodiesel in pipelines. **Your funding would help the Foundation's effort to support pipeline testing and infrastructure development.**

Jet Aircraft Testing: One barrier to pipeline integration is the impact of biodiesel residue in jet fuel. The International Air Transport Association and Federal Aviation Association are studying the impact of small levels of biodiesel in jet aircraft engines and need industry support of the project.

Terminals: Increasing the number of blending terminals that supply biodiesel is a necessary step to improve biodiesel distribution. Currently, only 70 of 1,500 blending terminals supply biodiesel. The biodiesel industry has set a goal of 10% penetration of terminal distribution by 2017. Installation of terminals will cost the industry approximately \$33 million.