BIOENERGY NEWS

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FEATURE ARTICLE:

Will Biodiesel Have Its Day?

Soaring crude oil prices and continued unrest in the Middle East have thrust biodiesel fuel into the limelight for its cleaner burn and homegrown production, gaining it praise from both environmentalists and governments looking to reduce dependence on foreign oil. Although biodiesel is not a new invention, its promise as a viable fuel source is, and a new study by Kline & Company is set to examine the global market potential for this emerging alternative fuel.

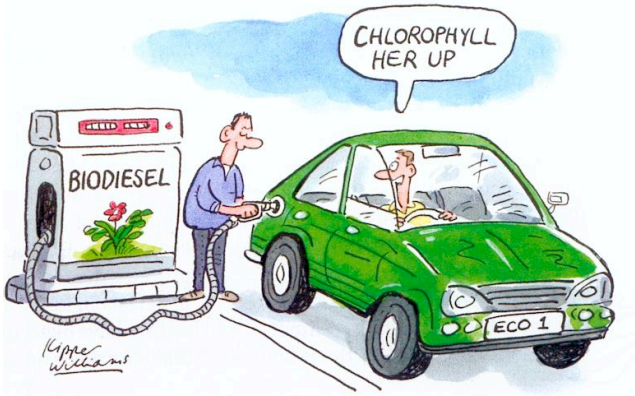
"Biodiesel has been around since the early 1900s, but it has traditionally been much more expensive than conventional fuel," says Geeta Agashe, director of the petroleum and energy practice for Kline's research division. "With crude oil prices now hitting the roof and tax credits applicable at least until 2008, biodiesel is beginning to look a lot more attractive."

"Technology has made biodiesel production more economical and feasible on a mass scale, and for consumers, diesel vehicles can use up to 20% biodiesel right now with no changes in vehicle design," she adds. "So as the price of crude goes up and the price of biodiesel comes down, the question becomes one of critical mass: At what price point is the incentive to make the switch?"

Kline's study, GLOBAL BUSINESS OPPORTUNITIES IN BIODIESEL FUELS, 2006- 2016, aims to explore this question, with a comprehensive analysis of the global market for biodiesel, including supply and demand, forecasts for feedstock and additives, manufacturing cost economics, price forecasts, and economic viability assessments. In addition to offering important market insights for producers of feedstock, additives, and manufacturing technologies, the study will also examine the potential demand for off-highway applications, an area in which the U.S. government has shown a keen interest.

Prior to the recent price hikes for crude oil, legislation had been the major driver in the push to expand the use of biodiesel in both Europe and in North America. EU Directive 2003/30 mandates that at least 2% of all diesel consumed in Europe must be bio-based by 2008, and by 2010, this number must grow to 5.75%. U.S. legislators are also pushing for a 2% mandate, and biodiesel suppliers are reacting by adding production capacity, which has grown by 200% in the U.S. over the last year alone, according to the National Biodiesel Board.

"The growing interest in alternative fuels is spurring investment in production of both biodiesel and the raw materials used to produce it," Agashe says. "This industry is very flexible and can ramp up production based on demand. Our study aims to determine exactly what that demand will be and where the raw material supply will come from."



Because Brazil has come to the forefront as a major supplier of soy and other biodiesel feedstocks, Agashe says Kline's study will examine the Brazilian marketplace, where there has already been a significant move toward biodiesel.

Big agribusiness firms are now going to Brazil and buying farms and food crops, specifically to produce feedstock for biodiesel, says Agashe.

One of the biggest is Cosan, which she says, "has become like the Google of the Brazilian stock exchange, running higher and higher, based purely on the promise of biodiesel as the next big thing."

This concept -- food producers stepping into the fuel game -- brings with it a whole new set of players that may challenge traditional petroleum giants like Chevron and ExxonMobil.

"The rising demand for biodiesel is pushing petroleum refiners to decide whether to begin offering it in their product mix, or take their chances that this may be just a passing fad," says Bill Downey, vice president and head of Kline's Petroleum & Energy consulting practice. "Some oil majors like Chevron and BP have been proactive, using environmental friendliness as a marketing tactic for their biodiesel offerings. But others have not been so quick to respond, and this could present a significant challenge to their business and supply chain strategies down the road."

SOURCE: Kline & Company

NEWS BRIEFS:

Bioenergy Australia 2006

Australia's premier bioenergy conference will be held at the Esplanade Hotel, Fremantle, Western Australia on 6-7 December, with technical tours on 5 December and 8 December.

The program has over 55 presentations covering policies and programs, projects and project development case studies and emerging opportunities.

The conference will consider many facets of bioenergy, including:

- Biomass supply logistics
- Liquid biofuels
- Pyrolysis bio-oil
- Biorefining
- Anaerobic digestion
- Energy-from-waste
- Heat and power
- Overarching aspects of bioenergy, such as life cycle emissions
- Tradeoffs between land use for biomass, food and fodder.

Professor Jack Saddler, leader of the International Energy Agency's Bioenergy Task on commercialising liquid biofuels will provide the keynote address.

The conference tours will cover: (a) dry land salinity and its mitigation through biomass plus a visit to the Narrogin integrated wood processing plant, and (b) microalgae as a biodiesel feedstock, a large biodiesel plant and charcoal manufacture for silicon smelting.

NZ Biofuel Standards Label

EECA is concerned about biodiesel being offered for sale to the general public which does not consistently meet quality standards or is sold at blends higher than 5% biodiesel, unless the vehicle manufacturer has specifically stated that higher biodiesel blends is acceptable. As a result, EECA has developed a biofuels label so that consumers can be assured that the biodiesel blends they purchase meet quality specifications. While a few companies are in the process of applying for the label, no one yet has qualified for it.

More information on biodiesel quality is on the EECA website at:

http://www.eeca.govt.nz/renewable-energy/biofuels/making-biodiesel.html

Consultation has just closed on the proposed biofuels sales obligation, which followed more up to date reports from consultants than the ones on the MED website which can be found on the Ministry of Transport website at:

http://www.transport.govt.nz/biofuels-sales-obligation-discussion-document-2/

US Biomass R&D Initiative

The U.S. Departments of Energy and Agriculture selected 17 projects to receive total funding of approximately US$17.5M from the agencies under the Biomass Research and Development Initiative. Cost-sharing by private sector partners increases the total value to over $27 million. More than 300 applications were received in response to the solicitation, with each proposal reviewed for technical merit by teams from industry, laboratories, and federal agencies. The funds will be used for biomass research, development and demonstration projects.

Increased demand for ethanol will support traditional agricultural crops such as corn, as well as create new cash crops for America's farmers and foresters, while a new bioindustry will encourage better use of agricultural and forestry residues. Furthermore, new processing facilities resulting from this increased demand will help improve rural communities and economies.

Following is a list of the 17 selected projects:

Edenspace Systems Corporation - Energy Corn Consortium - By 2009, the Consortium will introduce new corn varieties for production of cellulosic ethanol in existing grain ethanol facilities.

Lucigen Corporation - Novel Enzyme Products for the Conversion of Defatted Soybean Meal to Ethanol.

Center for Technology Transfer, Inc. - Value Prior to Pulping - This work seeks to produce fuel ethanol from hemicelluloses extracted from wood chips prior to paper production.

U.S. Department of Agriculture Projects

SUNY College of Environmental Science and Forestry - Overcoming Barriers to Facilitate the Commercialization of Willow Biomass Crops as a Feedstock for Biofuels, Bioenergy and Bioproducts.

Ceres, Inc. - Biotechnological Improvement of Switchgrass - The goal of this project is to double switchgrass yield from the current 7 tons per acre to 14 tons per acre by the year 2020.

Drexel University - Moisture Management in Polylactide and Polylactide Copolymers - This project seeks to improve the moisture barrier properties of PLA (polylactide or polylactic acid) using chemical modification, copolymerization, and composite approaches while maintaining thermal, mechanical, degradation, and optical properties of pure PLA.

Virent Energy Systems, Inc. - High-Value Chemical Production from Biodiesel-Derived Glycerol - The process for biodiesel production is relatively simple, but deriving value from co-produced glycerol remains a challenge.

The Pennsylvania State University - Lignin Conversion to Value-Added Materials - This project seeks to produce high-value saleable products from hardwood lignin.

Iowa Corn Promotion Board - Adding Value to Commercial Polymers through the Incorporation of Biomass Derived Chemistries - This project builds on past polymer research conducted with various industrial and federal partners, including the Pacific Northwest National Laboratory, New Jersey Institute of Technology, and Mid-Atlantic Technology, Research, and Innovation Center.

Louisiana State University Agricultural Center - Thermoplastics Composites Reinforced with Natural Fibers and Inorganic Nano-Particles - This project combines natural wood fibers with recycled plastics to make biocomposites, providing a practical use for biomass.

Ceres, Inc. - A Plant-Based Production System for Methacrylate - This project seeks to utilize the metabolic pathways which already exist in plants to genetically engineer methacrylate production into a cellulosic ethanol biomass crop such as switchgrass.

Argonne National Laboratory - Enhancing Animal Feed Values in Corn Dry Mills with Biobased Solvents - Corn dry grind mills are the technology of choice for expanding U.S. ethanol production. The project should enable production of "captured" cellulosic sugars from the corn fiber in residues, making them available for fermentation.

Western Governors' Association - Strategic Development of Biomass in the Western States - The WGA seeks to continue work begun with strategic analysis of clean energy in the Western States.

Southern Illinois University - Technical Area 4; Expansion of Ethanol Ethanol Production: Evaluation of Costs and Benefits to Rural Communities in the Upper Mississippi River Basin.

Clarkson University - Analysis for Strategic Guidance Demonstrating the Value of Waste

Biomass Feedstocks for Fuel Ethanol Production from Energy Policy.

Michigan State University - Life Cycle Assessment to Improve the Sustainability and Competitive Position of Biobased Chemicals.

North Carolina State University - Strategic Positioning of Biofuels in the Economic Context of Agriculture, Crude Oil, and Auto-Manufacturing. - This project will concentrate on evaluation of the major participants in biofuel commercialization, and development of constructive interaction strategies.

(*More details of each research project can be requested from the Editor.*)

Grass-based biogas and fuel pellets

Canadian renewable energy researchers are following in the footsteps of their European collegues by focusing efforts on using grass species for the production of biogas and solid biofuels that can be used as a transport fuel and for electricity production. According to the researchers, this offers a much more efficient bioenergy production path. In Europe, several experiments are already underway aimed at producing biogas from dedicated herbaceous energy crops, such as sudan grass, sorghum and new hybrids. A recent comprehensive well-to-wheel study of more than 70 different fuels and fuel paths carried out by the EU's Joint Research Centre, showed that biogas is both efficient to produce and is the cleanest of all transport fuels. Finally, many trials are underway with the production of solid biomass (pellets, briquettes) based on grass species such as Miscanthus giganteus (elephant grass) for the production of electricity through simple combustion.

The Bioenergy Association of New Zealand Inc. (BANZ) comprises companies, research organisations and individuals who have an interest in markets for converting biomass or biowaste into energy. To receive this newsletter regularly contact the Executive Officer of BANZ for membership details by email: info@bioenergy.org.nz. Back issues of this E-zine are on the website, www.bioenergy.org.nz

EVENTS CALENDAR:

Bioenergy Australia 2006, Fremantle, 6-7 December
Technical tours on 5 December and 8 December

Website http://www.bioenergyaustralia.org

World Biofuels Markets Congress, Brussels, 6-9 March

Biofuels Congress & Exhibition, 7-8 March

Biofuels Finance & Investment, 6 March

Biofuels Sustainability Workshop, 6 March

Biofuels Applications Seminar 9 March

Website http://www.greenpowerconferences.com/wbm

Success & Visions for Bioenergy, Salzberg, 22-23 March 2007
A European workshop on thermal processing of biomass for bioenergy, biofuels and bioproducts.

Website www.thermalnet.co.uk

15th European Biomass Conference & Exhibition, Berlin, 7-11 May 2007
Theme “Biomass for Energy, Industry and Climate Protection - From Research to Market Deployment.”

Website www.conference-biomass.com

International Bioenergy, Jyväskylä, Finland, 3-6 September 2007
The main organizer is FINBIO - The Bioenergy Association of Finland.

Website: http://seminaarit.ohoi.fi/default.asp?seminarID=6

20th World Energy Congress, Rome, 11-15 November, 2007
Theme "Energy Future in an Interdependent World"