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DOE Selects Six Cellulosic Ethanol Plants for Up to \$385 Million in Federal Funding
Funding to help bring cellulosic ethanol to market and help revolutionize the industry

WASHINGTON, DC – U.S. Department of Energy (DOE) Secretary Samuel W. Bodman today announced that DOE will invest up to \$385 million for six biorefinery projects over the next four years. When fully operational, the biorefineries are expected to produce more than 130 million gallons of cellulosic ethanol per year. This production will help further President Bush's goal of making cellulosic ethanol cost-competitive with gasoline by 2012 and, along with increased automobile fuel efficiency, reduce America's gasoline consumption by 20 percent in ten years.

"These biorefineries will play a critical role in helping to bring cellulosic ethanol to market, and teaching us how we can produce it in a more cost effective manner," Secretary Bodman said. "Ultimately, success in producing inexpensive cellulosic ethanol could be a key to eliminating our nation's addiction to oil. By relying on American ingenuity and on American farmers for fuel, we will enhance our nation's energy and economic security."

Today's announcement is one part of the Bush Administration's comprehensive plan to support commercialization of scientific breakthroughs on biofuels. Specifically, these projects directly support the goals of President Bush's Twenty in Ten Initiative, which aims to increase the use of renewable and alternative fuels in the transportation sector to the equivalent of 35 billion gallons of ethanol a year by 2017. Funding for these projects is an integral part of the President's Biofuels Initiative that will lead to the wide-scale use of non-food based biomass, such as agricultural waste, trees, forest residues, and perennial grasses in the production of transportation fuels, electricity, and other products. The solicitation, announced a year ago, was initially for three biorefineries and \$160 million. However, in an effort to expedite the goals of President Bush's Advanced Energy Initiative and help achieve the goals of his Twenty in Ten Initiative, within authority of the Energy Policy Act of 2005 (EPA 2005), Section 932, Secretary Bodman raised the funding ceiling.

"We had a number of very good proposals, but these six were considered 'meritorious' by a merit review panel made up of bioenergy experts. So I thought it would be best to front-end some more funding now, so that we could all reap the benefits of the President's vision sooner," Secretary Bodman said.

Combined with the industry cost share, more than \$1.2 billion will be invested in these six biorefineries. Negotiations between the selected companies and DOE will begin immediately to determine final project plans and funding levels. Funding will begin this fiscal year and run through FY 2010. EPA 2005 authorized DOE to solicit and fund proposals for the commercial demonstration of advanced biorefineries that use cellulosic feedstocks to produce ethanol and co-produce bioproducts and electricity.

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The following six projects were selected:

- **Abengoa Bioenergy Biomass of Kansas, LLC of Chesterfield, Missouri, up to \$76 million.**
The proposed plant will be located in the state of Kansas. The plant will produce 11.4 million gallons of ethanol annually and enough energy to power the facility, with any excess energy being used to power the adjacent corn dry grind mill. The plant will use 700 tons per day of corn stover, wheat straw, milo stubble, switchgrass, and other feedstocks.

Abengoa Bioenergy Biomass investors/participants include: Abengoa Bioenergy R&D, Inc.; Abengoa Engineering and Construction, LLC; Antares Corp.; and Taylor Engineering.

- **ALICO, Inc. of LaBelle, Florida, up to \$33 million.**
The proposed plant will be in LaBelle (Hendry County), Florida. The plant will produce 13.9 million gallons of ethanol a year and 6,255 kilowatts of electric power, as well as 8.8 tons of hydrogen and 50 tons of ammonia per day. For feedstock, the plant will use 770 tons per day of yard, wood, and vegetative wastes and eventually energycane.

ALICO, Inc. investors/participants include: Bioengineering Resources, Inc. of Fayetteville, Arkansas; Washington Group International of Boise, Idaho; GeoSyntec Consultants of Boca Raton, Florida; BG Katz Companies/JAKS, LLC of Parkland, Florida; and Emmaus Foundation, Inc.

- **BlueFire Ethanol, Inc. of Irvine, California, up to \$40 million.**
The proposed plant will be in Southern California. The plant will be sited on an existing landfill and produce about 19 million gallons of ethanol a year. As feedstock, the plant would use 700 tons per day of sorted green waste and wood waste from landfills.

BlueFire Ethanol, Inc. investors/participants include: Waste Management, Inc.; JGC Corporation; MECS Inc.; NAES; and PetroDiamond.

- **Broin Companies of Sioux Falls, South Dakota, up to \$80 million.**
The plant is in Emmetsburg (Palo Alto County), Iowa, and after expansion, it will produce 125 million gallons of ethanol per year, of which roughly 25percent will be cellulosic ethanol. For feedstock in the production of cellulosic ethanol, the plant expects to use 842 tons per day of corn fiber, cobs, and stalks.

Broin Companies participants include: E. I. du Pont de Nemours and Company; Novozymes North America, Inc.; and DOE's National Renewable Energy Laboratory.

- **Iogen Biorefinery Partners, LLC, of Arlington, Virginia, up to \$80 million.**
The proposed plant will be built in Shelley, Idaho, near Idaho Falls, and will produce 18 million gallons of ethanol annually. The plant will use 700 tons per day of agricultural residues including wheat straw, barley straw, corn stover, switchgrass, and rice straw as feedstocks.

Iogen Biorefinery Partners, LLC investors/partners include: Iogen Energy Corporation; Iogen Corporation; Goldman Sachs; and The Royal Dutch/Shell Group.

- **Range Fuels (formerly Kergy Inc.) of Broomfield, Colorado, up to \$76 million.**
The proposed plant will be constructed in Soperton (Treutlen County), Georgia. The plant will produce about 40 million gallons of ethanol per year and 9 million gallons per year of methanol. As feedstock, the plant will use 1,200 tons per day of wood residues and wood based energy crops.

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Range Fuels investors/participants include: Merrick and Company; PRAJ Industries Ltd.; Western Research Institute; Georgia Forestry Commission; Yeomans Wood and Timber; Truetlen County Development Authority; BioConversion Technology; Khosla Ventures; CH2MHill; Gillis Ag and Timber.

Cellulosic ethanol is an alternative fuel made from a wide variety of non-food plant materials (or feedstocks), including agricultural wastes such as corn stover and cereal straws, industrial plant waste like saw dust and paper pulp, and energy crops grown specifically for fuel production like switchgrass. By using a variety of regional feedstocks for refining cellulosic ethanol, the fuel can be produced in nearly every region of the country. Though it requires a more complex refining process, cellulosic ethanol contains more net energy and results in lower greenhouse emissions than traditional corn-based ethanol. E-85, an ethanol-fuel blend that is 85-percent ethanol, is already available in more than 1,000 fueling stations nationwide and can power millions of flexible fuel vehicles already on the roads.

For more information on President's Bush's Twenty in Ten Initiative, visit:
<http://www.whitehouse.gov/stateoftheunion/2007/initiatives/energy.html>.

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