ABENGOA BIOENERGY

2014

Abengoa celebrates grand opening of its first commercial-scale next generation biofuels plant

October 17, 2014

Global leader in the development of new industrial biotechnologies debuts advanced biorefinery for cellulosic ethanol in Southwest Kansas.

- U.S. Secretary of Energy Dr. Ernest Moniz, Kansas Governor Sam Brownback and Kansas Senator Pat Roberts offer remarks during on-site event commemorating landmark occasion for advanced biofuels industry.
- Abengoa's proprietary enzymatic hydrolysis technology turns crop residue (stalks, stems and leaves) into a sustainable fuel source – cellulosic ethanol.

Hugoton, Kan. – October 17, 2014 – Abengoa (MCE: ABG.B/P SM /NASDAQ: ABGB), the international company that applies innovative technology solutions for sustainability in the energy and environment sectors, today announced the official grand opening of its second generation cellulosic ethanol plant in Hugoton, Kansas, located about 90 miles southwest of Dodge City. The opening was attended by U.S. Secretary of Energy Dr. Ernest Moniz, Kansas Governor Sam Brownback, Former U.S. Secretary of the Interior Ken Salazar, Kansas Senator Pat Roberts, Mayor of Hugoton Jack E. Rowden and CEO of Abengoa Manuel Sánchez Ortega.

Abengoa's new industry-leading biorefinery finished construction in mid-August and began producing cellulosic ethanol at the end of September with the capacity to produce up to 25 million gallons per year. The plant utilizes only "second generation" (2G) biomass feedstocks for ethanol production, meaning non-edible agricultural crop residues (such as stalks and leaves) that do not compete with food or feed grain. The state-of-the-art facility also features an electricity cogeneration component allowing it to operate as a self-sufficient renewable energy producer. By utilizing residual biomass solids from the ethanol conversion process, the plant generates 21 megawatts (MW) of electricity – enough to power itself and provide excess clean renewable power to the local Stevens County community.

The Hugoton plant opening also marks the first-ever commercial deployment of Abengoa's proprietary enzymatic hydrolysis technology, which turns biomass into fermentable sugars that are then converted to ethanol. Among the first wave of commercial-scale ethanol plants in the country, Hugoton builds on recent industry momentum showcasing cellulosic ethanol as a sustainable alternative fuel source that significantly reduces greenhouse gas emissions and increases energy independence.

In addition to the plant's crucial role in proving the commercial viability of cellulosic ethanol, its success provides a platform for the company's future development of other bioproducts that reduce petroleum use, such as bioplastics, biochemicals and drop-in jet fuel.

"The Hugoton plant opening is the result of 10 years of technical development, roughly 40,000 hours of pilot and demonstration plant operation, and the support of the DOE," said Manuel Sánchez Ortega, CEO of Abengoa. "This is a proud and pivotal moment for Abengoa and for the larger advanced bioenergy industry – and further demonstrates our longstanding commitment to providing sustainable energy alternatives in the United States. This would have been simply impossible without the establishment of the Renewable Fuel Standard."

Abengoa received a $132.4 million loan guarantee and a $97 million grant through the Department of Energy to support construction of the Hugoton facility.

Industrial Biotechnology Renewed

At full capacity, the Hugoton facility will process 1,000 tons per day of biomass, most of which is harvested within a 50-mile radius each year – providing $17 million per year of extra income for local farmers whose agricultural waste would otherwise have little or no value. Of that biomass, more than 80 percent is expected to consist of irrigated corn stover, with the remainder comprised of wheat straw, milo stubble and switchgrass.

Abengoa plans to offer licenses and contracts to interested parties covering every aspect of this new industry – from process design, to engineering, procurement and construction (EPC), supply of exclusive enzymes, as well as operations and marketing of the completed products from the facility.

The proprietary enzymatic hydrolysis technology utilized commercially at Hugoton is also a focal point in Abengoa's efforts to diversify the range of raw material feedstocks from which biofuels and bioproducts can be produced. For example, for more than a year the company has been operating a demonstration-scale facility that is capitalizing on the same technology and enzyme cocktail used at Hugoton to extract cellulosic sugars from municipal solid waste (trash), thereby allowing expansion of the renewable fuels industry from rural to urban areas.

Legacy of Innovation

With a biofuels presence on three continents, Abengoa is an international biotechnology company – one of the largest ethanol producers in the United States and Brazil, and the largest producer in Europe with a total of 867 million gallons of annual installed production capacity distributed among 15 commercial-scale plants in five countries.

Abengoa's overall presence in the United States – including its solar, water desalination, biofuels and engineering and construction businesses – has grown exponentially since the company expanded its business more than a decade ago. Some 26 percent of the company's assets are currently in the United States, which is Abengoa's largest market in terms of sales.

For more information and materials, including images, video/b-roll and a fact sheet, please visit: www.abengoabiotech.com/pressroom or connect with the company on Twitter @Abengoa and follow the conversation with #BiotechRenewed and #WhyKansas.

About Abengoa

Abengoa (MCE: ABG.B/P SM /NASDAQ: ABGB) applies innovative technology solutions for sustainability in the energy and environment sectors, generating electricity from renewable resources, converting biomass into biofuels and producing drinking water from seawater. (www.abengoa.com)

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