

## Raízen breaks ground on Iogen facility in Brazil

Ottawa, Canada, November 28, 2013 – Iogen Corporation today announced that Brazilian ethanol giant Raízen Energia Participacoes S/A, has started construction of a commercial biomass-to-ethanol facility using Iogen Energy's (a joint venture between Raízen and Iogen Corporation) advanced cellulosic biofuel technology.

The \$100 million plant, to be located adjacent to Raízen's Costa Pinto sugar cane mill in Piracicaba, São Paulo, will produce 40 million litres of cellulosic ethanol a year from sugarcane bagasse and straw. Plant start-up is anticipated in the fourth quarter of 2014.

Iogen will provide cellulosic ethanol related process technology, process designs and start-up and operational services to Raízen through their jointly owned Iogen Energy affiliate. Iogen Energy, the original owner of the technology, has granted comprehensive licenses to both Raízen and Iogen Corp.

"This announcement is just the beginning of our partnership with Iogen," says Vasco Dias, CEO of Raízen. "We believe Iogen has the most robust, well proven, and competitive technology platform in the cellulosic ethanol business and, after this first facility is complete, we plan to combine Iogen's cellulosic ethanol with seven more of our sugar cane production operations. We see tremendous potential for this technology in meeting the world's growing demand for cleaner and more sustainable fuels, and we anticipate a long and profitable future."

Today's announcement follows one year of development, engineering, and design work associated with the commercial cellulosic biofuels facility. After concluding that Iogen had the most advanced technology for building co-located commercial plants at Raízen's sugar cane ethanol facilities, Raízen committed, in July 2012, an initial investment to a project in Brazil with Iogen through their jointly owned Iogen Energy affiliate.

Earlier, the Banco Nacional de Desenvolvimento Economico e Social (BNDES) reported that it has approved funding of BRL 207.7 million for Raízen to build a production plant for second generation ethanol using sugarcane biomass.

"It will be the first project in the world that uses technologies for conversion of bagasse and cane straw at industrial scale that is fully integrated into the process of conventional ethanol, obtained from the juice of sugar cane (first generation)," said the BNDES.

"The technology being deployed has undergone extensive testing and validation work. We have nine years of demonstration scale operating experience with cereal straw and corn stover, so by operating over 6 months with the Brazilian bagasse, we were able to identify differences, troubleshoot problems, collect information, and adapt designs for reliable low-cost operation" said Brian Foody, CEO of Iogen.

With the technology now being commercialized in Brazil, Iogen has plans to pursue a deployment program in North America and Europe that will help meet the renewable fuel obligations in those jurisdictions. The Company is committed to building effective strategic partnerships with leading players in the industry, and believes that successful alliances, such as its one with Raízen, will be needed to deliver on the multi-billion dollar global cellulosic biofuel opportunity.

“We’re very excited to be working with a major industry player like Raízen to deliver large scale cellulosic ethanol production” says Foody. “Raizen is an incredibly dynamic partner with immense know-how and expertise in first generation ethanol production. We share a common vision for the global potential of our technology and the importance of developing a successful first project. This project with Raizen is a key step towards rolling our technology out around the world.”

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Iogen Corporation:

Iogen is a leader in cellulosic biofuel technology and implementation. The company has been in the cellulosic biofuel business for over 30 years, invested roughly \$500 million in research, development, and demonstration, and has close to 300 issued and pending patents. Cellulosic biofuel is a renewable alternative to gasoline that lowers greenhouse gas emissions, increases energy security, provides jobs and opportunity for rural communities, and can be used in today’s cars. It is made from the non-food portion of plant material, so there are abundant available supplies to make a substantial and sustainable difference in the world’s energy mix. Over the past nine years, Iogen has produced more than 2 million litres of cellulosic ethanol in its \$100 million demonstration plant using agricultural residues like wheat straw, corn stover and bagasse as feedstocks. Iogen has an active cooperation with Raízen, the world’s largest sugar cane crusher, to deploy Iogen technology in Brazil. Iogen is also actively screening and developing projects in other regions, offering partners a full range of technology and services to realize low-cost, reliable production of cellulosic biofuels. Iogen is a privately held company located in Ottawa, Canada. For more information, visit [www.iogen.ca](http://www.iogen.ca).

Raízen Energia Participacoes S/A:

Raízen Energia Participacoes S/A is a \$12 billion joint venture between Royal Dutch Shell and Brazilian ethanol company Cosan S.A. that currently generates approximately \$30B in annual revenues. It is now Brazil’s fifth largest company in terms of billable revenues and the nation’s leading manufacturer of sugarcane ethanol, with production of about 2 billion liters of ethanol annually. This activity also includes the production of 4 million tonnes of sugar and the sale of 1.5 million MWh of electricity annually. The company has over 4,700 service stations for retail fuel distribution in Brazil, over 800 convenience stores, 58 fuel distribution depots, and aviation fuel businesses in 54 airports in Brazil. For more information, visit [www.raizen.com](http://www.raizen.com)