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## **Edeniq Announces Completion of Innovative Upgrade to Cellulosic Sugars Pilot Plant**

*California Energy Commission provided funding for biofuels technology breakthrough*

VISALIA, Calif. September 3, 2015 – Edeniq, a biorefining and cellulosic technology company, completed a major upgrade of its cellulosic sugar and ethanol pilot facility. The company designed and operated new, proprietary equipment for feedstock preprocessing; continuous mechanical and thermal pretreatment; continuous saccharification; and separations technologies for recycling enzymes.

“Our whole team is very excited about our upgraded process design, which dramatically reduces the cost of producing cellulosic sugars,” said Brian Thome, President and CEO, Edeniq. “We believe our technology solutions are the least capital-intensive in the industry.” Low-cost sugars are a critical driver behind the revolution in renewable chemicals and fuels.

“Many companies have struggled with scaling up their pretreatment processes, and through our unique design, we have addressed some of the key challenges associated with feedstock quality, byproduct formation, feedstock and enzyme costs, and operability,” said Cam Cast, Vice President of Engineering and Operations, Edeniq. “We also have a strong track record of working alongside plant operators. Our innovative Cellunator™ pretreatment technology has previously been commercialized to increase the enzymatic conversion of starch and cellulosic fiber to ethanol in corn-based ethanol plants using our PATHWAY Platform.”

Edeniq’s pilot plant, which is located in Visalia, was originally constructed under a \$25 million United States Department of Energy (“DOE”) program. The facility has the capacity to convert two dry tons per day of feedstock into enough cellulosic sugars to produce 50,000 gallons of ethanol per year. Edeniq received a \$3.9 million grant from the California Energy Commission under the Alternative and Renewable Fuel and Vehicle Technology Program to upgrade the DOE facility to a new, continuous design – a technological breakthrough driving higher product yields and other process efficiencies that are expected to result in lower capital and operating costs for a commercial-scale facility.

Other key objectives under the CEC program were evaluation of California-specific cellulosic feedstocks and completion of a life-cycle assessment of Edeniq's process. Edeniq's analysis concluded that, in California, corn stover is the feedstock with the best overall profile for economic and sustainable cellulosic ethanol production. A life-cycle assessment led by researchers at UC Davis found that a small bolt-on plant located at an existing corn ethanol facility could process California corn stover into cellulosic ethanol with a carbon intensity rating as low as 25 gCO<sub>2</sub>e per MJ, a 74% reduction relative to gasoline (CARBOB). The reduction in greenhouse gas emissions associated with Edeniq's process for producing cellulosic ethanol significantly exceeds the threshold required by the Renewable Fuel Standards, which is a 60% reduction relative to gasoline.

### **About Edeniq**

Edeniq delivers integrated process innovations that unlock sugars. These technological innovations uniquely combine mechanical and biological processes. Edeniq's capital light and operationally efficient solutions can be easily integrated into existing biorefineries that produce ethanol, other biofuels, biochemicals, and/or bio-based products. Edeniq currently sells or licenses its technologies to biorefineries in the United States. Edeniq was founded in 2008 and is headquartered in Visalia, California with a field office in Omaha, Nebraska. More information can be found at <http://www.edeniq.com>.

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