



Constellation Energy and Chromatin Announce Partnership to Test Sorghum Biomass as Fuel to Generate Power

California Power Plants to Test Closed-Loop Biomass as Fuel

EL CENTRO, Calif.--(BUSINESS WIRE)-- Constellation Energy (NYSE: CEG), through two of its subsidiaries, and Chromatin Inc., a supplier of biomass feedstock for energy producers, today announced that they had signed a memorandum of understanding that could supplement current fuels at two California power plants with a sustainable supply of renewable biomass grown specifically for use as fuel in the plants.

In anticipation of this, Chromatin is growing three fields of biomass sorghum, a non-food crop that has a high energy content, is adapted to marginal lands, and requires less than half the water and chemicals of field crops such as corn or sugar cane.

The harvested biomass will be test burned to determine the feasibility of using sorghum as a fuel source to generate electricity at two power plants in California that are owned jointly by Constellation Energy and North American Power Group (NAPG). If successful, this will be the first production-scale effort to generate power from an energy field crop in California. The two plants that will test burn the sorghum biomass are Rio Bravo Poso and Rio Bravo Fresno. Rio Bravo Poso is located in Bakersfield, Calif. and currently uses coal and petroleum coke as a fuel source. Rio Bravo Fresno is located near Fresno, Calif. and now burns agricultural and construction wood waste.

"California requires load-serving entities generate 33 percent of their power from renewable sources by 2020. If we can rely more on sustainable biomass to fuel our plants and capture greenhouse gases, we would be taking important steps toward generating the clean power that is the cornerstone of California energy policy," said Steve Gross, Managing Director of West Region operations for Constellation Energy's Power Generation group. "We were attracted to sorghum biomass because it offers potentially high energy content, and can be handled in our plants with only minor modifications to our equipment."

The process of generating power from renewable biomass is referred to as "closed loop biomass." This means that a new crop of energy sorghum, grown specifically for power generation, consumes roughly the volume of greenhouse gases that was created when the earlier crop was burned.

Chromatin's first field for use at the Rio Bravo plants — 30 acres near El Centro in California's Imperial Valley — will be harvested in September and October. To produce the biomass, Chromatin has engaged growers experienced in producing hay or forage for livestock feed. Two other fields — with a total of 65 acres in California's San Joaquin Valley — also are under production to supply the Rio Bravo plants.

Chromatin expects to deliver the first shipments of processed sorghum biomass to the Rio Bravo plants in a few weeks. Chromatin staggered the planting of its three fields, allowing it to deliver a steady supply of the processed biomass. The sorghum program is expected to achieve "industrial scale" because it will produce sorghum biomass in large volumes that have predictable deliveries.

"This marks an important milestone toward our goal of creating a vertically integrated biomass supply chain that can help power generators like Constellation to rely more on renewable fuel sources that recycle greenhouse gases," said Daphne Preuss, Chromatin's CEO. "The impressive yield of our crop in El Centro is an important validation of the advantages of sorghum as a biomass source. Today, our sorghum is expected to have an energy content that is more than 70 percent of coal — roughly equivalent to firewood. Our breeding and crop engineering program is generating new varieties of sorghum that are expected to have an even higher energy content with lower levels of ash and other contaminants."

This current crop of energy sorghum is a leafy plant that grows 10 to 15 feet tall and reaches maturity in a few months. In contrast, the sorghum varieties that have been bred to produce grain are smaller and thus not as well suited for use as energy biomass.

"The success of this production-scale test of energy sorghum shows that closed-loop biomass for power generation can provide an additional and very exciting market opportunity for California's farmers and can help create new jobs for our community," said Timothy E. Kelley, president and CEO of the Imperial Valley Economic Development Corporation. "As is apparent from the quality of the crop that's now reaching maturity near El Centro, Chromatin has developed a biomass sorghum hybrid that is ideally suited for the Imperial Valley."

About Chromatin

Chromatin, Inc. is developing sustainable renewable energy-crop feedstocks for power, fuel and chemical producers. It applies its proprietary technology programs to develop high-value next-generation sorghum seeds using its crop-breeding and biotechnology innovations. The company also licenses these innovative gene-stacking technologies to leading agriculture companies and applies its technology platforms to its subsidiary, Sorghum Partners LLC, which supplies hybrid sorghum seeds in the US and more than 20 other countries. For additional information, please visit <http://www.chromatininc.com>.

About Constellation Energy

Constellation Energy (www.constellation.com) is a leading competitive supplier of power, natural gas and energy products and services for homes and businesses across the continental United States. It owns a diversified fleet of generating units, totaling approximately 12,000 megawatts of generating capacity, and is a leading advocate for clean, environmentally sustainable energy sources, such as solar power and nuclear energy. The company delivers electricity and natural gas through the Baltimore Gas and Electric Company (BGE), its regulated utility in Central Maryland. A FORTUNE 500 company headquartered in Baltimore, Constellation Energy had revenues of \$14.3 billion in 2010.

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