



Small Business Vouchers Pilot  
U.S. DEPARTMENT OF ENERGY

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## **Cogent Energy Systems Selected for Competitive Department of Energy Small Business Vouchers Award**

### **Company Will Team With Idaho National Laboratory Biomass Feedstock National User Facility On Feedstock Optimization**

MERRIFIELD, VIRGINIA, May 1, 2017 -- Cogent Energy Systems ([www.cogentenergysystems.com](http://www.cogentenergysystems.com)) today announced that it was selected through a competitive application process to collaborate with the Biomass Feedstock National User Facility (BFNUF) at Idaho National Laboratory (INL). Through this project, INL will optimize feedstock preparation and handling for Cogent's HelioStorm™ gasification system, which is designed for small scale waste-to-energy applications. This partnership is made possible through the U.S. Department of Energy Small Business Voucher (SBV) program, which facilitates access to the DOE national labs for American small businesses. This is Cogent's second DOE-funded collaboration with INL. Further, Cogent holds licenses to several INL patents that undergird the company's innovative gasifier technology.

"Cogent is pleased to have been selected for this competitive award. This SBV grant is an important step in the commercialization of our HelioStorm technology," said Dr. Abraham E. Haspel, CEO of Cogent Energy Systems. "We look forward to working with the scientists and engineers at INL to determine and test the best methods to prepare and introduce a wide variety of feedstocks into our gasifier as efficiently and economically as possible."

Cogent's ultra-high temperature ionic gasification technology has proven to be capable of handling a wide variety of feedstocks with moisture content up to 50%, including municipal solid waste, biomass and bio-oil. The SBV-funded project with the BFNUF will determine the best preparation and conditioning of feedstocks for everyday commercial applications.

Ionic gasification is Cogent's proprietary new process that involves the direct-contact processing of waste in an active plasma field at temperatures of 3,000 to 10,000 degrees Celsius, resulting in an extremely

clean, high energy syngas that can be used to make many profitable products such as electricity, hydrogen, liquid fuels, or chemical precursors.

“Our researchers can identify important biomass variables such as particle size, composition and flowability. Our researchers understand connections between material properties, processing conditions and feedstock quality which will allow us to align feedstock characteristics with Cogent’s HelioStorm gasifier in a manner that will enhance reliability and optimize performance,” said Kevin Kenney, the Director of the INL Bioenergy Program.

The Cogent-INL partnership will accelerate the commercial application of waste to energy opportunities at small scale in markets that are not currently accessible. These include distributed energy applications in remote communities, military applications, and industrial parks. Cogent’s HelioStorm technology is also well suited to the creation of biofuels from agricultural waste, such as almond and other nut shells or sugarcane bagasse.

David Kistin, Program Leader, Small Business Vouchers Pilot at Sandia National Laboratories noted that “SBV opens the Energy Department’s national labs to qualified advanced energy small businesses, making the contracting process simple, lab practices transparent, and access to the labs’ unique facilities practical. This access to our national labs gives U.S. clean energy small businesses a strong competitive advantage in the global marketplace.”

### **About Cogent Energy Systems**

Cogent Energy Systems, Inc. was incorporated in 2012 to develop and commercialize next-generation gasification technology, based in part on intellectual property licensed from Idaho National Laboratory.

Cogent’s HelioStorm Gasifier is specifically designed to meet the growing demand for small scale waste processing. Each gasifier can convert 1-4 tons per day of a wide range of feedstocks.

Cogent’s innovative Ionic Gasification technology allows the HelioStorm to complete the entire waste conversion and syngas conditioning process in a single processing vessel, bypassing the need for separate conversion and conditioning systems.

### **About Idaho National Laboratory’s Biomass Feedstock National User Facility**

The Biomass Feedstock National User Facility (BFNUF) offers technology and expertise to help the U.S. bioenergy industry overcome biomass challenges during scale up and integration of biomass preprocessing facilities. Its Biomass Characterization Laboratory can help pinpoint important biomass variables, such as particle size, composition and flowability.

### **About U.S. Department of Energy Small Business Vouchers Pilot**

SBV, part of the DOE Office of Energy Efficiency and Renewable Energy’s Technology-to-Market program, facilitates access to the DOE national labs for American small businesses, enabling them to tap into the intellectual and technical resources they need to overcome critical technology challenges for their advanced energy products and gain a global competitive advantage. Eight DOE national laboratories will receive funding to partner with 38 competitively selected small businesses across the country.

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