

October 5, 2015

FuelCell Energy Announces Definitive Agreements With the U.S. Department of Energy for Previously Disclosed Award Selections

- Awards completed from U.S. Department of Energy for previously disclosed carbon capture project and three previously disclosed solid oxide fuel cell projects
- These four projects add approximately \$24 million to Company backlog

DANBURY, Conn., Oct. 05, 2015 (GLOBE NEWSWIRE) -- [FuelCell Energy, Inc.](#) (Nasdaq:FCEL), a global leader in the design, manufacture, operation and service of ultra - clean, efficient and reliable fuel cell power plants, announced the completion of awards from the U.S. Department of Energy regarding four previously disclosed projects, including carbon capture utilizing a carbonate fuel cell power plant and three projects related to the commercialization of solid oxide fuel cell technology. These four projects add approximately \$24 million to backlog in the fourth quarter of 2015, which excludes cost share obligations.

"One of our competitive advantages is robust research and development, which, in the case of carbon capture, utilizes our commercial fuel cell plant in an alternate configuration to pursue a potentially sizeable market," said Chip Bottone, Chief Executive Officer, FuelCell Energy, Inc. "Advancing our solid oxide fuel cell commercialization is also exciting as we evaluate host sites and adapt the technology for storage applications."

The projects include:

Carbon Capture

This DOE project is to install a 2.3 megawatt fuel cell power plant configured for carbon capture adjacent to an operating coal-fired plant to capture a portion of the carbon emissions and destroy a portion of smog-causing nitrogen oxide (NO_x), while also producing ultra-clean electricity. Carbon concentration and capture within the carbonate fuel cell is a side reaction of the natural gas-fueled power generation process. The FuelCell Energy carbon capture solution is a [scalable and affordable](#) approach incorporating a number of fuel cell power plants adjacent to existing coal or gas-fired power plants. Flue gas from the coal or gas-fired plant is routed into the fuel cells instead of ambient air, and the carbon is efficiently separated, concentrated and captured. The DFC3000-based system installed under this DOE project will be the first of an expected two phase project at the selected site. The second phase, to follow this DOE project, would be to install eleven additional fuel cell power plants for a total project of 27.6 megawatts to capture approximately 700 tons/day of CO₂ in total, while simultaneously generating about 648,000 kilowatt hours/day of ultra-clean power. FCE is in active discussions with a number of major utility companies to select the best coal power plant site for this system.

Solid Oxide Fuel Cell (SOFC) Commercialization with 400 kilowatt project

FuelCell Energy will install and operate a 400 kilowatt SOFC system located at a host site and connected to the electric grid. This project is a significant step in commercializing SOFC technology for sub-megawatt distributed power generation and energy storage applications. FCE recently began operation of a 50 kilowatt system incorporating the stack design and system configuration concepts that will be used for the 400 kilowatt system. Several potential hosts have expressed interest in providing the site for the project, and FCE is currently evaluating these options to determine the best location for the project.

SOFC Manufacturing

This project advances SOFC commercialization by implementing continuous flow manufacturing with consistent high quality and within market-competitive cost parameters. The project targets cost reduction in the design and advancing the reliability, robustness and endurance of the fuel cells. It continues DOE-supported efforts which have refined the performance and economics of the SOFC technology. These efforts have led to industry leading levels of performance, durability, and cell size scale-up, which is critical to meeting affordability targets for stationary power generation systems.

Electrolysis for hydrogen production

The SOFC stack will be adapted for hydrogen production using electrolysis through a solid oxide electrolyzer cell (SOEC) at very high efficiency and within established cost parameters. Hydrogen produced from SOEC can be stored and used for grid-power, hydrogen fueling stations or for industrial purposes as an alternative to natural gas reforming. SOEC can also be applied as a clean and highly efficient solution for storing excess power produced by intermittent technologies when their output exceeds the needs of the electric grid.

Direct FuelCell® (DFC®) power plants combine a fuel such as clean natural gas or renewable biogas with oxygen from the ambient air to efficiently generate power electrochemically, almost completely avoiding the emission of nitrogen oxide (NO_x) that causes smog, sulfur dioxide (SO_x) that contributes to acid rain, or particulate matter that can aggravate asthma. These highly efficient and affordable power generation solutions provide continuous power where the power is used, including both on-site applications and electric grid support. The combination of near-zero pollutants, modest land-use needs, and quiet operating nature of these stationary fuel cell power plants facilitates locating the power plants in urban locations. The power plants are fuel flexible, capable of operating on clean natural gas, on-site renewable biogas, or directed biogas. FCE's line of commercial DFC distributed power generation systems is the starting point platform for new products such as DFC-based carbon capture. FCE's experience from the commercialization of DFC power plants is also a key success factor in the development of new fuel cell technologies, such as SOFC.

About FuelCell Energy

Direct FuelCell® power plants are generating ultra-clean, efficient and reliable power at more than 50 locations worldwide. With more than 300 megawatts of power generation capacity installed or in backlog, FuelCell Energy is a global leader in providing ultra-clean baseload distributed generation to utilities, industrial operations, universities, municipal water treatment facilities, government installations and other customers around the world. The Company's power plants have generated over four billion kilowatt hours of ultra-clean power using a variety of fuels including renewable biogas from wastewater treatment and food processing, as well as clean natural gas. For additional information, please visit www.fuelcellenergy.com, follow us [on Twitter](#) and view our videos [on YouTube](#).

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