



NEWS RELEASE

U.S. Department of Energy Awards FuelCell Energy an Additional \$8 Million in Funding For its Differentiated Solid Oxide Platform

5/4/2021

- DOE award advances SOFC Development for Sub-Megawatt high efficiency power generation
- Continues evolving FuelCell Energy's proprietary Solid Oxide fuel cell technology to deliver an ultra-highly efficient platform to the market
- Facilitates progress of FuelCell Energy's solid oxide electrolysis, the core to the Company's long-duration hydrogen-based storage solution

DANBURY, Conn., May 04, 2021 (GLOBE NEWSWIRE) -- FuelCell Energy, Inc. (Nasdaq: FCEL) -- a global leader in fuel cell technology with a purpose of utilizing its proprietary, state-of-the-art fuel cell platforms to enable a world empowered by clean energy— announces progress toward achieving commercial deployment of its solid oxide fuel cell (SOFC) technology. The technical progress in ongoing programs is further advanced with additional funding provided by the U.S. Department of Energy (DOE). The Company is pleased to report that based on its progress and differentiated platform it has been awarded Phase 2 funding in the amount of \$8 million for the previously announced ARPA-E project for development of ultra-high efficiency SOFC systems for power generation.

“We continue to make progress in advancing our solid oxide fuel cell platform toward commercialization with the aid of key DOE programs in addition to our own capital investment,” commented Jason Few, President and Chief Executive Officer of FuelCell Energy. “With the addition of solid oxide technology, FuelCell Energy offers one of the most complete portfolios of stationary fuel cell platforms in the industry. FuelCell Energy is committed to providing distributed power platforms that help modernize the electric grid, provide a path to decarbonization, deliver energy resiliency and offer a solution to more seamlessly integrate intermittent sources of renewable power like wind and solar.”

This additional funding commitment from the DOE represents another key step in FuelCell Energy's path to commercialize its high efficiency solid oxide technology. The multi-stack module that forms the core of the system is a modular building block easily scalable for larger systems. FuelCell Energy is committed to delivering technology that not only delivers on decarbonization but that leverages the billions of dollars invested in global energy infrastructure.

Advancing High Efficiency Power Generation

The ARPA-E project, under the "Innovative Natural-gas Technologies for Efficiency Gain in Reliable and Affordable Thermochemical Electricity-generation" (INTEGRATE) program is developing system approaches to achieving ultra-high electrical efficiency (>70%) in SOFC power generation systems. After successfully executing Phase 1 design activities, the Company has been awarded an additional \$8 million of funding to proceed to Phase 2 to design and build an ultra-high efficiency SOFC sub-megawatt power generation prototype system. This project includes the development of improved pressurized stack module designs, critical to supporting the configuration of very high-efficiency power generation systems, while also enhancing the efficiency of solid oxide-based electrolysis and energy storage systems.

Advancing High Efficiency Electrolysis

Separately, the Company continues to make progress on the previously announced Modular Solid Oxide Electrolysis project funded by DOE's Office of Energy Efficiency and Renewable Energy (EERE) to advance the use of its solid oxide platform for high efficiency electrolysis. Electrolysis uses electricity to split water into hydrogen and oxygen, the opposite of fuel cell operation. When solid oxide cells are used for electrolysis, they are capable of producing hydrogen much more efficiently than currently available technology.

"Our proprietary solid oxide technology is differentiated by its high efficiency in converting electricity into hydrogen through electrolysis and utilization of the same fuel cell stack to recall that hydrogen from its integrated long-duration hydrogen energy storage to produce zero-carbon hydrogen-based power generation," said Mr. Few. "FuelCell Energy's platform has the ability to extend the life and usefulness of existing nuclear plants and firm-up the capacity of intermittent renewable technologies. Additionally, electrolysis technology supports the hydrogen economy by providing carbon-free, clean hydrogen for transportation, power generation, agricultural uses, and a host of other industrial applications such as making steel. Our solid oxide platform will allow us to add long-duration energy storage, electrolysis, and global sub-megawatt power generation to our commercial offerings, increasing the Company's total addressable commercial markets."

A solid oxide electrolysis (SOEC) system can run even more efficiently with the addition of thermal heat energy. This EERE project focuses on optimizing the operating parameters for solid oxide electrolysis for high efficiency hydrogen production. Under the program, the Company has built and is operating a SOEC system capable of

producing up to 20 kg/day of hydrogen. The test operation has thus far demonstrated an electrical efficiency above 90% and identified opportunities for increasing efficiency to 100% with incorporation of external thermal heat energy. Later this year, under another previously announced DOE project, the Company will demonstrate a 250KW electrolysis system to be located at Idaho National Laboratories (INL). This system will be modified to include hydrogen storage and additional equipment to demonstrate the use of the solid oxide stack in an energy storage application. This platform, which is currently being designed and built, will utilize hydrogen produced by the stack, which is then stored and later returned to the stack, operating in fuel cell mode to produce power from the stored hydrogen. This application, called Reversible Solid Oxide Fuel Cell (RSOFC), where the stack alternates between electrolysis and power generation operation, is expected to be a key enabler to the long duration energy storage needed to incorporate intermittent renewable energy sources, further advancing the clean energy transition.

About FuelCell Energy

FuelCell Energy, Inc. (NASDAQ: FCEL) FuelCell Energy is a global leader in sustainable clean energy technologies that address some of the world's most critical challenges around energy, safety and global urbanization. As a leading global manufacturer of proprietary fuel cell technology platforms, FuelCell Energy is uniquely positioned to serve customers worldwide with sustainable products and solutions for businesses, utilities, governments and municipalities. Our solutions are designed to enable a world empowered by clean energy, enhancing the quality of life for people around the globe. We target large-scale power users with our megawatt-class installations globally, and currently offer sub-megawatt solutions for smaller power consumers in Europe. To provide a frame of reference, one megawatt is adequate to continually power approximately 1,000 average sized U.S. homes. We develop turn-key distributed power generation solutions and operate and provide comprehensive service for the life of the power plant. Our fuel cell solution is a clean, efficient alternative to traditional combustion-based power generation, and is complementary to an energy mix consisting of intermittent sources of energy, such as solar and wind turbines. Our customer base includes utility companies, municipalities, universities, hospitals, government entities/military bases and a variety of industrial and commercial enterprises. Our leading geographic markets are currently the United States and South Korea, and we are pursuing opportunities in other countries around the world. FuelCell Energy, based in Connecticut, was founded in 1969.

SureSource, SureSource 1500, SureSource 3000, SureSource 4000, SureSource Recovery, SureSource Capture, SureSource Hydrogen, SureSource Storage, SureSource Service, SureSource Treatment, SureSource Capital, FuelCell Energy, and FuelCell Energy logo are all trademarks of FuelCell Energy, Inc.

Forward-Looking Statements

This news release contains forward-looking statements within the meaning of the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Forward-looking statements include, without limitation, statements

with respect to the Company's anticipated financial results and statements regarding the Company's plans and expectations regarding the continuing development, commercialization and financing of its fuel cell technology and its business plans and strategies. All forward-looking statements are subject to risks and uncertainties that could cause actual results to differ materially from those projected. Factors that could cause such a difference include, without limitation, changes to projected deliveries and order flow, changes to production rate and product costs, general risks associated with product development, manufacturing, changes in the regulatory environment, customer strategies, ability to access certain markets, unanticipated manufacturing issues that impact power plant performance, changes in critical accounting policies, access to and ability to raise capital and attract financing, potential volatility of energy prices, rapid technological change, competition, the Company's ability to successfully implement its new business strategies and achieve its goals, the Company's ability to achieve its sales plans and cost reduction targets, changes by the U.S. Small Business Administration or other governmental authorities to, or with respect to the implementation or interpretation of, the Coronavirus Aid, Relief, and Economic Security Act, the Paycheck Protection Program or related administrative matters, and concerns with, threats of, or the consequences of, pandemics, contagious diseases or health epidemics, including the novel coronavirus, and resulting supply chain disruptions, shifts in clean energy demand, impacts to customers' capital budgets and investment plans, impacts to the Company's project schedules, impacts to the Company's ability to service existing projects, and impacts on the demand for the Company's products, as well as other risks set forth in the Company's filings with the Securities and Exchange Commission. The forward-looking statements contained herein speak only as of the date of this press release. The Company expressly disclaims any obligation or undertaking to release publicly any updates or revisions to any such statement to reflect any change in the Company's expectations or any change in events, conditions or circumstances on which any such statement is based.

Contact :

FuelCell Energy, Inc.

ir@fce.com

203.205.2491

Source: FuelCell Energy

Source: FuelCell Energy, Inc.