Exxon Mobil Corporation (NYSE:XOM) and FuelCell Energy, Inc. (Nasdaq:FCEL) today announced an agreement to pursue novel technology in power plant carbon dioxide capture through a new application of carbonate fuel cells, which could substantially reduce costs and lead to a more economical pathway toward large-scale application globally.

This Smart News Release features multimedia. View the full release here: http://www.businesswire.com/news/home/20160505005370/en/

“Advancing economic and sustainable technologies to capture carbon dioxide from large emitters such as power plants is an important part of ExxonMobil’s suite of research into lower-emissions solutions to mitigate the risk of climate change,” said Vijay Swarup, vice president for research and development at ExxonMobil Research & Engineering Company. “Our scientists saw the potential for this exciting technology for use at natural gas power plants to enhance the viability of carbon capture and sequestration while at the same time generating additional electricity. We sought the industry leaders in carbonate fuel-cell technology to test its application in pilot stages to help confirm what our researchers saw in the lab over the last two years.”

Chip Bottone, president and chief executive officer of FuelCell Energy, Inc., said his company is pleased to bring its global leadership in the development of carbonate fuel cells to this project.

“Carbon capture with carbonate fuel cells is a potential game-changer for affordably and efficiently concentrating carbon dioxide for large-scale gas and coal-fired power plants,” Bottone said. “Ultra-clean and efficient power generation is a key attribute of fuel cells and the carbon capture configuration has the added benefit of eliminating approximately 70 percent of the smog-producing nitrogen oxide generated by the combustion process of these large-scale power plants.”

Two years of comprehensive laboratory tests have demonstrated that the unique integration of two existing technologies – carbonate fuel cells and natural gas-fired power generation – captures carbon dioxide more efficiently than existing scrubber conventional capture technology. The potential breakthrough comes from an increase in electrical output using the fuel cells, which generate power, compared to a nearly equivalent decrease in electricity using conventional technology.

The resulting net benefit has the potential to substantially reduce costs associated with carbon capture for natural gas-fired power generation, compared to the expected costs associated with conventional separation technology. A key component of the research will be to validate initial projected savings of up to one-third.

The scope of the agreement between ExxonMobil and FuelCell Energy will initially focus for about one to two years on how to further increase efficiency in separating and concentrating carbon dioxide from the exhaust of natural gas-fueled power turbines. Depending on reaching several milestones, the second phase will more comprehensively test the technology for another one to two years in a small-scale pilot project prior to integration at a larger-scale pilot facility.

ExxonMobil is a leader in carbon capture and sequestration and has extensive experience in all of the component technologies of carbon capture and storage, including participation in several carbon dioxide injection projects over the last three decades. In 2015, ExxonMobil captured 6.9 million metric tons of carbon dioxide for sequestration – the equivalent of eliminating the annual greenhouse gas emissions of more than 1 million passenger vehicles.

“We are continually researching technologies that have an ability to reduce carbon dioxide emissions,” Swarup said. “Most solutions that can make an impact of the scale that is required are not found overnight. Our research with FuelCell Energy will be conducted methodically to ensure that all paths toward viability are explored.”

Using fuel cells to capture carbon dioxide from power plants results in reduced emissions and increased power generation. In the carbon capture context, power plant exhaust is directed to the fuel cell, replacing air that is normally used in combination with natural gas during the fuel cell power generation process. As the fuel cell generates power, the carbon dioxide becomes more concentrated, allowing it to be more easily and affordably captured from the cell’s exhaust and stored.

NOTE TO EDITORS:

Vijay Swarup and Chip Bottone will be available to answer questions from media on a conference call today at 10:30 a.m. CDT. Dial-in details are as follows:

Company Name:	Exxon Mobil Corp.
Date/Time:	May 5, 2016, 10:30 AM CDT
Participant Number:	USA: (877) 311-5896
Participant Number:	International: (281) 241-6149
Conference ID Number:	7316844

About ExxonMobil

ExxonMobil, the largest publicly traded international oil and gas company, uses technology and innovation to help meet the world’s growing energy needs. ExxonMobil holds an industry-leading inventory of resources, is among the largest refiners and marketers of petroleum products and its chemical company is one of the largest in the world. For more information, visit www.exxonmobil.com or follow us on Twitter www.twitter.com/exxonmobil.

Cautionary Statement: Statements of future events or conditions in this release are forward-looking statements. Actual future results, including project plans and timing and the impact of new technologies, could vary depending on the outcome of further research and testing; the development and competitiveness of alternative technologies; the ability to scale pilot projects on a cost-effective basis; political and regulatory developments; and other factors discussed in this release and under the heading “Factors Affecting Future Results” on the Investors page of ExxonMobil’s website at exxonmobil.com.

About FuelCell Energy, Inc.

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.

View source version on businesswire.com: http://www.businesswire.com/news/home/20160505005370/en/

Contact

ExxonMobil
Media Relations, 972-444-1107
or
FuelCell Energy
Investor Relations, 203-830-7494