NRG Energy, JX Nippon Complete World's Largest Post-Combustion Carbon Capture Facility On-Budget and On-Schedule

January 10, 2017

--Part of NRG Energy's overall fossil fuel decarbonization strategy--

HOUSTON & TOKYO--(BUSINESS WIRE)--Jan. 10, 2017-- NRG Energy, Inc. (NYSE:NRG) and JX Nippon Oil & Gas Exploration Corporation (JX Nippon) have completed construction, on-budget and on-schedule, of Petra Nova, the world's largest post-combustion carbon capture system.

This Smart News Release features multimedia. View the full release here: http://www.businesswire.com/news/home/20170109006496/en/

Sixteen-foot diameter ductwork takes flue gas from the coal plant to the carbon capture facility where the CO2 is removed from the flue gas by the amine solution in the tall absorption tower and then separated from the amine as 99.9% pure CO2 in the smaller regenerator tower to the right before being compressed and delivered to the oil field.(Photo: Business Wire)

"Completion of the Petra Nova project is an important milestone in our quest to help ensure reliable, affordable and increasingly cleaner energy from fossil fuels," said Mauricio Gutierrez, President and CEO of NRG Energy. "This project represents another major step in NRG's effort to reduce our carbon emissions and create a more sustainable energy future, and we are proud that this accomplishment was achieved on-budget and on-schedule in a competitive energy environment. I want to thank our partners at JX Nippon, Hilcorp and the U.S. Department of Energy as well as the State of Texas, our contractors and lenders for their commitment to the successful completion of this landmark project."

Petra Nova first captured carbon dioxide (CO_2) on September 19, 2016 and has delivered more than 100,000 tons of captured CO_2 to the West Ranch field through an 80-mile pipeline. Final performance acceptance testing on the facility was completed on December 29, 2016 and the facility turned over for operations. During performance testing, the system met all performance criteria including capturing more than 90% of CO_2 from a 240 MW equivalent slipstream of flue gas off an existing coal-fueled electrical generating unit at the WA Parish power plant in Fort Bend County, southwest of Houston. At this level of operation, Petra Nova can capture more than 5,000 tons of CO_2 per day which is the equivalent of taking more than 350,000 cars off the road.

"JX Nippon is very pleased to see the construction of the Carbon Capture System completed and operations commencing as planned, thanks to the great effort made by the Petra Nova team," said Shunsaku Miyake, President and CEO of JX Nippon Oil & Gas Exploration Corporation. "We believe this project will contribute to significantly increasing incremental crude oil production from legacy oil fields and also will be a major step forward in helping to decrease CO_2 emissions globally."

Construction on the Petra Nova project began in 2014 with a goal to be operational by the end of 2016. With construction completed, on-budget and on-schedule, the Petra Nova carbon capture facility has achieved this goal.

"NRG and JX Nippon's Petra Nova is the type of innovative, technologically advanced project that proves time and again that Texas is the world leader in energy innovation," said Greg Abbott, Governor of the State of Texas.

Hilcorp Energy Company (Hilcorp), the operator of West Ranch oilfield, will use the captured CO_2 to boost production at West Ranch oilfield, jointly owned by NRG, JX Nippon and Hilcorp. Both Hilcorp and the University Of Texas Bureau Of Economic Geology will monitor the movement of CO_2 deep in the oil reservoir. Over the next few years, oil production at the field is currently estimated to increase from approximately 300 barrels per day before beginning Enhanced Oil Recovery (EOR) operations to production of up to 15,000 barrels per day using captured CO_2.

"To date we have drilled nearly 100 new wells in the West Ranch field and have implemented a robust CO_2 and ground water monitoring program," said Jeffery D. Hildebrand, Chairman and CEO of Hilcorp Energy Company. "We are excited about this project, and expect to see a meaningful increase in oil production at West Ranch in the near future."

Petra Nova is 50-50 joint venture by NRG and JX Nippon. Additionally, the United States Department of Energy (DOE) is providing up to $190 million in grants as part of the Clean Coal Power Initiative Program (CCPI), a cost-shared collaboration between the federal government and private industry. A portion of the project was financed with project loans from the Japan Bank for International Cooperation (JBIC) and Mizuho Bank, backed by Nippon Export and Investment Insurance (NEXI).

Petra Nova uses the KM-CDR Process®, jointly developed by Mitsubishi Heavy Industries, Ltd. (MHI) and the Kansai Electric Power Co., Inc., and employs a proprietary KS-1 high-performance solvent for the CO_2 absorption and desorption. The carbon capture facility was constructed under a fixed-price contract by a consortium of Mitsubishi Heavy Industries Americas, Inc. (MHIA) and TIC (The Industrial Company). At peak construction, over 500 people were working on the project.

By being built on an existing coal unit, Petra Nova shows an economic path to make existing and new fossil fuel plants significantly more environmentally viable as we transition to more sustainable energy future.

In addition to Petra Nova, NRG is helping to build a lower-carbon energy future in multiple ways including a growing renewable energy portfolio, the development of fast start, flexible natural gas turbines, which are low carbon in their own right and help to integrate renewables into the grid, and coal

to gas conversions and additions. NRG operates more than 7,000 megawatts of fast start natural gas and has modified more than 2,780 megawatts of older coal-fueled steam generation to use cleaner burning natural gas, reducing their carbon intensity roughly by half. These efforts are the foundation of NRG's commitment to achieve NRG Energy's carbon reduction goals of 50% by 2030 and 90% by 2050.

NRG, JX Nippon and Hilcorp expect to host a ribbon cutting at the site in the first half of 2017.

About NRG

NRG is the leading integrated power company in the U.S., built on the strength of the nation's largest and most diverse competitive electric generation portfolio and leading retail electricity platform. A Fortune 200 company, NRG creates value through best in class operations, reliable and efficient electric generation, and a retail platform serving residential and commercial businesses. Working with electricity customers, large and small, we continually innovate, embrace and implement sustainable solutions for producing and managing energy. We aim to be pioneers in developing smarter energy choices and delivering exceptional service as our retail electricity providers serve almost 3 million residential and commercial customers throughout the country. More information is available at www.nrg.com. Connect with NRG Energy on Facebook and follow us on Twitter @nrgenergy.

About JX Nippon Oil & Gas Exploration Corporation

JX Nippon Oil & Gas Exploration Corporation is a core business company that engages in oil and natural gas exploration and production (E&P) business in the JX Group. The JX Group is the leading "integrated energy, resources and materials business group" in Japan and has net sales of approximately $90 billion. We are currently expanding crude oil and natural gas E&P business in 13 countries around the world. In the U.S., we hold assets in the Gulf of Mexico, which range from the continental shelf to deep water area, in addition, in Canada, participate in the Syncrude Project that produces synthetic crude oil from oil sand, and operate them at Houston office. More information is available at www.nex.jx-group.co.jp/english.

Safe Harbor

This news release contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. Such forward-looking statements are subject to certain risks, uncertainties and assumptions and include NRG's expectations regarding the post-combustion carbon capture unit at NRG's WA Parish plant and forward-looking statements typically can be identified by the use of words such as "will," "expect," "believe," and similar terms. Although NRG believes that its expectations are reasonable, it can give no assurance that these expectations will prove to have been correct, and actual results may vary materially. Factors that could cause actual results to differ materially from those contemplated above include, among others, general economic conditions, hazards customary in the power industry, competition in wholesale power markets, the volatility of energy and fuel prices, failure of customers to perform under contracts, changes in the wholesale power markets, changes in government regulation of markets and of environmental emissions, and our ability to achieve the expected benefits and timing of the carbon capture-EOR projects. NRG undertakes no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise. The foregoing review of factors that could cause NRG's actual results to differ materially from those contemplated in the forward-looking statements included in this news release should be considered in connection with information regarding risks and uncertainties that may affect NRG's future results included in NRG's filings with the Securities and Exchange Commission at www.sec.gov.

Petra Nova Construction Materials

- 729,000 linear feet of cable – equivalent to 138 miles or the distance from the plant, southwest of Houston, to Austin, Texas.
- 11,000 cubic yards of concrete – equivalent to filling 126 backyard swimming pools
- 65,000 linear feet of pipe – enough pipe to stretch up and down the One World Trade Center building in New York 18 times
- The total weight of the absorber tower alone is almost 1,700 tons. The regenerator next to it adds another 500 tons.

View source version on businesswire.com: http://www.businesswire.com/news/home/20170109006496/en/

Source: NRG Energy, Inc. and JX Nippon Oil & Gas Exploration Corporation

NRG Energy, Inc.
Media:
David Knox, 713-824-6445
or
Lindsey Puchyr, 609-524-4527
or
Investors:
Kevin Cole, CFA, 609-524-4526