



## NETL-SUPPORTED PETRA NOVA PROJECT CELEBRATES THREE YEARS OF SUSTAINABLE OPERATION

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The world's largest operating post-combustion carbon dioxide (CO<sub>2</sub>) capture system Petra Nova celebrates its third anniversary Jan. 10, 2020.

The project, supported by the U.S. Department of Energy (DOE) Office of Fossil Energy and administered by NETL, is demonstrating how carbon capture, utilization, and storage technologies can economically support the flexibility and sustainability of fossil fuels at commercial scale.

Owned and operated by NRG Energy Inc. and JX Nippon Oil and Gas Exploration Corporation, Petra Nova is located southwest of Houston Texas and applies carbon capture technology to an existing unit at the coal-fired W.A. Parish Generating Station.

Commencing operation in 2017, the Petra Nova project addresses capture and beneficial reuse of CO<sub>2</sub> from coal-based electricity production. The project uses an advanced amine-based process to capture CO<sub>2</sub>, which is then compressed, dried, and transported for enhanced oil recovery (EOR) at the West Ranch Oil Field in Jackson County, Texas, to boost oil production.

Using the Kansai Mitsubishi Carbon Dioxide Recovery (KM-CDR) Process, the Petra Nova project is designed to capture approximately 90% of the CO<sub>2</sub> from a 240-megawatt equivalent flue gas slipstream - which is approximately 1.6 million tons of CO<sub>2</sub> per year (assuming an 85% availability). Since beginning operations in January 2017, Petra Nova has captured more than 3.9 million short (U.S.) tons of CO<sub>2</sub> and West Ranch Oil Field has produced more than 4.2 million barrels of oil through EOR.

POWER magazine selected Petra Nova as its Plant of the Year in 2017.

DOE and NETL provided financial and project management support for the Petra Nova project. Additional project partners include Mitsubishi Heavy Industries America, Sargent & Lundy, The Industrial Company, and the University of Texas, Bureau of Economic Geology.

NETL is a U.S. Department of Energy national laboratory that produces technological solutions for America's energy challenges. From developing creative innovations and efficient energy systems that make coal more competitive, to advancing technologies that enhance oil and natural gas extraction and transmission processes, NETL research is providing breakthroughs and discoveries that support domestic energy initiatives, stimulate a growing economy, and improve the health, safety, and security of all Americans. Highly skilled men and women at NETL's sites in Albany, Oregon; Anchorage, Alaska; Houston, Texas; Morgantown, West Virginia and Pittsburgh, Pennsylvania conduct a broad range of research activities that support DOE's mission to advance the national, economic, and energy security of the United States.

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