

DOE, Natural Resources Canada Announce Pilot Plant to Advance Oxy-Combustion Carbon Capture

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The U.S. Department of Energy (DOE) and Canada's Natural Resources Canada (NRCan) today announced the opening of a new 1 Megawatt Thermal (MWth) facility to test an advanced process to capture carbon dioxide (CO₂) emissions from coal-fired power plants. The announcement was made during a ribbon-cutting ceremony at the facility in Ottawa.

The new [1 MWth facility](#) will test oxy-fired pressurized fluidized bed combustion (oxy-PFBC) as a means to more efficiently and economically capture CO₂ and help advance the commercialization of carbon capture, utilization and storage (CCUS) in the U.S. as well as Canada. CCUS is seen as a critical tool to reduce greenhouse gas emissions and address climate change. Successful results from this project will help scale up the oxy-PFBC process to commercial scale.

"This project is a major step forward for CCUS," said Douglas Hollett, DOE's Principal Deputy Assistant Secretary for Fossil Energy, who spoke during today's ribbon cutting event. "It also highlights the importance of the long-standing U.S.-Canadian collaboration on clean energy technology development."

Oxy-PFBC is based on the oxy-fuel combustion process, which uses pure oxygen instead of air to burn fuel and produces heat that generates electricity without the production of other pollutants. The oxy-PFBC process improves the efficiency of this process by concentrating the CO₂ produced prior to combustion of fuel in the turbine, thereby greatly reducing the cost of capturing the CO₂. The captured CO₂ can then be stored or used beneficially to develop other products, including feedstock and chemicals.

The test plant is an ongoing collaborative project between DOE and NRCan, and its research and development lab, CanmetEnergy. The project is being led by the Gas Technology Institute (GTI) in partnership with the Linde Group, the Electric Power Research Institute, Alstom Power and Alberta Innovates. The project received \$13 million under DOE's [Office of Fossil Energy's advanced combustion program](#), and is managed by the Department's [National Energy Technology Laboratory \(NETL\)](#).

The oxy-PFBC project is part of the continuing collaboration between the U.S. and Canada on clean energy technologies, including CCUS. It also reflects the U.S. and Canada's commitment to [Mission Innovation](#), which was announced by President Obama and 19 other world leaders during the COP21 conference in Paris last December. Mission Innovation is a landmark commitment by participating countries to accelerate public and private global clean energy innovation by doubling their clean energy research and development funding over the next five years.

"This project demonstrates the important role clean energy technologies play in our transition to a lower-carbon economy, noted Kim Rudd, Parliamentary Secretary to the Canadian Minister of Natural Resources. "Canada and the United States share a bold vision for our continent: a vision based on collaboration, and one that secures North America's place as one of the world's most dynamic energy regions. We will continue to work together to meet our climate change objectives, increase competitiveness and support employment opportunities."