



Integrated Polygeneration CCS Project

Project Leader:
TransCanada Energy Ltd.

Project Title:
**Belle Plaine Integrated
Polygeneration CCS Project**

CO₂ Source:
**New hydrocarbon-based
electricity power plant**

CO₂ Storage Type:
**Enhanced Oil Recovery
(EOR) and sequestration in
saline aquifer**

Location:
Belle Plaine, Saskatchewan

Project Description

This project proposes to conduct pre-front end engineering and design and other work as a prerequisite to a decision to go forward with a \$5-billion project to build and commission a polygeneration facility in Belle Plaine, Saskatchewan. If constructed, large volumes of petcoke — a low-value product of heavy oil upgrading — would be gasified and used to produce a number of products, including hydrogen, steam and sulphur, and to generate up to 500 MW in electricity to potentially displace aging coal-fired generation stations in Saskatchewan. Process CO₂ would also be used by two large fertilizer plants located near the proposed polygeneration facility. Reductions in CO₂ emissions would result from capturing and sequestering 80–90 percent of the CO₂ from the polygeneration facility, as well as from offsetting the use of natural gas to produce hydrogen and steam at the fertilizer plants. Captured CO₂ would be sequestered at enhanced oil recovery (EOR) sites and in saline aquifers in southeastern Saskatchewan.

Expected Long-Term Outcomes

The long-term outcomes of this project are expected to be: the successful completion of the construction, commissioning and operation of the first polygeneration facility with integrated CCS in North America; the sequestration of GHG emissions of over 1 Mt per year in EOR and saline aquifer sites; the reduction of other air emission reductions (SO_x, NO_x, CO, PM, Hg); and the replacement of old, coal-based generating stations, resulting in a net reduction in Saskatchewan's GHG emissions, as per the national inventory.

Company Profile

TransCanada, based in Calgary, is a leading Canadian developer and operator of North American energy infrastructure. The company operates a network of more than 59,000 km of pipeline that connects into virtually all major gas supply basins in North America. TransCanada is one of North America's largest providers of gas storage and related services, with approximately 370 billion cu. ft. of storage capacity. A growing independent power producer, TransCanada owns, controls or is developing approximately 10,900 MW of power generation.

Project Leader Web Site

www.transcanada.com



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