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The project the world is watching

Boundary Dam Integrated Carbon Capture and Storage (BD3 ICCS) Demonstration Project

SaskPower is leading the development of the world's first and largest integrated clean coal/carbon capture and storage project at the Boundary Dam Power Station in Estevan, Saskatchewan, Canada.

The $1.2 billion government-industry partnership between the Government of Canada, Government of Saskatchewan, SaskPower and private industry will see the full integration of a rebuilt coal-fired generation unit with carbon capture technology into the operation of a commericial power station, resulting in low-emission electricity and carbon dioxide (CO_2) for enhanced oil recovery operations.

This leading-edge project will determine the technical, economic and environmental performance of clean coal/carbon capture and storage (CCS) technology.

The Role of Coal

Saskatchewan has an estimated 300-year supply of coal. Lignite coal currently provides more than 50 per cent of provincial electricity. Coal-fired generators operate 24 hours a day, seven days a week, and are a very reliable form of electrical generation. It is essential that SaskPower has these base load generators in the supply mix. However, doing so in today's economic and regulatory environment requires meeting new standards to address emerging regulatory requirements and to satisfy new societal demands.

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SaskPower has made technological inroads into the control of a variety of emissions, including particulate matter, sulphur dioxide (SO_2), nitrogen oxides (NO_x) and mercury. However, carbon dioxide remains a challenge.

The BD3 ICCS Demonstration Project will transform the aging Unit 3 at Boundary Dam Power Station into a reliable, long-term producer of more than 110 megawatts (MW) of clean base load electricity, while enhancing provincial oil production and reducing greenhouse gas emissions by capturing one million tonnes of CO_2 per year.

Research has shown that CO_2 can be safely and permanently stored in underground geological formations such as deep saline aquifers. It is believed that CO_2 can remain geologically secured for thousands of years.

Why Clean Coal?

Given the volatility of natural gas prices, the urgent need to reduce greenhouse gases worldwide and the available supply of coal, there is considerable interest in finding more environmentally sustainable ways to use coal in electrical production. Research into clean coal technology is underway in a number of locations, including Canada, the United States, Europe, Australia and Japan.

As we face significant costs to replace our aging facilities and increase production to meet growing demand, coal may be the most affordable option for SaskPower and our customers.

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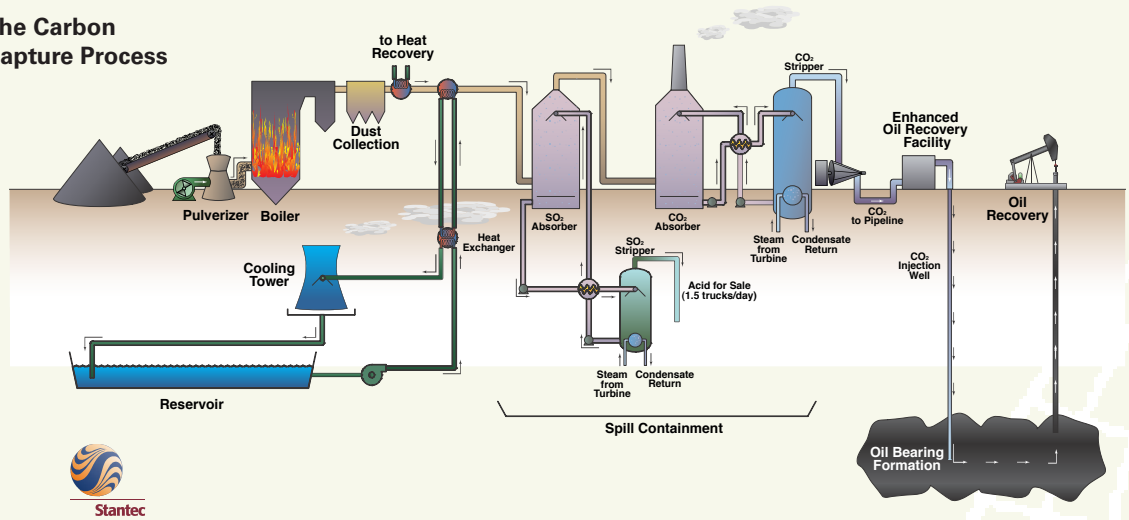
The Carbon Capture Process



Project Benefits

- A pathway towards economically and environmentally sustainable power generation.
- 1 million tonnes/year of greenhouse gas emission reductions from an existing power station.
- A domestic, integrated, commercial-scale CCS project – the first and largest of its kind in the world.
- A means to keep coal in the electricity supply mix, thus utilizing an existing supply of reliable, low-cost fuel.
- The reuse of existing fuel supplies and structures within the footprint of an operating industrial site.
- A demonstration project for the development of sound regulation and policies.

Commitment to the Environment

In order to respond to changing regulatory requirements, SaskPower is considering a variety of prospective technological advances as we look to renew our existing generation fleet. New coal-fired generation will have to come equipped with carbon capture technology because of growing concern about climate change

SaskPower is well positioned to meet the environmental challenge ahead, thanks in part to the pioneering work in the area of CO_2 storage and enhanced oil recovery undertaken at the International Energy Agency Weyburn-Midale CO_2 Monitoring and Storage Project. Weyburn-Midale is the largest enhanced oil recovery project in the world that includes monitoring and verification.

About SaskPower

As the principal supplier of electricity in Saskatchewan, SaskPower serves more than 467,000 customers and manages $4.9 billion in assets. Our company operates three coal-fired power stations, seven hydroelectric stations, five natural gas stations and two wind facilities with an aggregate generating capacity of 3,371 megawatts (MW). We also have power purchase agreements in place to provide us with a total available capacity of 3,840 MW. SaskPower maintains more than 157,000 kilometres of power lines, 56 high voltage switching stations and 184 distribution substations.

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