SA SKPO WER  C C S
BO U N D A R Y D A M  C C S  P R O J E C T
SASKATCHEWAN’S PRINCIPLE
POWER PROVIDER
SASKATCHEWAN, CANADA

511,000 CUSTOMERS

151,000 KM OF TRANSMISSION LINE

4,408 MW AVAILABLE GENERATING CAPACITY
SA SKATC HEWAN’S ENVIRONMENT

Growing both economically and demographically.
DIVERSIFIED POWER GENERATION

BY CAPACITY*

COAL 32%
GAS 40%
HYDRO 20%
WIND 5%
OTHER 3%

*Approximate
REGULATIONS
COMPARING COSTS

30 YEAR LIFE CYCLE
2010 POINT IN TIME ANALYSIS

Baseload Natural Gas
Cost of Electricity

BD3 Carbon Capture
Cost of Electricity

- Capital Investment
- Fuel Expense
- O & M
Boundary Dam CCS Project
CONSTRUCTION

5,000,000 Person-hours

$1.5B
40% Power plant
60% Capture plant

81 months instead of 72 months

OPERATION

110+ MW

Consistent capture rate

Nameplate capture rate proven
OFF-SETTING COSTS WITH OFF-TAKERS

- Sale of fly ash for concrete production.
- Sale of sulphuric acid, to be used for industrial purposes including fertilizer.
- Sale of CO₂ for Enhanced Oil Recovery (EOR).
GEOLOGICAL STORAGE

- CO₂ storage with SaskPower’s Carbon Storage and Research Centre’s host project, Aquistore.

- Independent monitoring project that identifies feasibility of injecting CO₂ into a deep saline reservoir in an effort to reduce GHG emissions.

- Storage is regulated by the Ministry of Environment.

- Will be measured, monitored, verified and audited.

- Saskatchewan has experience with storage due to the Weyburn Midale project. Approximately 25 million tonnes of CO₂ stored and monitored.

- Injection started April 2015.
LEARNING STARTS HERE.

COST ON OUR NEXT PROJECT COULD BE UP TO 30% LOWER.
PARTNERSHIP
VISITORS HAVE TRAVELED FROM MORE THAN 30 COUNTRIES TO SEE WHAT WE’VE DONE. AS THE WORLD COMES WITH QUESTIONS, WE’LL HAVE THE ANSWERS.
“Carbon capture and storage is a very important technology where not enough investment is taking place.”
CHRISTIANA FIGUERES, UN CLIMATE CHIEF

“CCS on coal-fired power plants provide us the largest opportunity for application, and Boundary Dam shows how it can be done. Unless we do CCS, we’re never going to meet long-term climate change goals. This project provides us an opportunity to learn how we can directly apply CCS in China.”
ASHOK BHARGAVA, ASIAN DEVELOPMENT BANK (ADB)

“As long as fossil fuels and carbon-intensive industries play dominant roles in our economies, carbon capture and storage (CCS) will remain a critical greenhouse gas reduction solution.”
MARIA VAN DER HOEVEN, INTERNATIONAL ENERGY AGENCY (IEA)

“Demand for coal will depend on whether or not the coal industry will be able to make use of clean-coal technologies, including CCS.”
FATIH BIROL, EXECUTIVE DIRECTOR, IEA
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