The Future of Energy:
Canadian Innovation in a Low Carbon World

December 10, 2018 – COP24
MISSION:
Accelerate the understanding and use of CCS as a means of managing GHG emissions.

Sharing lessons learned from hands-on operations ensures for experienced-based decision making.

About the International CCS Knowledge Centre
The International CCS Knowledge Centre is a non-profit organization created and sponsored by BHP and SaskPower.

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BOUNDARY DAM

LEARNING STARTS HERE
1ST INTEGRATED LARGE-SCALE POST-COMBUSTION CCS FACILITY
Operational Understandings: Exceeding Federal Regulations

The project consisted of two major parts:

- **Refurbishment** included a complete replacement of the steam turbine and generator, which were at their end of life.
- **Capture** involves taking out other components before the amine removes the CO$_2$.

- Design deficiencies and construction quality issues had to be managed, as well as amine issues.
- Trend of higher capture rate and reduced outages over time
- Has captured & stored over 2Mt

**CLEANER**

- **1100 t/GWh** = Lignite Coal Plant
- **550-500** = Current Natural Gas Plant
- **420** = Federal Regulations on Coal Plant
- **375-400** = New Natural Gas Plant
- **300-325** = Wind (with peakers)
- **120-140** = CCS on Boundary Dam 3*

*Name plate capacity
• Designed to capture 2Mt
• 67% capital cost reduction (per tonne CO2)
• Cost of capture at USD$45/t CO2
• Can capture up to 97% while integrating with renewables
• Fly ash sales can further reduce CO2 – net-negative emissions
• No new water
For more information please visit our website at: ccsknowledge.com

Contact us by email: info@ccsknowledge.com

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