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.
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

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
The Shand CCS Feasibility Study
Focuses on technical aspects of retrofitting Shand Power Station.

Summary for Decision Makers on Second Generation
How the Study’s information can be broadly applied.

Significant Cost Reductions Found
Reasons:
1. Lessons learned from building and operating CCS
2. Construction at a larger scale using extensive modularization
3. Integration of the bigger unit’s steam cycle
- 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
Thank You

For more information please visit our website at:
ccsknowledge.com

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