INTERNATIONAL
CCS KNOWLEDGE
CENTRE

Carbon Capture and Storage Commercialization & Deployment

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The International CCS Knowledge Centre is a non-profit organization founded by BHP and SaskPower.

Mission:
To accelerate the understanding and use of carbon capture and storage as a means of managing GHG emissions

- Staff are available to provide experience-based considerations for CCS projects.
- Guidance for planning, design, construction and operation.
- Active engagement with financiers, decision makers, and business case partners.

BOUNDARY DAM

THE LEARNING STARTS HERE
WORLD'S 1ST LARGE SCALE POST-COMBUSTION CCS FACILITY

Over 3 million tonnes of CO_2 captured & stored since 2014

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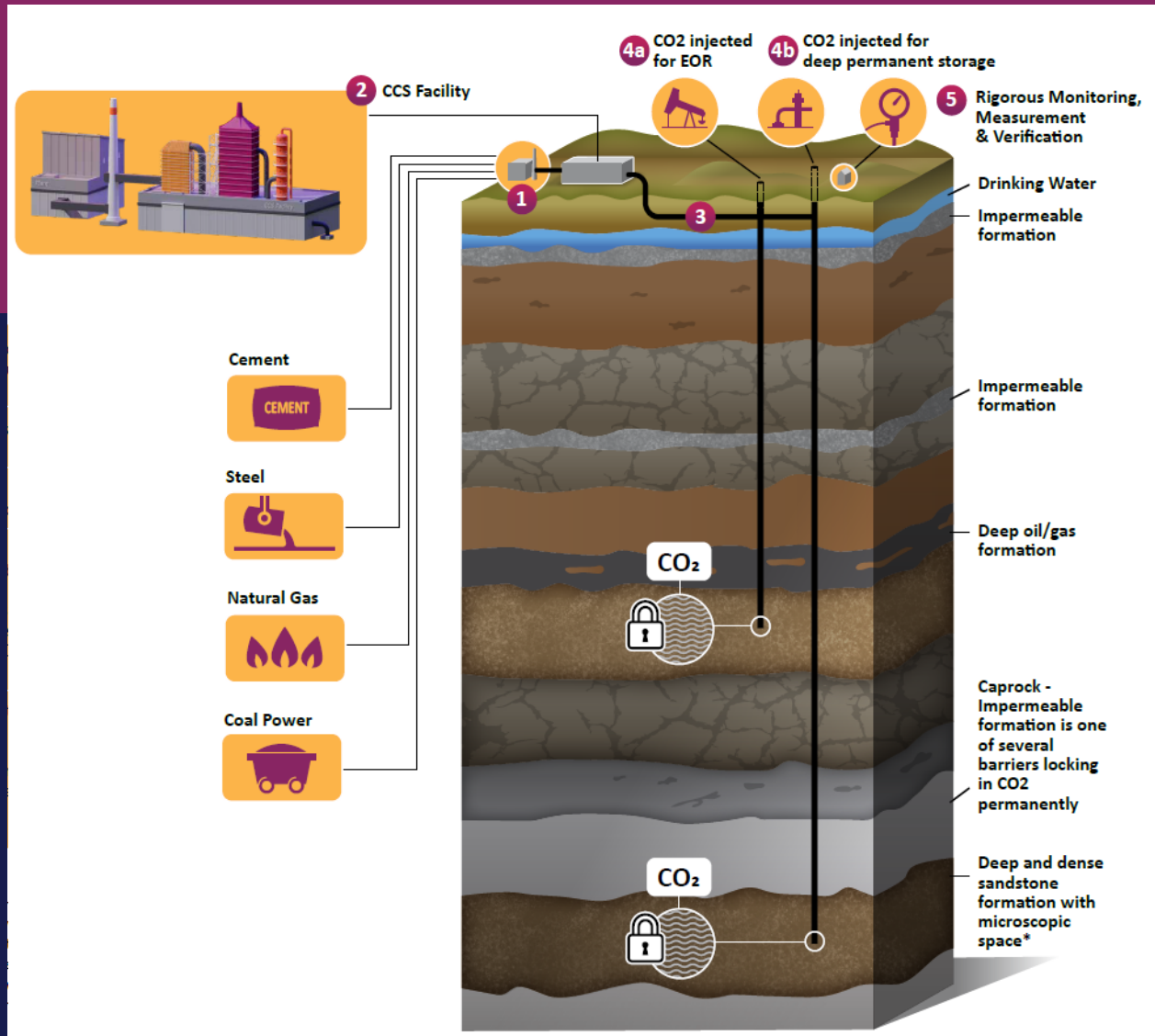
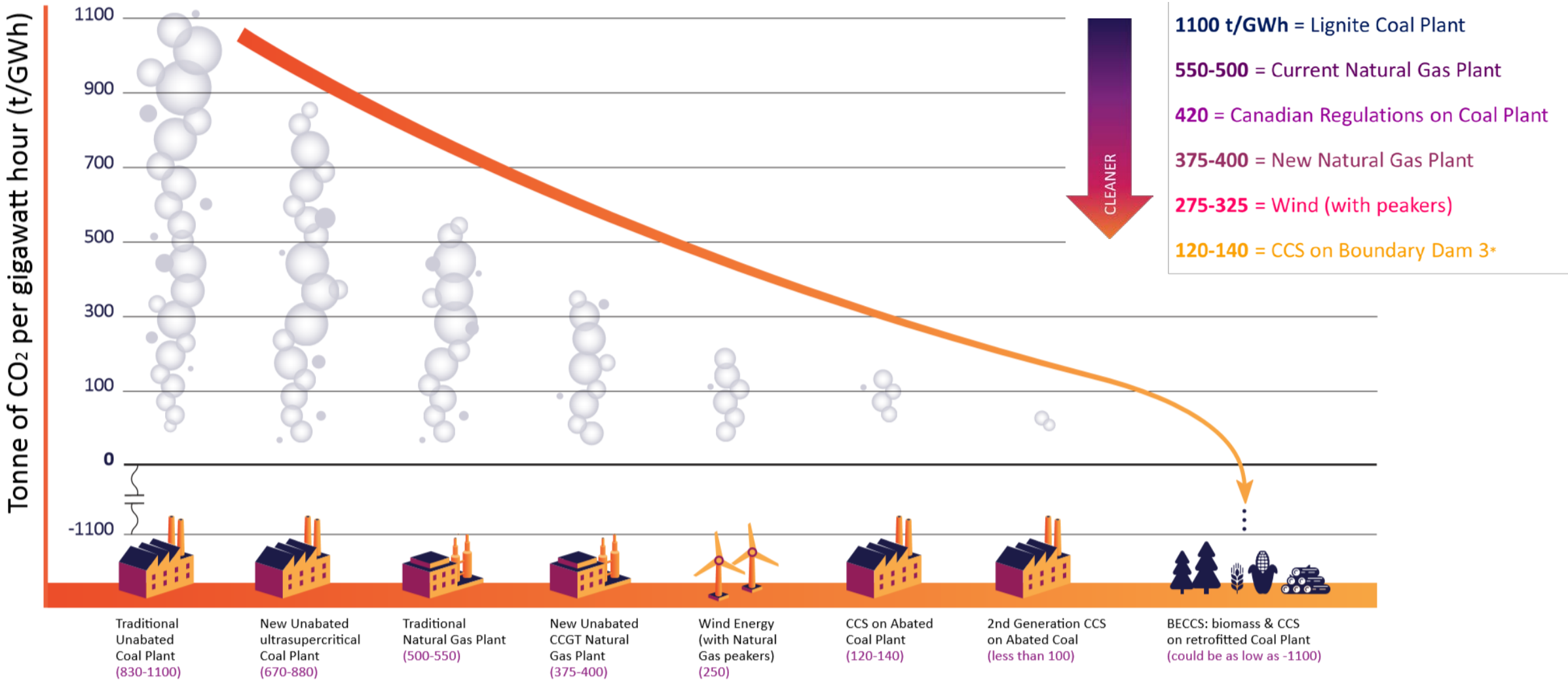
Saskatchewan Lessons Learned

Full Chain Experience for carbon capture and storage

- Retrofitted existing coal unit
- Capture CO_2 and other particulates
- Transport via pipeline
- Sale & use of CO_2 for enhanced oil recovery
- Sale of other by-products
- Storage site for CO_2 at Aquistore
- Regulation, policy and royalty structures



Performance: Exceeding Standards

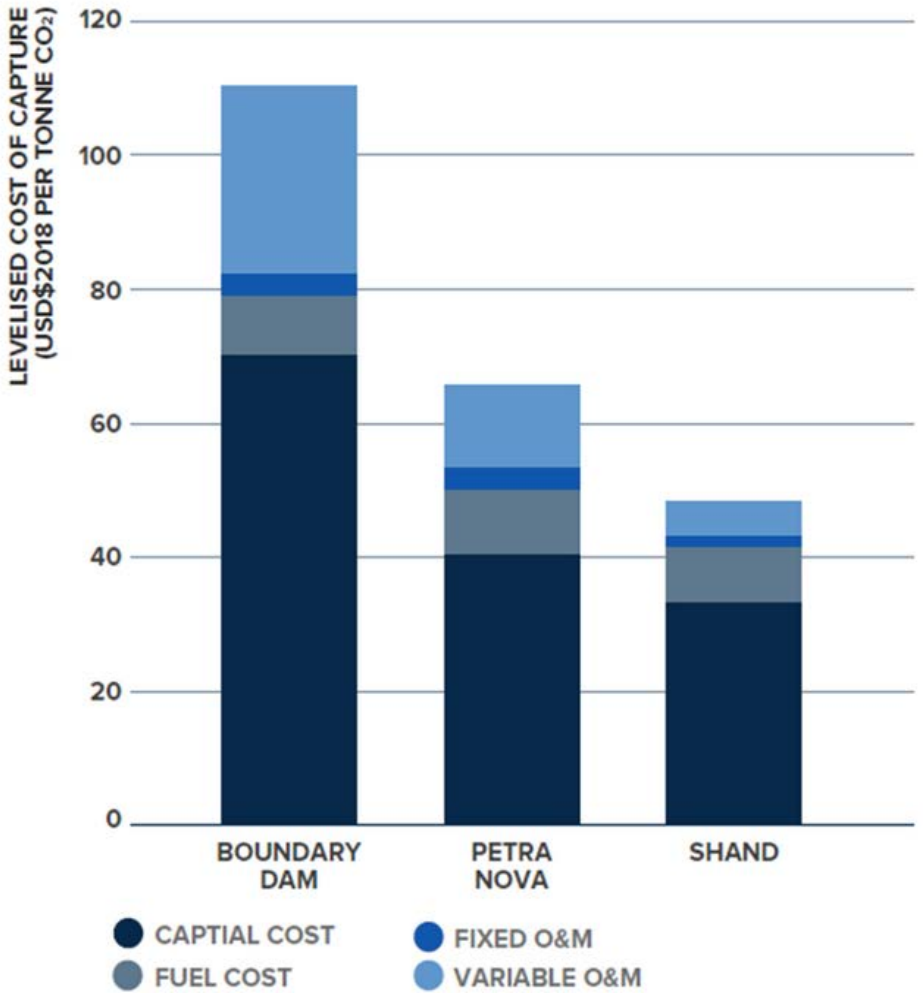


About the Shand Feasibility Study

Key findings of feasibility study evaluates the economics of CCS on a 300MW coal-fired power plant in Saskatchewan

- Projected capture capacity of **2Mt/yr**
- Capital cost to be **67% less** per tonne of CO_2 captured
- Cost of capture at **$45US/t CO_2**
- Capture rate can reach **up to 97%** with reduced load (i.e. renewables on grid)
- Fly ash sales can further reduce CO_2 (potential 125,000t CO_2/yr reduced)

Break Down of Levelized Cost of Capture



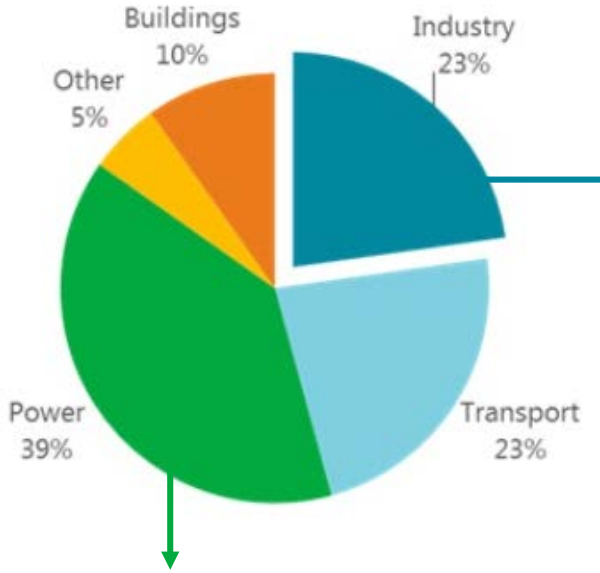
Global Status of CCS Report 2019 - Global CCS Institute

Sectors and CCS emission reductions

CCS technology has been proven and understood, so de-risked deployment can now occur

- CCS is the only technology able to significantly reduce emissions from coal- and gas-fired power plants. (IEA)
- CCS can address emissions from industrial processes, including the production of steel, cement, and chemicals.
- CCS with bioenergy will be needed to deliver future "negative emissions".

CO_2 emissions by sector, 2017



By 2060 we need
- *iron & steel to capture 10Gt;*
- *cement to capture 5Gt ;*
- *chemicals to capture 14Gt*

Power generation CCS is at 2.4Mt/year capacity.
We need 1.5Gt per year by 2040
under IEA's Sustainable Development Scenario

International Energy Agency

Thank You

For more information please visit our website at:

ccsknowledge.com

Contact us by email:

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