



**ACEF Deep Dive – Clean Energy Public-Private Partnerships
A Case Study on Deploying Carbon Capture Technologies**

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**THE INTERNATIONAL
CCS KNOWLEDGE
CENTRE**



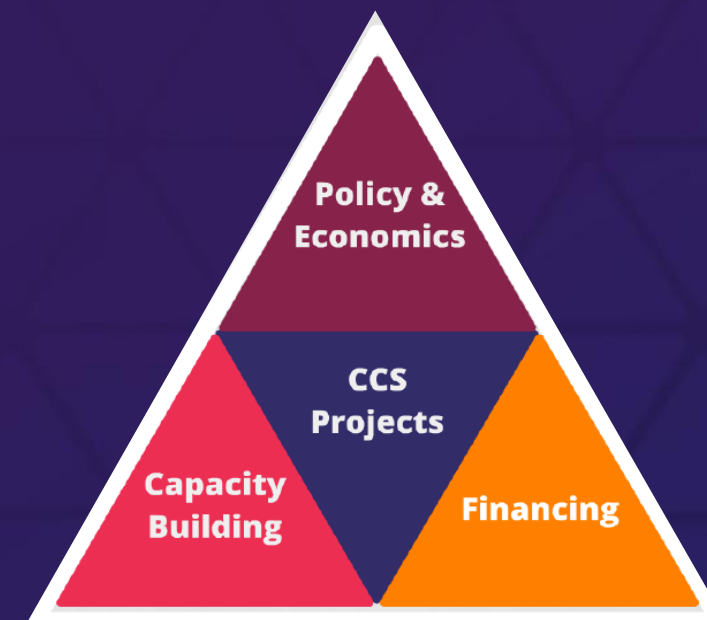
Facilitates in an
advisory role
Based on expertise
and lessons learned

Mandate:

Advance the understanding and use
of CCUS as a means of managing
greenhouse gas emissions

Sponsored jointly by global resource
leader, BHP and CCUS pioneer,
SaskPower

**“Real world” considerations for
using CCS are important.**



An aerial photograph of the Boundary Dam power plant and carbon capture facility. The main building is a large, light-colored structure with "SaskPower Boundary Dam" written on its side. Several tall, red-and-white striped smokestacks are visible. To the left is a large electrical substation with many power lines. The facility is surrounded by green fields and a large body of water in the background. A purple semi-transparent banner is at the bottom of the image.

BOUNDARY DAM

LEARNING STARTS HERE
THE WORLD'S 1ST LARGE SCALE POST-COMBUSTION CCS FACILITY
with over 2 million tonnes captured & stored since 2014

Performance: Exceeding Standards

1100 t/GWh = Lignite Coal Plant

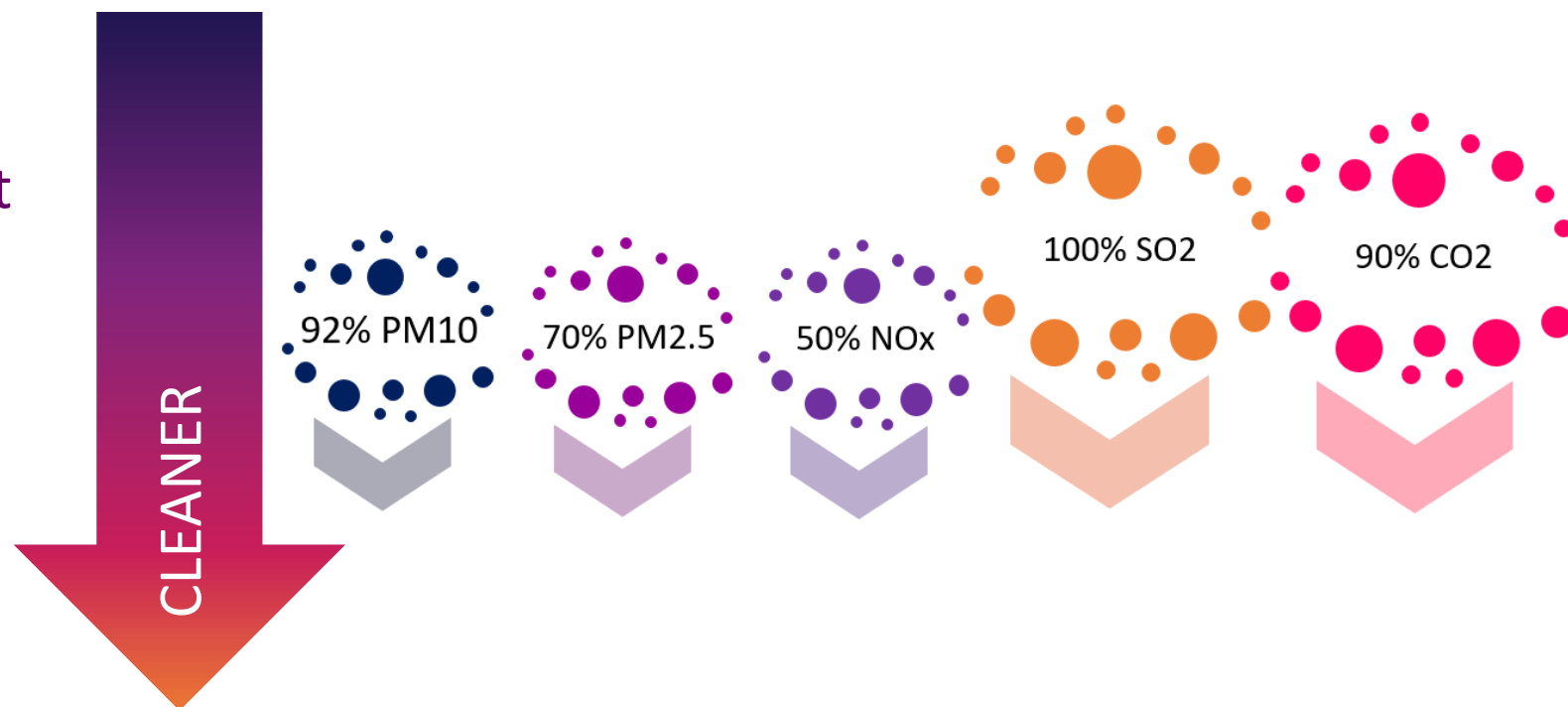
550-500 = Current Natural Gas Plant

420 = Canadian Regulations on Coal

375-400 = New Natural Gas Plant

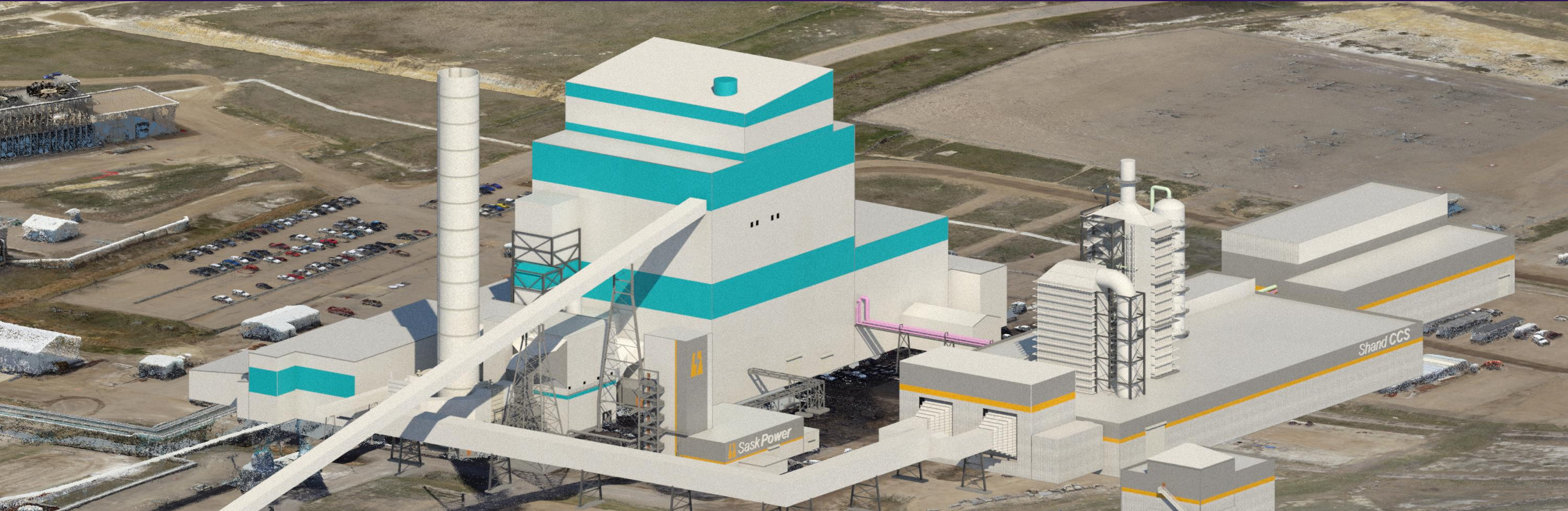
300-325 = Wind (with peakers)

120-140 = CCS on Boundary Dam 3*



SECOND GENERATION DESIGN

SASKPOWER SHAND POWER STATION



HIGHLIGHTS OF FEASIBILITY STUDY:

- Designed to capture 2Mt
- 67% cost reduction (per tonne CO₂)
- Can capture up to 97% and integrates well with renewables

13 countries & the EU (dark purple) list CCS in their NDC



- Bahrain
- China
- Egypt
- Iran
- Iraq
- Japan
- Malawi
- Mexico
- Montenegro
- Norway
- Saudi Arabia
- South Africa
- UAE
- The EU

Transferring Technology - Application to Coal and Other Sources

- IPCC's 5th Assessment Report: median increase in mitigation cost is 138% without CCS
- Almost all IPCC 1.5°C pathway scenarios include CCS

***CCS technology is proven;
so de-risked deployment can occur***

- *Reliable and affordable* energy with reduced emissions are imperative for energy security.
- Implementation of CCS can:
 - allow existing generating assets to operate cleanly and
 - aid to decarbonize industrial emissions

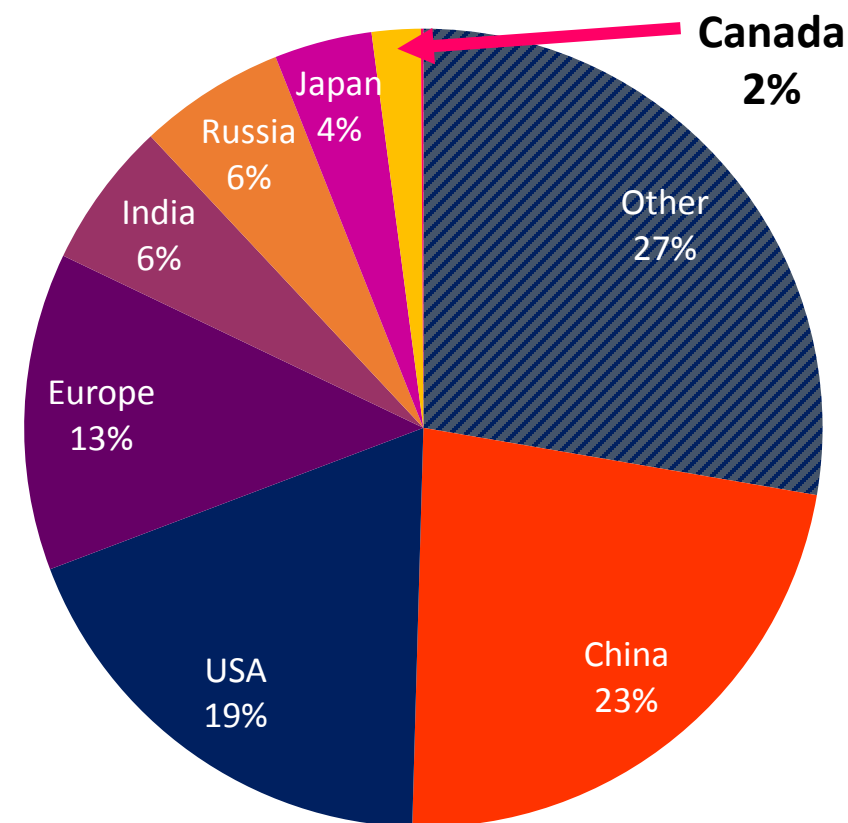
We need EVERYTHING!



Using Existing International Policy

- NDCs focusing on bottom up approaches (country-specific)
- 79% of NDCs in Asia-Pacific identify tech transfer & specific technology needs as priorities
- CCS technology transfers can enhance developed countries' provision to developing countries
 - urgent and adequate finance
 - technology
 - capacity-building support

Global Greenhouse Gas Emissions



Driving Future Opportunities

Cooperative Approaches:

- Multi-stakeholder initiatives are important to drive development
- Government funding goes farther when leveraged with private funding
- Don't reinvent the wheel!

Business Case:

- Account for economic considerations and energy security issues
- Find value in by-products
- Use enhanced oil recovery & align with oil companies where possible

Reduce Administrative Burden:

- Build on existing regulations as much as possible
- Create flexible enforcement regulations

Incentives & Financing:

- Enable support for first-movers
- Create a variety of financial incentives for projects
- Drive policy parity with other clean energy technology (ex. subsidies)
- Multilateral Development Bank involvement is critical for Asia

Thank You



For more information please visit our website at:

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