SASKPOWER CCS

CSLF TECHNOLOGY WORKSHOP

MIKE MONEA – PRESIDENT, CCS INITIATIVES, SASKPOWER

SaskPower
Powering the future®

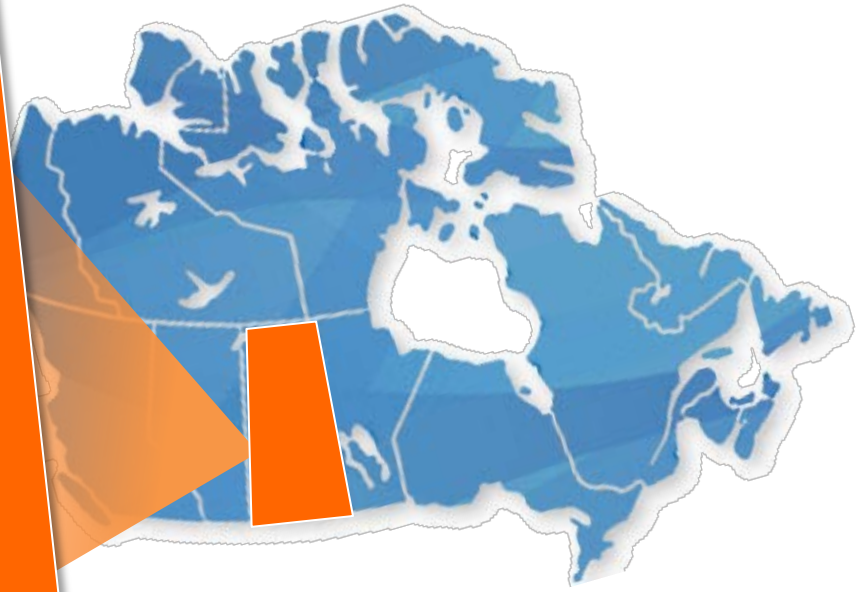
@SaskPowerCCS

WELCOME TO SASKATCHEWAN

511,000
CUSTOMERS

151,000KM OF
TRANSMISSION LINE

4,181 MW AVAILABLE
GENERATING CAPACITY



PORTFOLIO DIVERSIFICATION

COAL
44%

GAS
29%

HYDRO
20%

WIND
3%

OTHER
4%

BOUNDARY DAM
CCS PROJECT


REGULATIONS

COMPARING REGULATIONS

MODIFIED / REFURBISHED COAL UNITS

Kg CO2 / MWh net (less than 2,000 MMBtu/h)	
	
420*	861.8

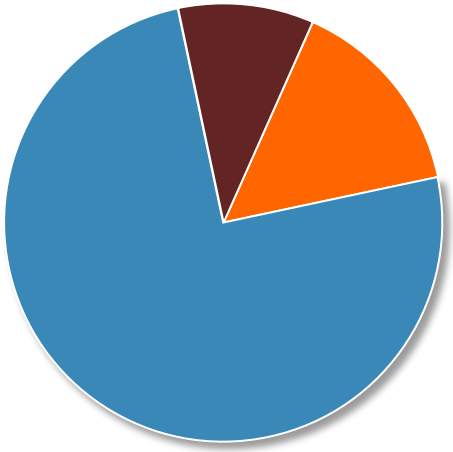
NEW COAL / NATURAL GAS UNITS

Kg CO2 / MWh net	
	
420*	644.5

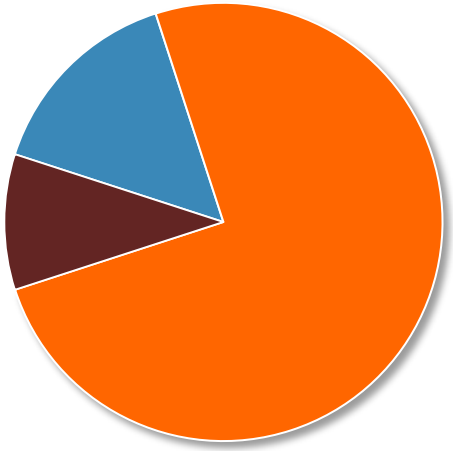
*Conversion based on SaskPower's BD3 unit at 124.6 MW net (after station services, SO2 capture, CO2 capture but before CO2 compression).

COMPARING COSTS

Baseload Natural Gas
Cost of Electricity



BD3 Carbon Capture
Cost of Electricity



Capital Investment

Fuel Expense

O & M

Figures from 2009 - 2010

SECURING OFF-TAKERS

- Sale of CO_2 to oil company for EOR.

- Sale of sulphuric acid, used primarily for industrial purposes including fertilizer.

- Sale of flyash for concrete production 100%.

STORAGE

Pure CO_2 storage with SaskPower's Carbon Storage and Research Centre's host project, Aquistore.


SaskPower
Boundary Dam
LEARNING STARTS HERE.
OUR NEXT PLANT WILL BE
UP TO 30% CHEAPER.

WHAT THE WORLD IS SAYING

"Boundary Dam is one of 10 Energy Breakthroughs in 2014 That Could Change Your Life." **WENDY KOCH, NATIONAL GEOGRAPHIC**

"Carbon capture and storage is a very important technology where not enough investment is taking place." **CHRISTIANA FIGUERES, UNITED NATIONS 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)**

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