

[D e c i s i o n s , O p t i o n s , T i m e l i n e s]

PLANS FOR A SUSTAINABLE POWER FUTURE

Saskatchewan Renewables IPP and
Supplier Information Session
Regina, Saskatchewan
November 17, 2016



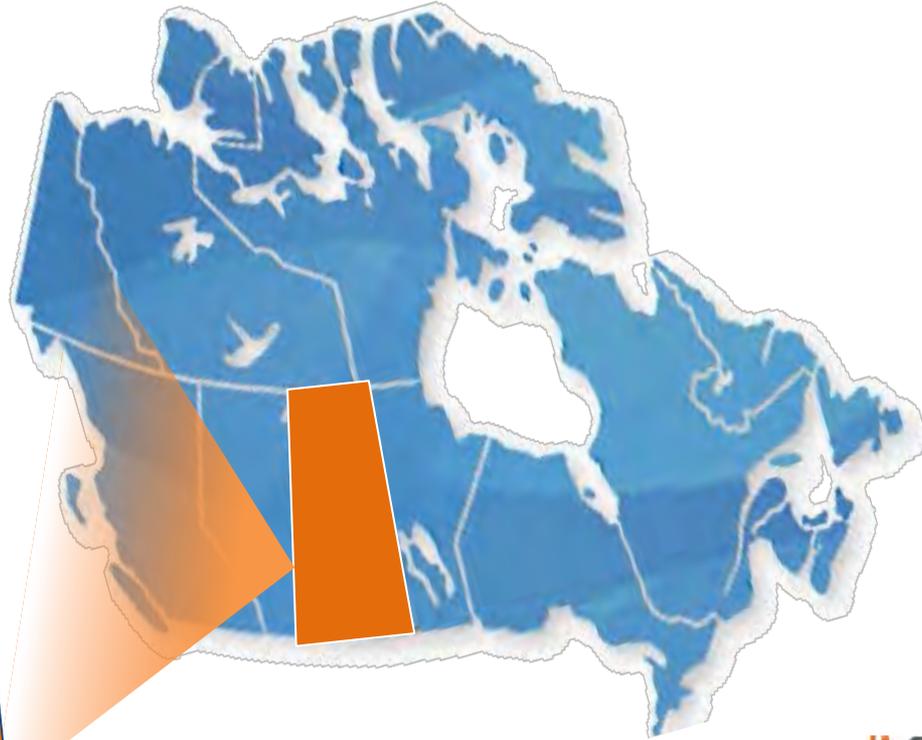
SASKATCHEWAN'S PRIMARY ELECTRICITY SUPPLIER

520,00
CUSTOMERS
(8,000 NEW
IN 2015)

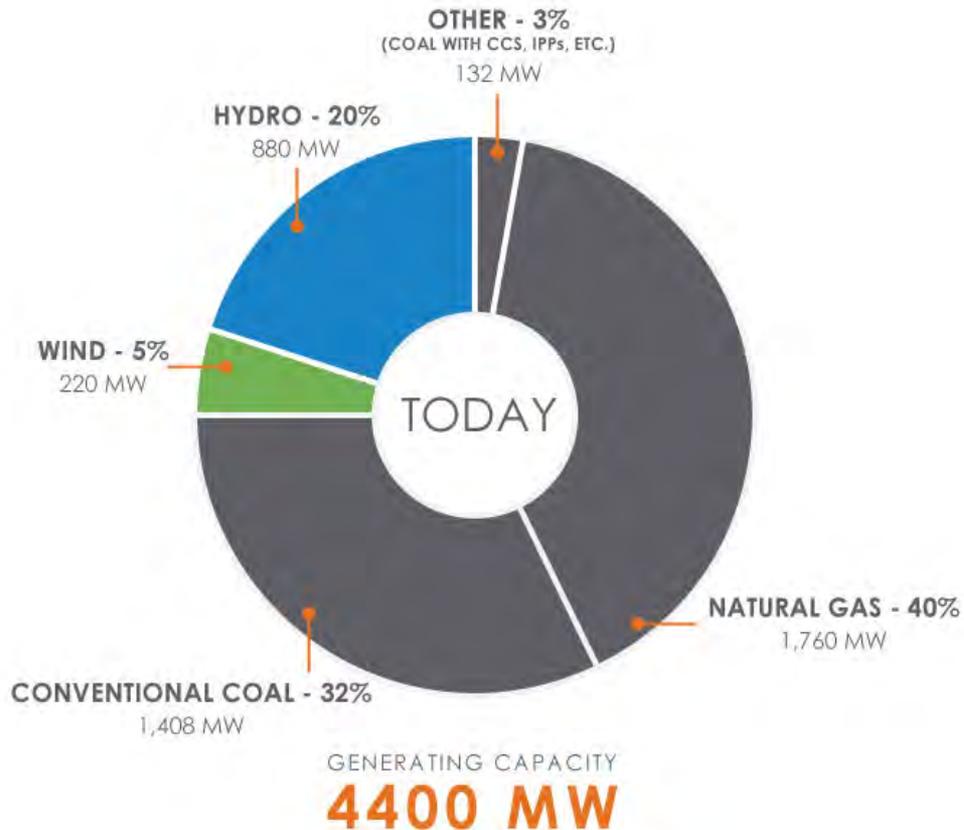
4,400 MW
CAPACITY

3,628 MW
NEW PEAK
LOAD (2016)

156,000 KM
OF POWER
LINES



GENERATING CAPACITY - TODAY



BY 2019, WE'LL NEED TO SUPPLY ENOUGH
ADDITIONAL ELECTRICITY
TO POWER A CITY THE SIZE OF SASKATOON.



Our goal:

40%

reduction in emissions by 2030



Carbon capture and storage (CCS) is one of the options we're considering to help us meet our emissions reduction goal.

2X

the percentage of renewable power by 2030.

We'll add more wind and hydro, introduce utility scale solar and continue to evaluate geothermal and biomass.



Figure 1: Location of the 144 Canadian and 8 U.S. meteorological stations used as sources of insolation data

SOLAR POTENTIAL IN CANADA

- 1 Regway SK, 1384
- 2 Wild Horse AB, 1373
- 3 Waskada MB, 1370
- 4 Rainy River ON, 1265
- 5 Elkford BC, 1236
- 6 Quyon QC, 1208
- 7 Chatham NB, 1168
- 8 Chesterfield Inlet NU, 1158
- 9 Miminegash PE, 1136
- 10 Fort Smith NT, 1126
- 11 Amherst NS, 1125
- 12 Wabush NF, 1074
- 13 Burwash Landing YT, 1056

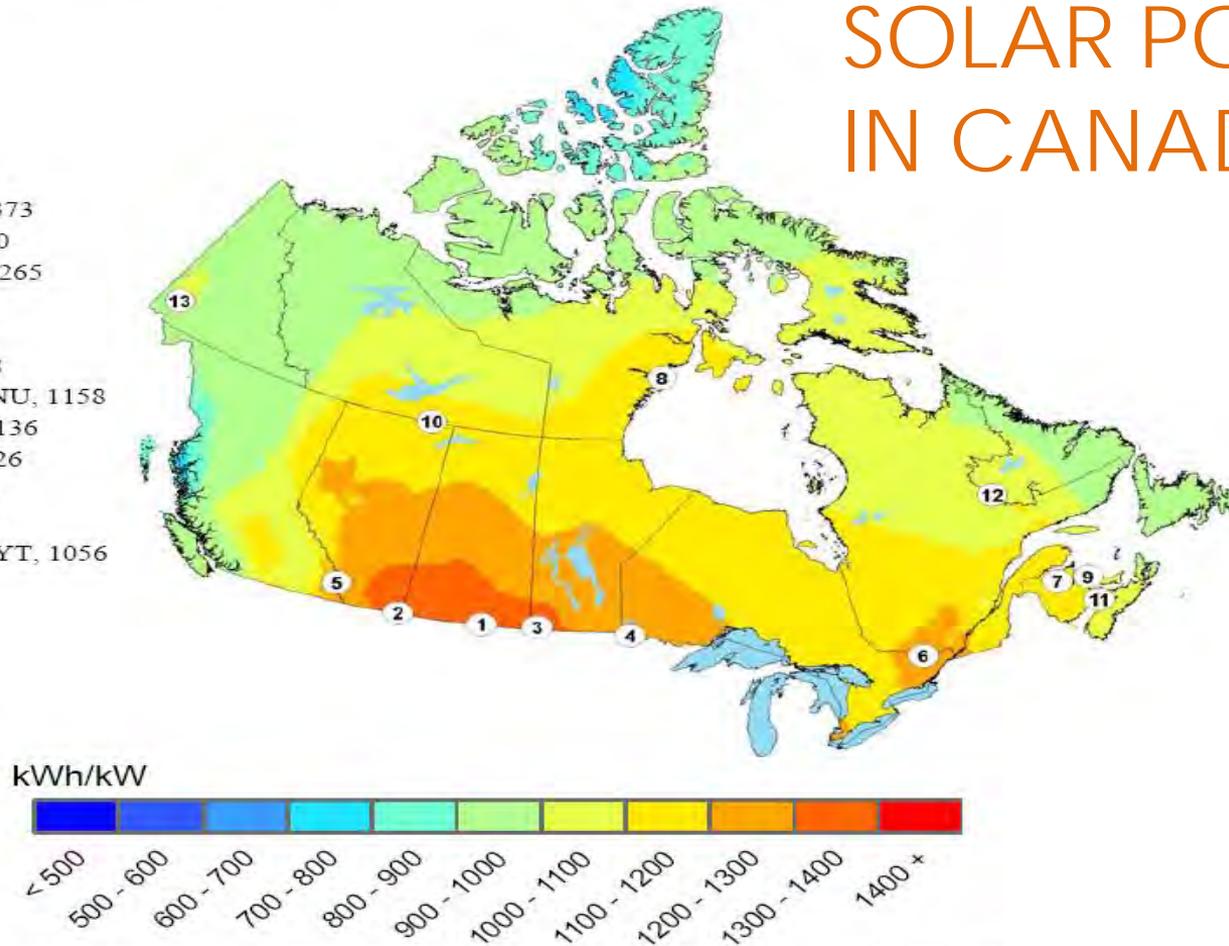


Figure 3: Yearly PV potential map for latitude tilt and the 13 "PV hotspots" in each province and territory in Canada.

NATURAL GAS



NATURAL GAS GENERATES POWER BY BEING BURNED. Simple cycle gas turbines use heat to turn a turbine to create power.

COMBINED CYCLE GAS PLANTS ARE ABOUT 15% MORE EFFICIENT. They use exhaust heat to generate steam that turns a turbine to create power.

RELIABILITY



HIGH

COST RATING



LOW

ENVIRONMENTAL IMPACT



MEDIUM

Produces less than half of the emissions of conventional coal.

[Our Power Mix] GROWING

NOW



30%

Natural gas generation (excluding cogeneration) makes up about 30% of SaskPower's total generating capacity.

FUTURE

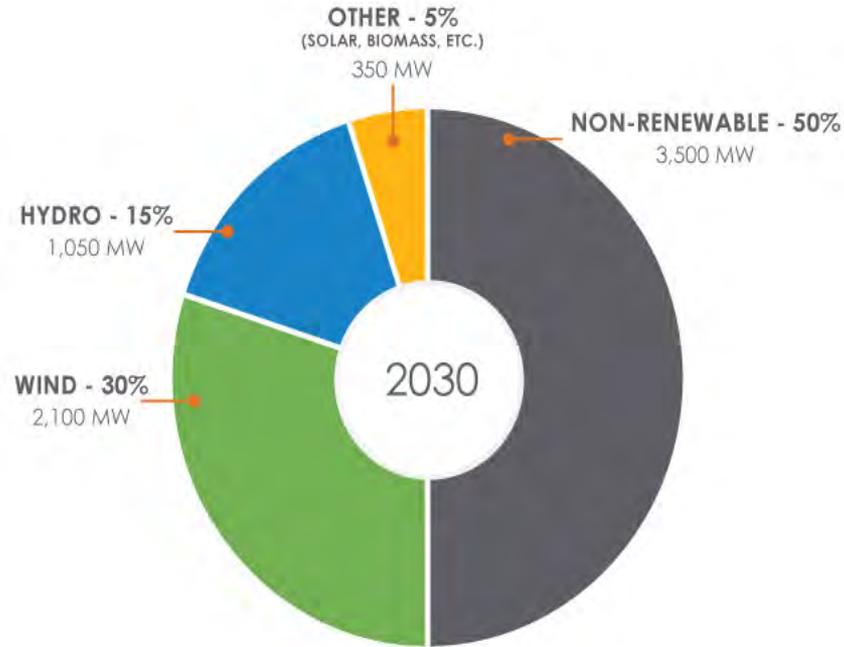


SaskPower is working forward adding a new facility in 2017.

NATURAL GAS HELPS US ADD RENEWABLES

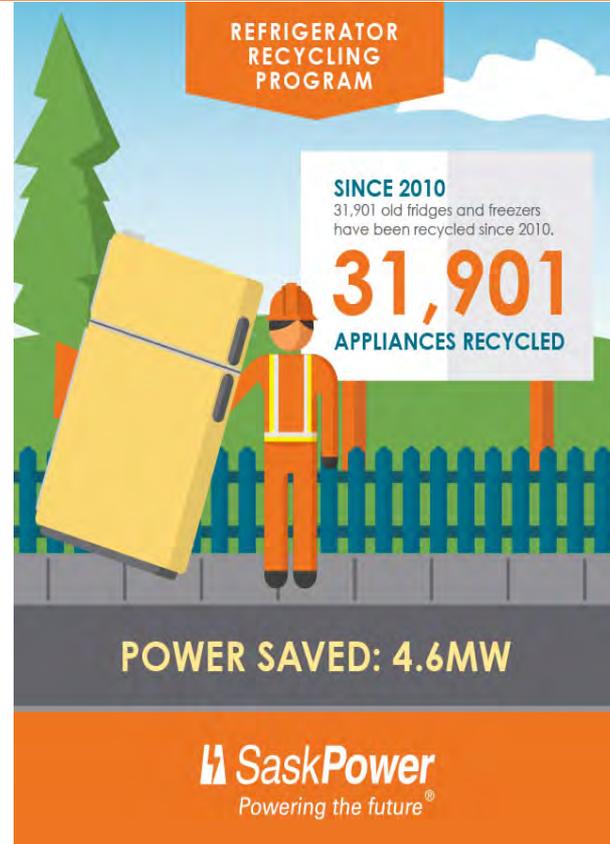
- Lower CO₂ emissions
- Shorter build time (5 yrs)
- Provides ideal back-up to wind/solar

POTENTIAL GENERATING CAPACITY - 2030



GENERATING CAPACITY
7000 MW

ENERGY EFFICIENCY AND CONSERVATION



WE'RE MEETING OUR CHALLENGES

- **Investing** to upgrade the system
- **Evaluating** all options to replace coal without CCS, meet demand and meet our emissions goals
- **Working** with private power producers, communities and First Nations to add more clean power
- **Sharing information** to help our customers understand what we're doing and why

Our goal: reliable, sustainable, cost-effective power

Questions & Discussion