BRINGING SOLAR POWER TO SASKATCHEWAN

October 2016

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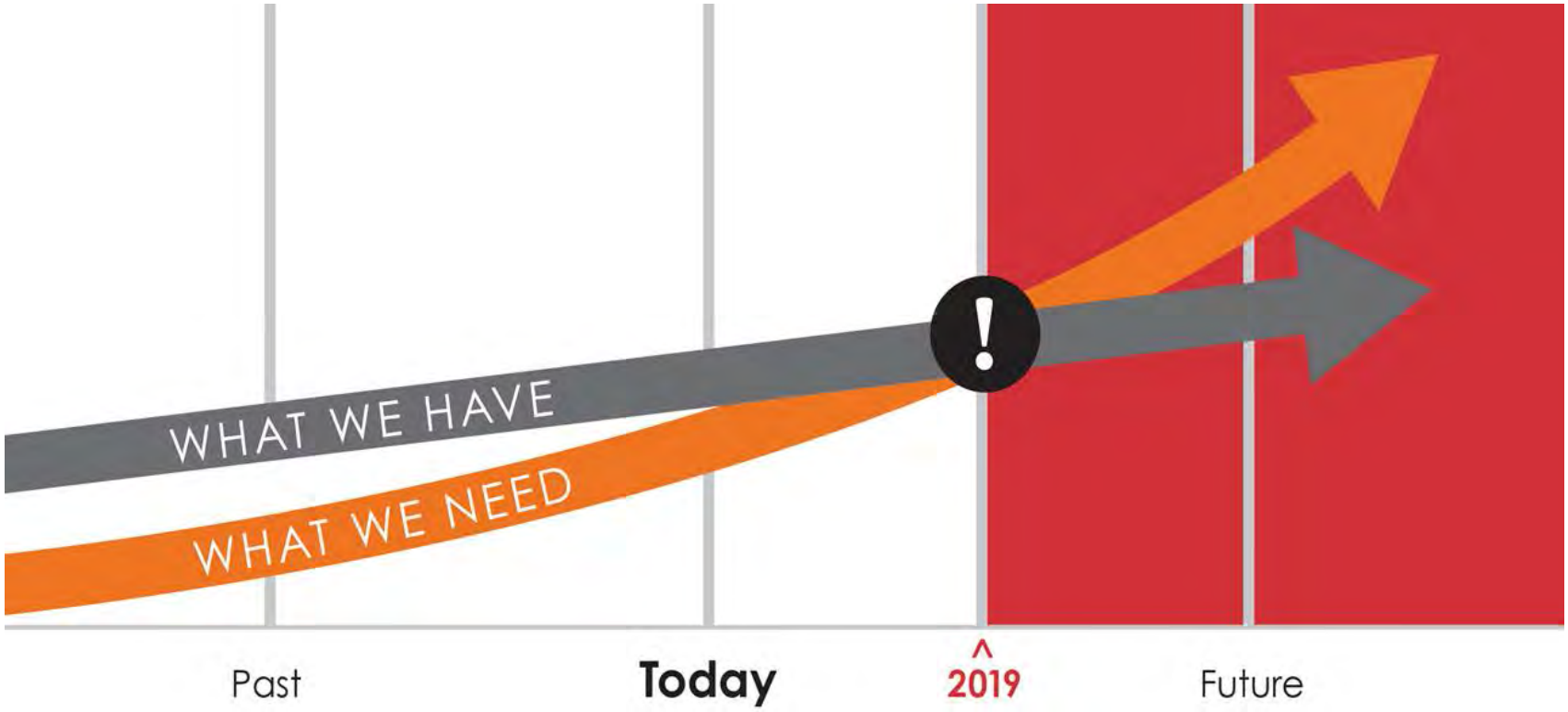
KEY CHALLENGE - PART 1:

INCREASING DEMAND FOR POWER IN SASKATCHEWAN

BY 2019, WE'LL NEED TO SUPPLY ENOUGH

ADDITIONAL ELECTRICITY

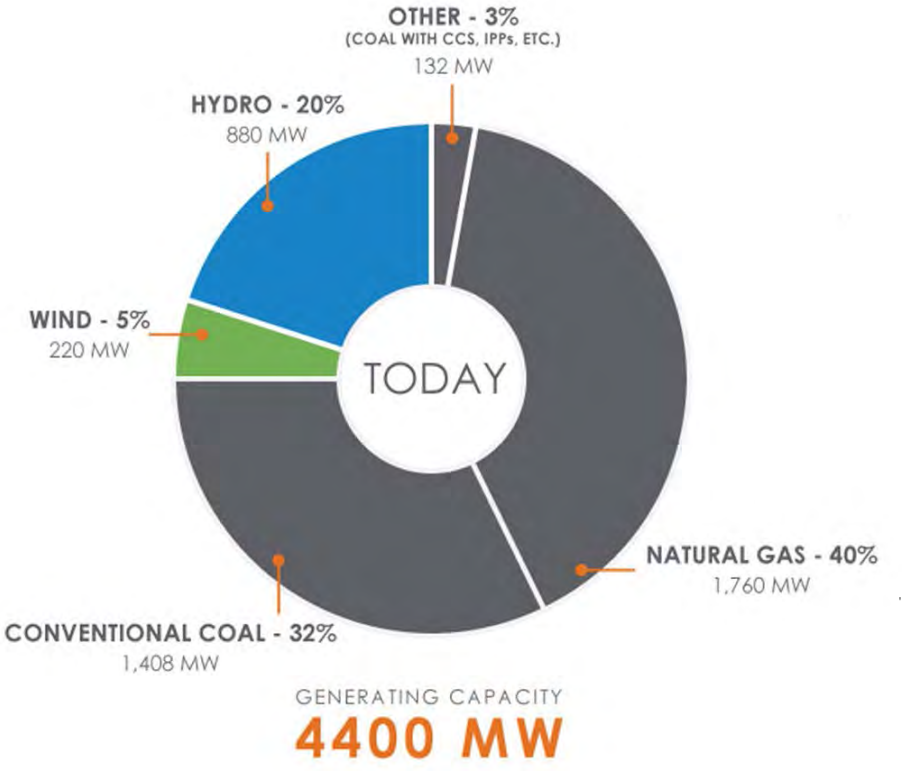
TO POWER A CITY THE SIZE OF SASKATOON

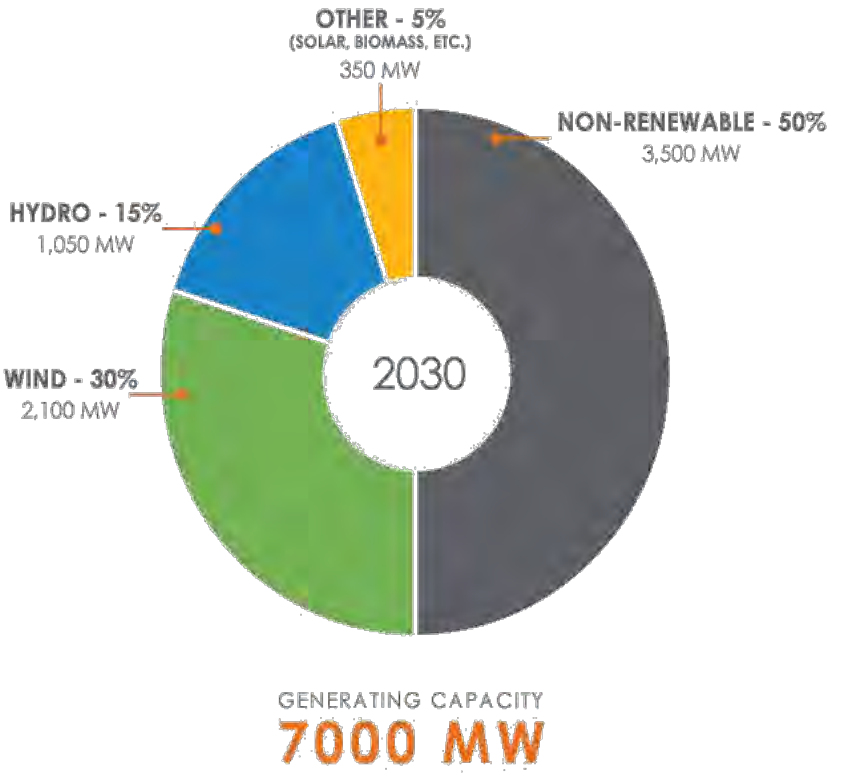


KEY CHALLENGE – PART 2:

EMISSIONS REGULATIONS ELIMINATE ONE OF OUR PRIMARY POWER SOURCES:

CONVENTIONAL COAL WITHOUT CCS





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MEETING THE CHALLENGES

Our goal:

40%

reduction in emissions from 2005 levels by 2030

WE'RE CONSIDERING A RANGE OF OPTIONS:

- Carbon Capture and Storage (CCS)
- Natural gas
- Hydro
- Imports (from Manitoba Hydro)
- Wind
- Solar
- Other

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50% RENEWABLE POWER BY 2030

RENEWABLE OPTIONS INCLUDE:

- Wind
- Hydro
- Solar
- Geothermal
- Biomass

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SOLAR STRATEGY

60 MEGAWATTS (MW) BY 2021

- SaskPower-led procurement (2 X 10 MW)
- Partnership with First Nations Power Authority (FNPA) (2 X 10 MW)
- Community-based projects (20 MW – varying projects sizes)

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60 MW UTILITY-SCALE SOLAR GENERATION BY 2021

SASKPOWER-20 MW

- Competitive RFQ/RFP
- 2 x 10 MW projects
- SaskPower will recommend sites in RFP; Independent Power Producer (IPP) may also suggest their own site
- SaskPower will pay up to a defined maximum to connect IPP to SaskPower grid

FNPA-20 MW

- FNPA defines approach
- 2 x 10 MW projects
- SaskPower will recommend sites however proponents may also suggest their own sites
- SaskPower will pay up to a defined maximum to connect to SaskPower grid

COMMUNITY-20 MW

- Approach to be determined
- Consultation with stakeholders to gather input and determine approach
- Project sizes TBD
- Proponents will propose sites
- Sharing of connection cost will be determined as the Community-based program(s) is developed

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FIRST 10 MW SITE SELECTION CRITERIA

- Optimal solar intensity
- Available infrastructure and capacity
- Low environmental risk
- Low land value
- 200m from an occupied residence

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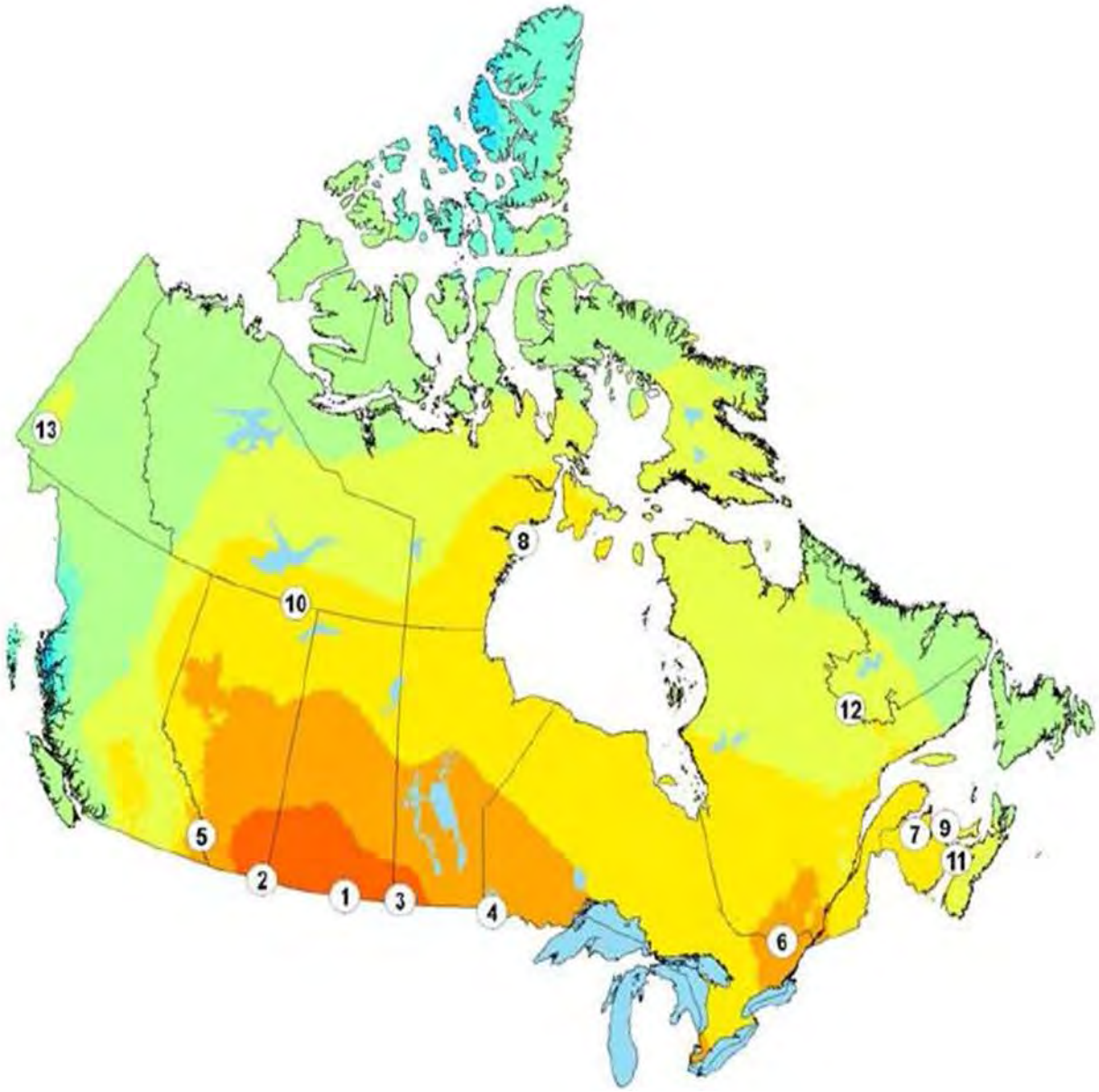
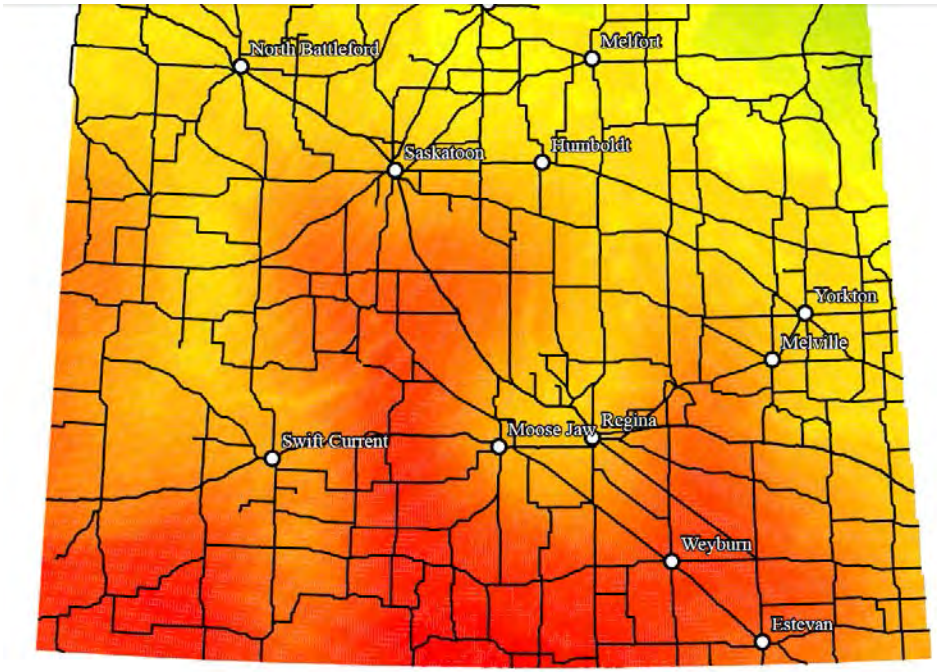
SOLAR POTENTIAL IN CANADA

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

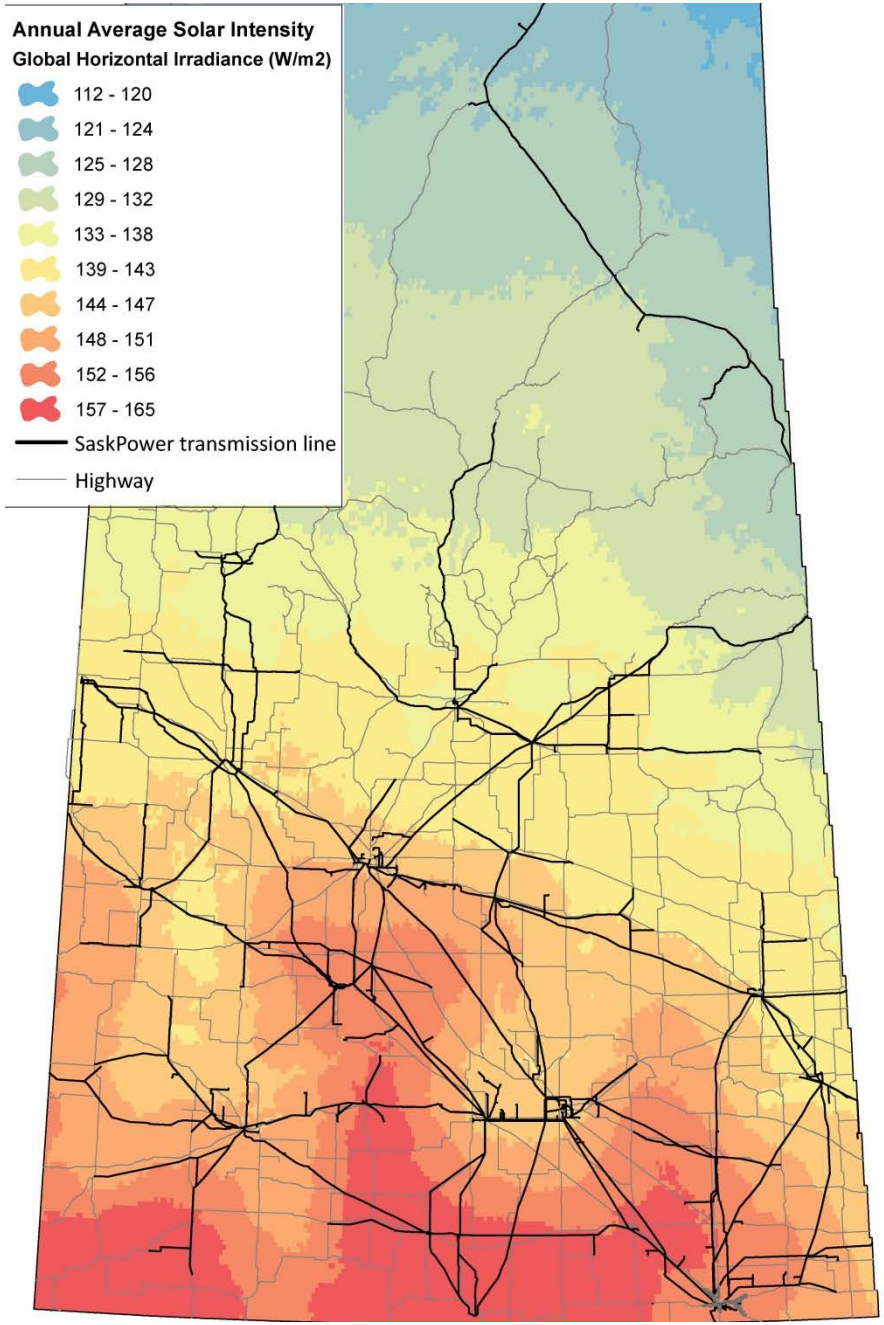


SOURCE: NRCAN

SOLAR POTENTIAL IN SASKATCHEWAN



SOURCE: GIS CENTRE, MAY 2015



SOURCE: Vaisala 3TIER Services Global Solar Dataset

AVAILABLE INFRASTRUCTURE AND CAPACITY

GETTING THE 10 MW TO THE GRID

- SaskPower is looking at potential project sites in the province based on solar intensity combined with available infrastructure that has capacity to connect 10 MW, at a reasonable cost.
- On a 10 MW solar generation project, the cost of connecting the project to the grid is material to project economics.

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ENVIRONMENTAL CRITERIA

ENVIRONMENTAL CRITERIA CONSIDERED:

- Environmentally sensitive lands
- Conservation and/or significant native habitats
- Areas of significance for species of concern

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PROJECT BENEFITS AND IMPACTS

BENEFITS:

- Clean energy in Saskatchewan- no air emissions
- Advancing our knowledge of the technology for future
- Revenue for the RM
- Low maintenance/ operation cost
- Low environmental impact
- Low noise

IMPACTS:

- Intermittent power- resource not available all the time
- Change to landscape
- Higher-cost technology

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FIRST 10 MW – PROJECT SCHEDULE

ACTIVITY	DATE
REQUEST FOR QUALIFICATION	SEPTEMBER 2016
PUBLIC CONSULTATION	OCTOBER 2016
REQUEST FOR PROPOSAL	DECEMBER 2016
PROPONENT SELECTED	Q 3/4 2017
CONSTRUCTION	2017 - 2018
ENERGIZATION TARGET	Q4 2018

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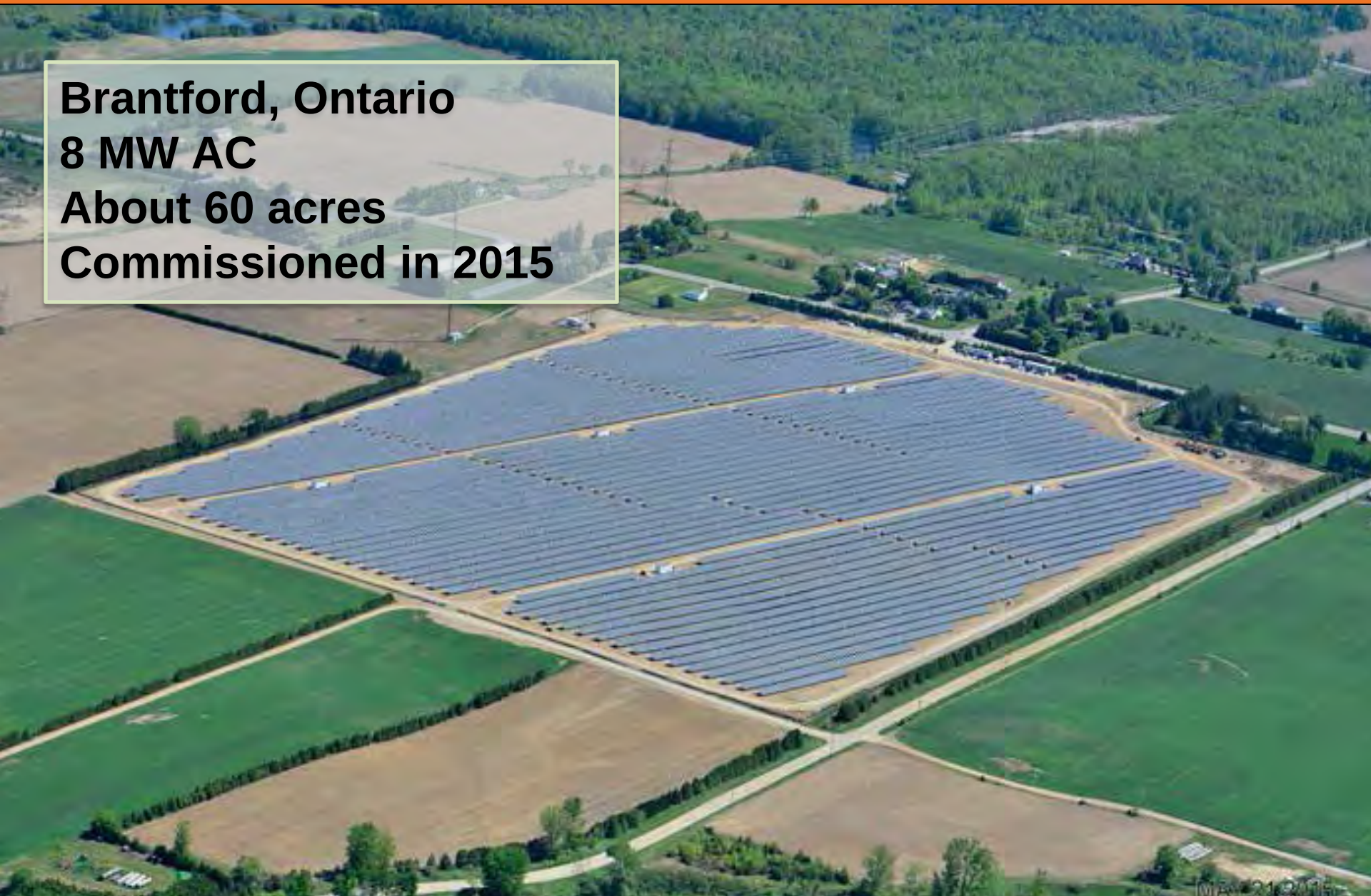
EXAMPLE PROJECT IN CANADA



EXAMPLE PROJECT IN CANADA

Brantgate – Brantford, ON

O&M Building

Panel Backs – plug and play connection

EXAMPLE PROJECT IN CANADA

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FIRST 10 MW – PUBLIC EVENTS

MORSE /RUSH LAKE OPEN HOUSE

LOCATION
Community Hall
Main Street, Morse, SK

DATE
Wednesday October 19, 2016

TIME
12:00 pm to 7:00 pm

ESTEVAN OPEN HOUSE

LOCATION
Energy Training Institute
Bourquin Road, Estevan, SK

DATE
Thursday October 20, 2016

TIME
12:00 pm to 7:00 pm

If you have questions and comments please contact:
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