#### **First Nations Electricity Report** An Energy Literacy Tool to Support Meaningful Participation

Judith Lipp September 2016



## **Presentation Overview**

- Report objectives
- Acknowledgements
- Context
- Review of content
- o FN energy map
- Challenges to consider *learning*
- Considerations for next steps

Youth from Kettle & Stony Point FN learning to install solar PV



# **Report Objectives**

- Knowledge is power and the key to meaningful participation
- First Nations have inherent knowledge of their community and the land
- By compiling information about the energy sector as it relates to First Nations, we are aiming to support the integration of different ways of knowing



Mother Earth Renewable Energy Project, M'Chigeeng First Nation

# **Report Objectives**

- Serve as an energy literacy tool
- Provide a foundation to help navigate a complex sector
- Begin a conversation about what else is needed

Six Nations' 500kW solar project at Oneida Business Park



# Audience for the report

- Chiefs
- Band Council members
- Technical officers
- Tribal Councils
- Community members
- Energy industry partners

## Acknowledgements

We would like to thank the following people for their invaluable contributions to this report:

- Francis Gallo and Dawn Lambe from the Biomas's North Development
  Centre
- Stu Finn from the Shibogama First Nations Council
- Tabatha Bull, Jeffrey Schnuerer and their team at the IESO
- Bob Shine, Ralph Falcioni and Una O'Reilly from Hydro One Remotes Inc.
- Ian Jacobsen from Hydro One Inc.
- Cherie Brant from Dickinson Wright
- Paul Norris from the Ontario Waterpower Association
- Four graduate students from University of Toronto and York: Sarah Bale, Maha Mansoor, Michael Bakaic and Jennifer Taylor

# And a big thanks to...

- The COO Team: Kathleen Padulo , Rod Whitlow & Sally Gaikezheyongai
- Co-authors: Anne-Laure Bouvier & Jason Latremoille from TREC
- Reviewers: Grant Taibossigai from M'Chigeeng First Nation & Atiya Jaffar, a research consultant and climate justice advocate



Alderville First Nation solar farm

#### **Report Contents**

- Overview of the Ontario electricity system, including
  - Different sources of power used
  - Electricity distribution considerations
  - Remote community connection issues
  - End-uses
- Explanation of actors involved in energy decision-making
- Breakdown of electricity costs on bills
- FN involvement in project development
- Programs, funds and partnerships opportunities
- Challenges and future considerations

### Context

- Ontario Long Term Energy Plan, spring 2013
  In June 2013, all Ontario Chiefs passed resolution 13/25, which requested that the Long-Term Energy Plan be formally reviewed.
- Workshops with FN communities discussed:
  - high electricity costs, opposition to the expansion of nuclear, better FIT program processes, Aboriginal set asides, transmission lines across Traditional territories, greater environmental protection.
- Growing participation of First Nations in energy projects

#### **Ontario Government Commitments** Long Term Energy Plan 2013

- Decrease electricity costs by removing the debt retirement charge (effective Jan 1, 2016)
- Support energy conservation
- Expand RE capacity to 10,800 MW with existing hydro = 50% of capacity
- Prioritize connection of remote communities to the grid
- Funding for Aboriginal participation in RE generation and transmission projects
- Maintain nuclear generation at 50% capacity
- New LTEP under development in 2016

# FN Energy Opportunities / Challenges

- Community energy planning
- Renewable energy developments (RE policy)
- Partnership requests and considerations
- Remote electrification & diesel reliance
- Transmission projects
- Economic development and self-reliance
- Employment and training



M'Chigeeng First Nation Wind Farm

#### **Ontario's Electricity System**

The challenge of managing the electricity system begins with balancing just enough supply of electricity with the need for it on a minute by minute basis. There are many moving parts to the electricity system, all of which need to be carefully coordinated for the system to work.

Ontario is committed to conservation and building strong communities, powered by clean, reliable and affordable electricity.



#### GENERATION

The province has many generators who use diverse and complementary sources of energy to provide reliable and affordable electricity. These sources are nuclear, hydro, natural gas, wind, solar and bioenergy.



#### CONSERVATION

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Ontario has enough electricity to meet its needs, however consumers are encouraged to help reduce the demand for electricity through conservation. This helps to avoid the need for significant investment in new electricity infrastructure.

#### TRANSMISSION

Ontario's five transmission companies move electricity at high voltages over long distances, from generation sites to local distribution companies and consumers.



#### DISTRIBUTION

Local distribution companies own and operate the distribution networks that take electricity from the transmission system or other local sources of generation and deliver it to consumers.

#### CONSUMERS

The role of consumers in the electricity system is changing. Consumers can actively manage their own electricity use and save on their electricity bills. They are able to shift their electricity use to periods of lower prices, adopt new technologies to use electricity more efficiently and even install technology that allows them to generate their own electricity.

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Power generation (2015)





#### First Nations RE Trends

 More than 500 FIT contracts awarded to projects involving or led by First Nations and Métis proponents (over 800 MW).

Distribution of FIT contracts to date (MW)





### First Nations RE Trends (the nos.)

	То	tal	Aborigina	l Projects	Non-Aboriginal projects (including co-ops)		
	Number of Contracts	Capacity (MW)	Number of Contracts	Capacity (MW)	Number of Contracts	Capacity (MW)	
Bio-energy	66	64.4	0	0	66	64.4	
Hydroelectricity	34	124.2	12	79.8	22	44.4	
Solar	3020	1478.8	483	137.3	2537	1341.5	
Wind	62	2,960.40	9	599	53	2361.4	
TOTALS	3,182	4,628	504	816.1	2678	3811.7	

## **First Nations RE Projects**



Bow Lake Wind Farm, Batchewana First Nation

#### Announcements on LRP

- Large Renewable Procurement (LRP) = projects >500 kW
- Competitive bidding process selected on price and other factors
- 106 applications only 16 contracts offered for 455 MW of renewable energy capacity.
  - 5 wind contracts (300 MW)
  - o 7 solar contracts (140 MW)
  - 4 hydroelectric contracts (15.5 MW)
- 13 projects (336.8 MW) include participation from one or more Aboriginal communities,
- Five projects have more than 50 percent Aboriginal participation.
- An LRP II to be called in 2017 review in progress

# Community energy planning

- A community energy plan is a comprehensive longterm plan to improve energy efficiency, reduce electricity consumption and assess opportunities for renewable energy solutions.
- Funding available from ISEO 2 streams
- $\,\circ\,$  90 Indigenous communities have been funded



#### Community energy planning: upcoming funding windows

2016 ACEP Evaluation Schedule							
	Submit By: Proposals submitted after this date will be reviewed at the next Proposal Review Meeting	Proposal Review Meeting Week of:					
Spring	March 4	April 11 – April 15					
Summer	June 3	July 11 – July 15					
Fall	October 7	November 14 - 18					

## **Transmission & distribution**



## **On-grid vs. Off-grid**



# **Off-grid Challenges**

- Diesel dependency, since most generators only run on diesel fuel;
- Environmental and health impacts of diesel generation:
  - o poor air quality from emissions
  - o soil and water contamination from spills and leaks
- Load restrictions due to system limitations, resulting in:
  - Sub-standard living conditions and limited opportunity for modernising homes due to restrictions in electricity available
  - Curtailed economic development as power supply restrictions limit the types of businesses that can operate;
  - Lack of modern infrastructure (schools, hospitals etc.) because of the lack of power available.
- High cost of power (distribution charges)





- 1. Whiteshell Laboratories, Manitoba
- 2. Bruce Nuclear Generating Station, Ontario
- 3. Pickering Nuclear Generating Station, Ontario
- 4. Darlington Nuclear Generating Station, Ontario
- 5. Chalk River Laboratories, Ontario
- Gentilly Nuclear Generating Station, Quebec
- Point Lepreau Nuclear Generating Station, New Brunswick

## **Electricity end-uses (consumption)**





# Energy-related funds available

Conservation		Generation		Remote connection		Financing / Financial support	
٠	Aboriginal	•	Feed-In Tariff (FIT	٠	Aboriginal	•	Aboriginal Loan
•	Conservation program Aboriginal Community Energy Plan	•	program) Aboriginal Energy Partnership program	•	Transmission Fund Remote Electrification Readiness Program	•	Guarantee Program Low-Income Energy Assistance Program



#### Aboriginal Power Map - http://peoplepowerplanet.ca/aboriginal-power/

ontario-aboriginal-power-map/



### Considerations

- The uncertain future of renewable energy development in Ontario
- Considerations related to remote electrification
- O Understanding timelines, assessing risks and managing expectations
- Protecting the environment
- Balancing competing priorities
- Capacity of First Nations to partake in renewable energy projects

#### Latest considerations

- Ontario Climate Change Action Plan and Cap and Trade rules – what does this mean for First Nations?
- Long Term Energy Plan under development public engagement through Fall 2016 – how to have meaningful participation
- Sale of Hydro One
- New federal government programs

#### Next Steps Post Report

 Workshop series to gather community input to understand direct experiences & priorities
 Develop specific tools to address priority areas

 Facilitate a forum for exchange of experiences, networking

# **Thank you!**

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