

NextEra Energy Canada welcomes you to tonight's event.

#### We are here to:

Provide information about NextEra Energy Canada

#### Describe the projects

Provide you with information on the Renewable Energy Approvals process



- Listen to your concerns and answer your questions
- A Present the proposed Wind Energy Centre layout
- A Receive your comments about the project and study results
- Make the draft REA reports and studies available to you



# A Leader in Clean Energy

NextEra Energy Canada is an indirect, wholly-owned subsidiary of NextEra Energy Resources. NextEra Energy Resources, LLC is the largest generator of wind energy in North America.

NextEra Energy Canada

NextEra Energy Canada is a leading renewable energy developer in Canada focused on developing electricity derived from clean, renewable sources. Our Canadian operations are headquartered in Burlington, Ontario. We are the owner and operator of four wind energy projects and two solar energy projects in the following provinces:

- A Quebec: Mount Copper and Mount Miller Wind Energy Centres
- Nova Scotia: Pubnico Point Wind Energy Centre
- Alberta: Ghost Pine Wind Energy Centre
- A Ontario: Sombra and Moore Solar Energy Centres

NextEra Energy Canada is currently working toward approval of six wind energy centres in Ontario. We currently have two projects that received Renewable Energy Approval (REA).

### NextEra Energy Resources

We are:

- The operator of 90 wind projects in 18 states and three provinces with nearly 9,000 wind turbines providing over 8,700 megawatts of generation
- The second largest global generator of renewable energy
- The largest generator of both wind and solar power in North America operating wind energy facilities for over 23 years

# Did you know that NextEra Energy Resources...

- ▲ Began developing renewable energy projects in 1989?
- ▲ Has approximately 4,500 employees in North America?
- ▲ Generates approximately 95% of its electricity from clean or renewable sources?



Why is Southwestern Ontario considered a great choice for wind energy?

Wind developers favour Southwestern

#### Ontario for two main reasons:

- 1. Strong and consistent wind levels, particularly around the Great Lakes
- 2. Available and adjacent electricity transmission
  - Wind data has been collected in the Project Study Area since 2007 measuring wind speeds at heights of 30 metres (98 feet), 40 metres (131 feet), and 50 metres (164 feet)
  - Wind speeds are viable for commercial wind energy generation

The region is well served by existing and planned transmission lines (such as Hydro One's Bruce to Milton line) that have available capacity to receive the electricity generated by the project





#### Benefits of Wind Power

**Environmental Compatibility** 

- Creates no air or water pollution
- Minimal greenhouse gas emissions
- Efficient and reliable



- Allows land to remain in agricultural use
- Does not use water in power generation
- Low environmental impact
- ▲ Free, renewable energy source

Local Economic Benefits

- Provides new employment opportunities
- Adds tax base to the local municipalities
- Supports the economy through purchases of regional goods and services
- ▲ 8-10 full time jobs
- ▲ 200-300 construction jobs
- Delivers landowner lease payments Community Vibrancy Funds to support local initiatives

Over the next 20 years, we estimate the project will contribute:

- ▲ \$121million in corporate income tax ▲ \$8 million in property tax revenue to North Middlesex and Middlesex County
- ▲ \$15 million in landowner payments

Price Stability

Decentralizes power production

- ▲ No fuel cost
- Helps stabilize the cost of power
- Electricity produced domestically



# Ontario's Renewable Energy Approval Process

- The Renewable Energy Approval (REA) process, outlined in Ontario Regulation 359/09, is a requirement for large wind power projects under Ontario's Green Energy Act
- NextEra Energy Canada will submit a Renewable Energy Approval application to the Ontario Ministry of the Environment (MOE) for each project
- The MOE will assess the application for completeness and then undertake a technical review to determine whether to issue an approval
- Other agencies, including the Ministry of Natural Resources (MNR), the Ministry of Transportation (MTO), the Ministry of Tourism, Culture and Sport (MTCS) and local conservation authorities and municipalities will provide input

### Reports included in application:

- Project Description Report to provide an overview of the project and a summary of all the required REA reports
- Archaeology and Cultural Heritage Assessment Reports to identify potential effects on archaeological or cultural heritage resources
- Natural Heritage Assessment Report to identify potential effects on birds, bats, other wildlife, woodlands, wetlands, areas of natural and scientific interest, etc.
- Noise Study Report to ensure the project is in compliance with noise regulations
- Water Body and Water Assessment Report to identify potential effects on streams, seepage areas and lakes
- Construction Plan, Design and Operation, Decommissioning Reports to describe these activities and identify any potential effects resulting from the various project phases
- Consultation Report to demonstrate how NextEra Energy Canada engaged local and Aboriginal governments, as well as the public, during the project
- Wind Turbine Specifications to describe the turbine technology selected for the project



## Renewable Energy in Ontario

The Green Energy and Green Economy Act

 Developed to stimulate the "green" economy in Ontario and create up to 50,000 jobs

### Key Components:



- Provincial obligation to purchase green energy
- Priority grid access for renewable energy projects
- Long-term fixed-price power contracts
- Coordinated regulatory and approvals process

# Provincial Green Energy Initiatives and the Feed-in-Tariff Program:

# • Feed-in-Tariff (FIT) Program, launched by the Ontario Power Authority, is North America's first comprehensive guaranteed pricing structure for renewable electricity production

• The FIT Program offers stable prices and long-term contracts to green energy projects that encourage investment in renewable energy and economic development across the Province

- NextEra Energy Canada had six projects that were awarded FIT contracts on July 4, 2011:
  - Adelaide Wind Energy Centre
  - Bluewater Wind Energy Centre
  - Bornish Wind Energy Centre
  - East Durham Wind Energy Centre
  - Goshen Wind Energy Centre
  - Jericho Wind Energy Centre

We have two additional projects (Conestogo and Summerhaven Wind Energy Centres) which have been awarded a FIT contract by the Ontario Power Authority and have received the Renewable Energy Approval.



# Renewable Energy Approval Process

**Conduct Preliminary Desktop Analysis** 









### The Bornish Project

- The proposed Bornish Wind Energy Centre is planned to be located in the Municipality of North Middlesex, Middlesex County, Ontario
- Project components will be installed on privately-owned agricultural lots
- The project will have a maximum name plate capacity of 72.9 megawatts of electricity which will generate enough energy to power approximately 21,870 homes

Project infrastructure will include:

- ▲ 45, 1.6 megawatt GE turbines, though 48 turbine locations will be permitted
- Laydown and storage areas (including temporary staging areas) for construction equipment and supplies
- A substation located on site and a 115 kV transmission line to connect to the Hydro One transmission system
- The proposed transmission line will travel east along Elginfield and Nairn Roads, connecting to the Hydro One transmission system
- Underground electrical collection lines (located on private lands and municipal right of ways) to connect the turbines to the transformer substation
- Turbine access for road construction and maintenance
- An operations and maintenance building





#### Your Concerns... Our Response

Q: What is stray voltage?

A: Stray voltage results from the normal delivery and/or use of electricity - usually smaller than 10 volts - that may be present between two conductive surfaces. Stray voltage is related to power system faults and is generally not considered hazardous.

#### Q: Do wind turbines cause stray voltage?

A: No. Wind energy has been incorrectly associated with stray voltage because wind turbines are often installed in agricultural areas. Stray voltage is not a consequence of wind energy but rather changes in the use pattern of the existing electrical system.

Wind turbines are not the root of the problem, but the addition of this or any other generation source may expose faults in that system. All types of generation, including wind generation, must fully comply with utility requirements to ensure that the electricity they supply is compliant with grid standards.

Stray voltage problems require on-site inspection to avoid grounding problems and to examine power quality issues with the distribution utility.

Q: What is being done to minimize stray voltage across these transmission lines?

A: NextEra Energy Canada will adopt industry best practices at all times to minimize the risk of stray voltage and ensure our projects are built and maintained within acceptable levels as prescribed by the local safety code.

While NextEra Energy Canada does not intend to connect Wind Energy Centres to the local distribution system that serves barns and houses in the area, we are aware that transmission lines in close proximity to local distribution lines can induce current on the distribution lines if not designed properly. To address this, we are already working closely with Hydro One to minimize the impact on local distribution customers.

Q: What effects will there be on wildlife? (e.g. birds, bats etc)

A: When properly sited, wind turbines present less of a danger to wildlife than other structures such as buildings and roads. Turbines will be located as carefully as possible to minimize any effects on wildlife. NextEra Energy Canada will work closely with the relevant experts to assess any potential effects on wildlife, including birds and bats.



### Your Concerns... Our Response

Q: Why not use an open concept meeting approach where all attending can hear the presentation as well as the questions and answers?

A: It is our experience that meetings structured in an Open House format are the most effective way to communicate a large amount of information to members of the community. This provides local stakeholders with an opportunity to speak face-to-face, with project staff and to ask questions that are within their areas of expertise. In addition, we understand that not all members of the public are comfortable asking questions in front of a large audience; as such, we have found that one-on-one discussions are an effective tool to encourage active participation.

There are many subject matter experts involved in the planning, design, engineering, construction, permitting and development of a wind energy project. Should one project representative be unable to address a specific question, the can draw on the expertise of another representative at the meeting. It is NextEra's priority to provide accurate information to all attendees at the meeting.

Q: What risks are there to my health from turbines?

A: There is little credible evidence to support any links between wind turbines and adverse effects on

human health either related to noise or shadow flicker. NextEra will have a Complaint Resolution Process in place to address any concerns related to the project that may arise.

Q: I am concerned about the effect on the value of my property.

A: Based on available research, we are not aware of any credible evidence to indicate a decline in property values from the siting of a wind farm.

Q: I have concerns about the impact on the landscape from the turbines.

A: The visual impact of any development is highly subjective. Through our consultation we will present visualizations of our proposed development for public comment and feedback that may result in changes that would make the development more visually appealing.

For a complete list of comments and questions from the public, please visit the Frequently Asked Questions sections on our website. We will also publish concerns and inquiries in the public consultation report, which will be filed with the REA documents and posted on our website.





### Aboriginal Consultation

- Canada's Constitution Act, 1982, recognizes the rights of Aboriginal peoples (First Nation, Inuit and Métis)
- Ontario Regulation 359/09 has specific requirements for Aboriginal consultation
- Ontario Power Authority's Feed in Tariff program reinforces the importance of Aboriginal consultation
- Project proponents are delegated the "procedural aspects" of Aboriginal consultation
- Aboriginal consultation may include environmental, archaeological, cultural and spiritual issues
- NextEra Energy Canada is working closely with Aboriginal communities and leadership as required by law and good practice to:
  - Offer meaningful information about its projects
  - Seek information that helps ensure good planning to avoid or minimize impacts
  - ▲ Openly discuss issues, interests and concerns
  - Seek workable and mutually

acceptable solutions Foster relationships of mutual respect



### Turbine Siting Process

Developing a Site Plan

The following steps outline the process of developing a project site plan:

- 1. Identify a sufficient wind resource and study the wind characteristic for several consecutive years
- 2. Work with local landowners to option land for wind turbines and ancillary facilities (i.e. collection lines and access roads)
- 3. Identify technical and environmental limitations based on input from project engineers, ecologists and aquatic biologists, cultural experts, local landowners, Aboriginal groups, and government agencies
- 4. Identify locations to site project infrastructure by balancing these technical and environmental limitations while adhering to the setback distances prescribed by the Province (i.e., Ontario Regulation 359/09) as identified in **Table 1** below. Project components can be sited within the setbacks for some environmental features provided

#### that an Environmental Impact Study is completed and mitigation measures identified.

#### Table 1. Turbine Siting Process Constraint Categories

Category	Distance Considerations*
Natural Heritage Features	<ul> <li>Area of Natural and Scientific Interest (ANSI) earth Science: 50m</li> <li>ANSI Life Science: 120m</li> <li>Significant wildlife Habitat: 120m</li> <li>Significant Woodlands and Valleylands: 120m</li> <li>Provincially Significant Wetland</li> </ul>
c Features	<ul> <li>Streams and Waterbodies: 30m</li> </ul>
cal Infrastructure	<ul> <li>Petroleum Resource Facilities: 75</li> <li>Road Right-of-way: 60m</li> <li>Railway right-of-way: 60m</li> </ul>
cio-Economic	<ul> <li>Property Line: 60m</li> <li>Residential and other uses sensitive to noise: 550m</li> </ul>

Note that other requirements may be applicable to the projects (e.g. aerodromes, pipelines, and Ministry of Transportation setbacks, etc.)

