

Welcome!

NextEra Energy Canada welcomes you to tonight's event.

We are here to:

- ✦ Present the DRAFT turbine layout for the East Durham Wind Energy Centre
- ✦ Update you on Project Status
- ✦ Provide an overview of the Renewable Energy Process
- ✦ Answer your questions
- ✦ Receive your comments



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:

- ✦ Quebec: Mount Copper and Mount Miller Wind Energy Centres
- ✦ Nova Scotia: Pubnico Point Wind Energy Centre
- ✦ Alberta: Ghost Pine Wind Energy Centre
- ✦ 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 21 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 in the area
2. Available and adjacent electricity transmission
 - ✦ Wind data has been collected in the Project Study Area since 2007 measuring wind speeds
 - ✦ Wind speeds are viable for commercial wind energy generation
 - ✦ The region is well served by existing distribution lines 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
- ✦ 2-3 full time jobs
- ✦ About 150 construction jobs
- ✦ Delivers landowner lease payments
- ✦ A proposed Community Vibrancy Fund to support local initiatives

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

- ✦ \$14.6 million in corporate income tax
- ✦ Over \$1 million in property tax revenue to the Municipality of West Grey
- ✦ About \$4 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 Tourism, Culture and Sport (MTCS) and local conservation authorities 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 Operations, 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



Mandatory Consultation Activity

The East Durham Project

- The proposed East Durham Wind Energy Centre project is located in the Municipality of West Grey and Grey County, Ontario
- The project will be able to generate up to 23-megawatts of electricity
- Up to 17 turbine locations will be permitted through the Renewable Energy Approvals process but only 14 1.6 MW turbines will be constructed
- Facility components for the East Durham Wind Energy Centre will include:
 - ✦ Laydown and storage areas (including temporary staging areas) for construction equipment and supplies
 - ✦ Underground electrical collection lines (on private property and in the municipal, road right-of-way) to connect the turbines to the transformer substation
 - ✦ A transformer substation and overhead electrical line to connect to the Hydro One distribution system
 - ✦ Access roads for construction and maintenance
 - ✦ A permanent meteorological tower to measure wind speeds, wind direction, temperature and humidity during operation
 - ✦ An Operations and Maintenance Centre

Additional Consultation Activities

- During the time from the start of the project to now, additional consultation activities have been undertaken by NextEra to continue to seek input and to provide information on the project
- These consultation activities have been in addition to the mandatory activities identified by the MOE and include:
 - ✦ Meeting with West Grey Council on August 10, 2009
 - ✦ West Grey Public Information Meeting: Wind Turbines on February 4, 2010
 - ✦ Meeting with West Grey Staff and Grey County Staff on March 17, 2011
 - ✦ Presentation to West Grey Council on February 6, 2012
 - ✦ Meeting with Grey County Staff on February 6, 2012
 - ✦ Community Newsletter April 2012
 - ✦ Meeting with Saugeen Valley Conservation Authority on April 30, 2012
 - ✦ Meeting with Saugeen Economic Development Corporation on April 30, 2012
 - ✦ Presentation to Committee of the Whole (West Grey) on May 28, 2012
 - ✦ Release of the Municipal Consultation Form to the Clerks of West Grey and Grey County on June 14, 2012



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

Archaeological Studies

- The work is being completed by licensed archaeologists according to Ministry of Tourism, Culture and Sport (MTCS) standards with oversight provided by the Saugeen Ojibway Nation (SON)
- An Archaeological Assessment Study will be submitted to MTCS for review and will:
 - ✦ Identify archaeological resources within the study area
 - ✦ Describe potential negative effects on archaeological resources during construction, operation and decommissioning
 - ✦ Propose mitigation measures to avoid or minimize negative effects on those resources
- A desktop archaeological study (Stage 1 Archaeological Assessment) was carried out in December 2010 to determine if there is potential to identify previously undiscovered archaeological resources within the study area
- A Stage 2 Archaeological Assessment commenced in May 2012 and will continue throughout the summer
- The results of this assessment will determine whether a Stage 3 Archaeological Assessment is required – this is a site-specific assessment involving further research and fieldwork to identify the boundaries of any archaeological sites identified during Stage 2
- Upon completion, a comprehensive Archaeological Assessment will be submitted to the MTCS for acceptance into the Ontario Public Register of Archaeological Reports
- Findings from the archaeological studies are being considered in the wind farm design to minimize impacts as much as possible



Cultural Heritage Studies

- A Cultural Heritage Assessment will be carried out to assess built heritage resources and cultural heritage landscapes in the study area
- This assessment will involve:
 - ✦ The development of a land use history of the study area through the use of historical archival research and a review of historical mapping
 - ✦ The identification of protected properties, built heritage resources (e.g., buildings) and cultural heritage landscapes through municipal consultation, a windshield survey and background research
- A cultural Heritage Assessment report will be submitted to MTCS for review and will:
 - ✦ Identify cultural heritage resources within the study area
 - ✦ Describe potential negative effects on heritage resources during construction, operation and decommissioning
 - ✦ Propose mitigation measures to avoid or minimize negative effects on those resources

Health and Wind Power

- Many studies have been conducted world-wide to examine the relationship between wind turbines and possible human health effects (e.g., audible/inaudible noise, shadow flicker, electromagnetic fields (EMF)).
- **Audible / Inaudible Noise:** Ontario's Chief Medical Officer of Health (May 2010) conducted a review of the scientific literature related to wind turbines and public health. The review concluded that:
 - ✦ *“while some people living near wind turbines report symptoms such as dizziness, headaches, and sleep disturbance, the scientific evidence available to date does not demonstrate a direct causal link between wind turbine noise and adverse health effects. The sound level from wind turbines at common residential setbacks is not sufficient to cause hearing impairment or other direct health effects, although some people may find it annoying.”*
- **Shadow flicker:** Scientific evidence suggests that shadow flicker from wind turbines does not pose a risk of photo-induced seizures; modern wind turbines simply don't rotate at a speed that has been linked to this condition (generally less than 20 rpm vs. over 60 rpm).
- **EMF:** Health Canada (2010) has stated: *“You do not need to take action regarding daily exposures to electric and magnetic fields at extremely low frequencies. There is no conclusive evidence of any harm caused by exposures at levels found in Canadian homes and schools, including those located just outside the boundaries of power line corridors.”*
- Overall, health and medical agencies agree that when sited properly, wind turbines are not causally related to adverse effects*.
 - ✦ *“Ontario doctors, nurses, and other health professionals support energy conservation combined with wind and solar power – to help us move away from coal.”***
- Scientists and medical experts around the world continue to publish research in this area. Through our health consultants, NextEra Energy is committed to keeping informed on this issue.

*Chatham-Kent Public Health Unit, 2008; Australian Government, National Health and Medical Research Council, 2010; Australian Government, 2011; Massachusetts Department of Environmental Protection (MassDEP) and Massachusetts Department of Public Health (MDPH), 2012.

**Ontario College of Family Physicians, Registered Nurses Association of Ontario, Canadian Association of Physicians for the Environment, Physicians for Global Survival, the Asthma Society of Canada, and the Lung Association.

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 regime 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 constraints 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 constraints 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 terrestrial features provided that an Environmental Impact Study is completed and mitigation measures identified.

Table 1. Turbine Siting Process Constraint Categories

Constraint Category	Setback Distance*
Terrestrial Features	<ul style="list-style-type: none"> • Area of Natural and Scientific Interest (ANSI) Earth Science: 50m • ANSI Life Science: 120m • Significant Wildlife Habitat: 120m • Significant Woodlands and Valleylands: 120m • Provincially Significant Wetland: 120m
Aquatic Features	<ul style="list-style-type: none"> • Streams and Waterbodies: 30m
Local Infrastructure	<ul style="list-style-type: none"> • Petroleum Resource Facilities: 75m • Road Right-of-Way: 60m • Railway Right-of-Way: 60m
Socio-Economic	<ul style="list-style-type: none"> • Property Line: 60m • Residents and other uses sensitive to noise: 550m

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