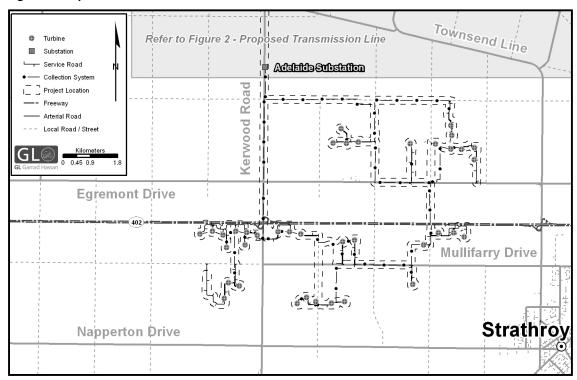
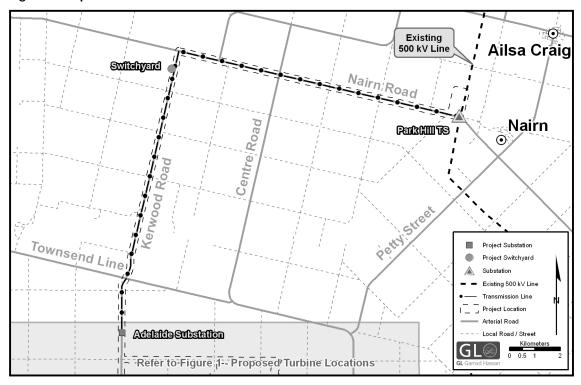
**Figure 1: Proposed Turbine Locations** 



**Figure 2: Proposed Transmission Line** 





#### NOTICE OF FINAL PUBLIC MEETING

# To be held by Kerwood Wind, Inc. regarding a Proposal to Engage in a Renewable Energy Project

Project Name: Adelaide Wind Energy Centre

Project Location: Adelaide-Metcalfe and North Middlesex, Middlesex County, Ontario

Dated at the Municipalities of Adelaide-Metcalfe and North Middlesex, Middlesex County this the 1st of August, 2012

Kerwood Wind, Inc., (a wholly owned subsidiary of NextEra Energy Canada, ULC) is planning to engage in a renewable energy project in respect of which the issuance of a renewable energy approval is required. The proposal to engage in the project and the project itself is subject to the provisions of the *Environmental Protection Act* (Act) Part V.0.1 and Ontario Regulation 359/09 (Regulation). This notice must be distributed in accordance with section 15 of the Regulation prior to an application being submitted and assessed for completeness by the Ministry of the Environment. The purpose of the meeting is to provide residents an opportunity to review and discuss the draft documentation related to the Project's Renewable Energy Approval (REA).

A public meeting will be held for the project on the following date and location (the original meeting dates of July 12 and August 13, 2012 were cancelled due to venue availability). Please note date and location change:

DATE: August 14, 2012 TIME: 4:00 p.m. to 9:00 p.m.

PLACE: Adelaide Metcalfe Municipal Hall,

Lower Level

2340 Egremont Drive, Strathroy

Please note that the meeting will be in an Open House format allowing attendees to visit any time during the event.

Project Description: Pursuant to the Act and Regulation, the facility, in respect of which this project is to be engaged in, is a Class 4 Wind Facility. If approved, this facility would have a total maximum name plate capacity of 59.9-megawatts (MW). The proposed Project Location is described in Figures 1 and 2.

#### Documents for Public Inspection:

The Draft Project Description Report titled "Project Description Report – Adelaide Wind Energy Centre" describes the project as consisting of a maximum of 37 GE 1.62 MW turbines (although the REA is seeking approval for 38 turbine locations), a pad mounted transformer at each turbine, 2 transformer substations, a switchyard, underground electrical collection lines and an overhead transmission line, turbine access roads, an operations building, meteorological towers and construction staging areas.

Kerwood Wind, Inc. has prepared the following draft supporting documents in order to comply with the requirements of the Act and Regulation: Project Description Report; Construction Plan Report; Design and Operations Report; Decommissioning Plan Report; Wind Turbine Specifications Report; Natural Heritage Assessment Report; Water Assessment and Water Body Report; Stage 1 and 2 Archaeological Assessment Reports; Heritage Assessment Report; and Noise Study Report.

Written copies of these draft supporting documents have been available for public inspection since May 9, 2012 at <a href="https://www.NextEraEnergyCanada.com">www.NextEraEnergyCanada.com</a> and at the Adelaide-Metcalfe, North Middlesex Municipal offices and Middlesex County office:

Adelaide-Metcalfe Municipal Office 2340 Egremont Drive Strathroy, Ontario North Middlesex Municipal Office 229 Parkhill Main Street Parkhill, Ontario

Middlesex County 399 Ridout Street North London, Ontario

Written copies will also be available for review at the public open house.

Comments received on or before <u>August 18, 2012</u> will be included in our Public Consultation report to the Ministry of the Environment. Should you wish to provide comments after this date, they can be forwarded directly to the Ministry of the Environment.

Project Contact and Information: To learn more about the project proposal, public meetings, or to communicate concerns please contact:

Derek Dudek, Community Relations Consultant

NextEra Energy Canada, ULC

5500 North Service Road, Suite 205

Burlington, ON L7L 6W6

Phone: 1-877-257-7330

E-mail: Adelaide.Wind@NextEraEnergy.com

Figure 1: Proposed Turbine Locations

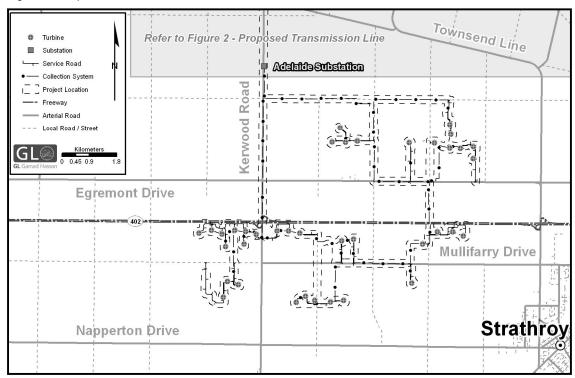
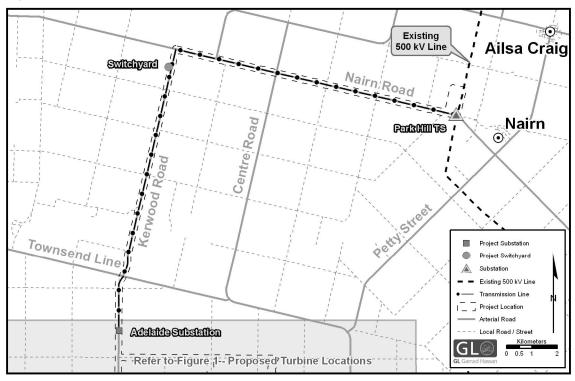


Figure 2: Proposed Transmission Line



# Adelaide Wind Farm



**Community Newsletter** 

Summer 2009

# Welcome



Welcome to our community newsletter in which we hope to bring you up to date on the progress of our wind farm project in Adelaide-Metcalfe and to answer some of the questions raised since our house events February 2008 and April 2009.

#### A BRIEF HISTORY

Air Energy TCI (AET) has been working on the Adelaide Wind Farm since late 2006 when we completed preliminary site visits after responses to our advertisement looking for suitable sites in the Ontario Famer.

Early in 2007, up-front meetings were held with landowners, planners and county and township representatives. Some agreements were put in place and a presentation was made to the Adelaide-Metcalfe council in October. Two wind measurement masts were erected in November and testing began.

The following year, after successful wind results, option agreements were made with landowners and the comprehensive environmental screening programme was begun.

We have now completed two public zoning meetings and held a second open house meeting in April 2009 (with positive feedback) and in June we submitted a Notice of Completion for the environmental screening report.

Our aim is to provide the Ontario Power Authority with a significant supply of clean, green electricity to help meet renewable energy targets as set out by the Ontario Government.

We hope to have an electricity sales contract in place by the end of 2009 and to begin construction by early 2011.

Mark Gallagher, Development Manager, AET



# Fine-tuning

In January 2008, AET commissioned consultants Golder environmental Associates to carry out a series of field studies and assessments. Completed in May 2009, these looked at the potential effects on the physical environment including flora and fauna, watercourses, archaeology and heritage sites and features. also geophysical They investigated the impact on the human environment including levels, electromagnetic interference. economic issues and visual amenity.

Based on these studies we have designed a The project will also benefit the entire wind turbine layout which delivers the optimum amount of power to the grid with minimum impact on the community and the environment.

A project of this scale will bring significant investment into the local community, creating between 150-200 jobs during construction and up to eight full-time jobs during operation and maintenance of the project.

The project will cost approximately \$200 million with the majority cost for the turbines themselves, however around \$60 million will be spent on construction and ancillary works, materials and equipment – a significant portion of this is normally sourced locally and will provide an opportunity for local suppliers, merchants and builders.

There is also the knock-on effect for hotels and restaurants in the area during the construction phase. With over 70 parcels of land involved in the project, many families in the area will receive a significant and welcome boost to farm incomes.

community through taxes and/or payments made directly to the township as part of a development agreement. This is currently estimated to bring over \$2 million into the community over the lifetime of the project.

The project is expected to generate 212 million kWh (kilowatt-hours) of electricity per year. With the average household in Ontario using 12,000 kWh per year, this is enough clean, green energy to supply over 17,500 homes every year.

# Adelaide Wind Farm Q&

Some of the most commonly asked questions about the Adelaide project

#### How many turbines are being planned?

AET is seeking permission to build up to 40 wind turbines (72MW). Grid studies carried out by Ontario's Independent Electricity System Operator have shown this to be the maximum generation that can be connected to the local existing 115kV What about health issues? network.

#### Why Adelaide-Metcalfe Township?

The site was selected because of its open landscape, low environmental sensitivity, good infrastructure (roads and transmission lines) and good wind resource. Middlesex County promotes the development of renewable energy projects and the Adelaide-Metcalfe township itself has implemented a wind energy by-law. Finally, it was clear that the majority of landowners in the target area were keen to be part of a wind project.

#### What about noise from the turbines?

Modern wind turbines are designed to minimise noise and with appropriate set-backs will not cause a nuisance to nearby residences. Results from the detailed noise study were very positive and by using a set-back of 600 m to non-participating dwellings (50 m in excess of the latest recommended setback distances for Ontario) the Adelaide wind farm will satisfy the latest noise guidelines for the Province of Ontario laid down by the Ministry of the Environment in October 2008.

#### What about infrasound?

This is a question that was raised in the UK several years ago after complaints from some residents living near wind farms. After investigation the UK's Department of Trade & Industry concluded:

"Infrasound associated with modern wind turbines is not a source which will result in noise levels which may be injurious to the health of a wind farm neighbour."

(The Measure of Low Frequency Noise at Three UK Wind Farms, Hayes McKenzie Partnership Ltd. 2006)

This area has also been studied at length by Dr. Geoff Leventhall, one of the world's leading authorities on the subject and founding editor at the Journal of Low Frequency Noise, Vibration and Active Control. In an article for the Journal of Canadian Acoustics he wrote:

"The public has been misled by the media about infrasound, resulting in needless fears and anxieties... and unnecessary costs, such as for

re-measuring what was already known to assuage complaint... infrasound from wind turbines is below the audible threshold and of no consequence"

Infrasound From Wind Turbines, Fact, Fiction or Deception: Dr G. Leventhall, Canadian Acoustics. Vol 34 No.2, 2006

There has been a lot of media attention and claims lately that wind farms cause health problems. In reality, large scale wind farms have been operating successfully in Europe for almost 20 years and there are over 70,000 wind turbines installed across the world with relatively little complaint. In fact, with zero direct CO<sub>2</sub> emissions, wind energy is probably one the most benign forms of electricity generation in the world when one considers the health impacts and polluting side affects of fossil fuel or nuclear generation - a conclusion supported by the World Health Organisation.

www.euro.who.int/document/eehc/ebakdoc08.pdf

After a number of projects were proposed for Chatham-Kent, the municipality's Director of Public Health, Dr. David Colby, reviewed the literature surrounding these claims. He said:

"... as long as the Ministry of Environment Guidelines for location criteria of wind farms are followed, it is my opinion that there will be negligible Although opposition to wind farms on aesthetic grounds is a legitimate point of view, opposition to wind farms on the basis of potential adverse health consequences is not justified by the evidence"

The Health Impacts of Wind Turbines: A review of the current white, grev and published literature, Dr D Colby, 2008

#### Are there any health effects from power lines?

An inter-governmental agency, the Federal-Provincial-Territorial Radiation Protection Committee - Canada (FPTRPCC) was established to examine this very issue. In November 2008 they issued a response statement saying:

"...public concerns appear to arise from periodic media reports and from dubious internet web sites contain inaccurate, unsubstantiated, controversial or contradictory statements regarding EMF-health issues...it is the opinion of the FPTRPCC that there is insufficient scientific evidence showing exposure to EMF's from power lines can cause adverse health effects"

Response statement to public concerns regarding electric and magnetic fields (EMF's) from electrical power transmission and distribution lines. FPTRPCC, Nov 2008.

#### What about shadow flicker?

Shadow flicker is readily predicted using standard industry software and the study at Adelaide shows no non-participating dwelling will exceed the internationally recognized standards. Again, this issue is easily avoided by using appropriate siting techniques and set-backs.

#### What about birds & bats?

It is true that some of the earlier wind farms had negative impacts on local bird and bat populations. Nowadays however, developers undertake detailed studies to assess and mitigate potential impacts. Studies at the Adelaide site concluded that the area was not particularly sensitive. Any areas that did show a higher potential for nesting or roosting were avoided. (The full report is available in the environmental screening report)

#### Will the project affect property prices?

This is often cited by anti-wind farm groups, however, the wealth of evidence shows that there are no negative effects and in fact property prices can even go up. A recent comprehensive study by the Renewable Energy Policy Project concluded:

"The statistical evidence does not support a contention that property values within the view shed of wind developments suffer or perform poorer than in a comparable region. For the great majority of projects in all three cases studied, the adverse health impacts on Chatham-Kent citizens. property values in the view shed actually go up faster than values in the comparable region."

Sterzinger, Beck, Kostiuk: May 2003 Analytic www.crest.org/wind/index.html

#### Do wind farms need back-up generation?

All generation needs a source of back up regardless of the fuel source. Modern wind turbine technology has high availability well above 90% and is therefore a very reliable technology. Wind forecasting is becoming more accurate so it is easier to predict how much energy will be available. The wind is almost always blowing somewhere in Ontario, so spreading the wind farm locations across the province means we can make the best out of whatever wind there is.

#### How much investment will this project bring?

After purchase of the turbines (\$140 million) around \$60 million is allocated for the balance of plant and construction of roads, foundations and cabling, etc., There is also the added benefit of around 200 temporary jobs as well as the resulting knock-on effects for local business.

# Adelaide WIND ENERGY CENTRE **NEWS**

VOL. 1 SPRING 2012



### WELCOME

As you may be aware, Kerwood Wind, Inc., a subsidiary of NextEra Energy Canada, was selected by the Ontario Power Authority (OPA) to develop a wind energy project in Middlesex County. The proposed wind turbines will generate clean, renewable energy, producing no air pollutants and allowing landowners to use their land as they have historically.

In November 2011, we hosted a public meeting at the Ailsa Craig Community Centre. Approximately 200 people showed up to learn about the project and have their questions answered by our team of experts. In addition, in February this year we conducted a 'Telephone Town Hall' where over 290 residents asked a series of questions to learn more about the project. In this newsletter, we hope to share with you and answer the most frequent questions that were asked during the public meeting and Telephone Town Hall.

While we believe wind is a safe and reliable energy source, we are aware there are many complex issues that require ongoing consideration and discussion. We are committed to continuing to work closely with the Middlesex County community. Your voice counts and your opinion matters – we hope this and future newsletters provide valuable information, but we also encourage you to share any comments, questions or suggestions for topics you would like to see included in future newsletters.

Kind regards,

Ben Greenhouse Project Director Adelaide Wind Energy Centre

#### **CONTACT US**

For more information or to contact us directly:

- CALL OUR TOLL-FREE NUMBER: 1.877.257.7330
- EMAIL: Adelaide.Wind@NextEraEnergy.com
- WRITE TO: NextEra Energy Canada,
   5500 North Service Road, Suite 205 Burlington, ON L7L 6W6
- VISIT OUR WEBSITE: www.NextEraEnergyCanada.com/projects/adelaide.shtml

#### IN THIS EDITION

- Welcome
- About NextEra Energy Canada
- About the Adelaide Wind Energy Centre
- Latest Project Updates
- Frequently Asked Questions
- The Renewable Energy Approval Process
- Why Wind?

#### ABOUT NEXTERA ENERGY CANADA

- NextEra Energy Canada is a subsidiary of NextEra Energy Resources, LLC, the largest generator of wind energy in North America.
- NextEra Energy Resources operates 90 wind projects in 3 provinces and 17 states with more than 8,800 wind turbines providing over 8,500 megawatts of generation.
- NextEra Energy Resources is focused on developing clean, renewable energy and approximately 95 per cent of our electricity comes from clean or renewable sources.



We value your privacy. Information will be collected and used in accordance with the Freedom of Information and Protection of Privacy Act, and will be maintained on file for use during the planning process for the proposed wind centres.

### ABOUT THE ADELAIDE WIND ENERGY CENTRE

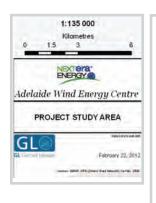
#### LOCATION:

The Adelaide Wind Energy Centre will be located in Middlesex County, Ontario.

This location has been specifically chosen because of the site's current agricultural and industrial land use, potential to capture energy from the wind and access to transmission lines. As we move forward, we are committed to incorporating the highest standards in design and will ensure factors related to health, the natural environment and local economy are considered as a part of our planning and construction processes.

#### PROJECT STATUS:

We are currently in the process of conducting ongoing biological field studies as part of the Renewable Energy Approval (REA) process conducted by The Ministry of Environment. Bird, bat and other wildlife and vegetation studies will be conducted at various locations during 2012. Reports that describe what has been done to date will be available this spring on www.NextEraEnergyCanada.com as part of the public consultation process.



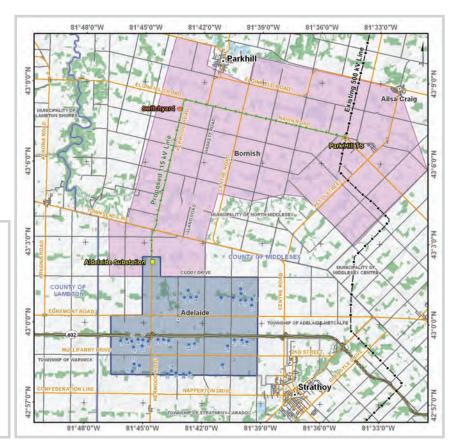


#### **ECONOMIC BENEFITS:**

For Middlesex County, we anticipate the Adelaide Wind Energy Centre will have a positive economic impact over its 20 year lifespan - driving jobs, salaries, increased tax revenues and business activity for other industries in the area. We estimate the proposed project will contribute \$90 million in corporate income tax to the Province and \$14 million in property taxes to local governments in addition to approximately \$17 million in landowner payments.

#### **QUICK FACTS:**

- We anticipate the Adelaide Wind Energy Centre will generate up to 60 megawatts using up to 38 wind turbines.
- At maximum capacity, this project is expected to produce enough energy to power approximately 15,000 homes in Ontario.
- We estimate the project will create 150 construction jobs and 6-8 full time and local operations jobs.



## LATEST PROJECT UPDATES

# WHAT UPDATE CAN YOU PROVIDE ON THE TRANSMISSION LINES?

The Adelaide, Bornish and Jericho Wind Energy Centres, located in Lambton and Middlesex Counties, will share a transmission line. Because all three projects are proposing to share a common transmission line, this cooperation will allow the projects to better avoid any environmental or culturally significant areas.

As proposed, the transmission lines for all three projects will converge at a switching station, which will be located in the Bornish Project Area

in North Middlesex, where the electricity will be directed by way of a 115 kV common transmission line to a substation adjacent to the existing 500 kV Hydro One line, located east of the proposed projects.

# WHEN CAN WE EXPECT TO SEE A FINAL TRANSMISSION LINE ROUTE?

NextEra Energy Canada is currently working with the municipality, local landowners, project engineers and biologists to identify a preferred route that takes into consideration local economic, geographic and social considerations.

The final proposed transmission line routes for the Jericho, Adelaide and Bornish Wind Energy Centres will be presented 60 days prior to the final public meeting; for Adelaide, this meeting will likely take place in early summer 2012.

## FREQUENTLY ASKED QUESTIONS

Please find below an outline of some of the key issues discussed at the Ailsa Craig Community Update Meeting held in November 2011. If you would like any further information, please do not hesitate to contact us.

Q:

## WHAT IMPACT DO WIND TURBINES HAVE ON OUR HEALTH?



NextEra takes concerns about human health very seriously.

Although much has been written about health effects associated with wind turbines, we have found no credible, scientifically peer-reviewed study that demonstrates a link between wind turbines and negative health effects.

In May 2010, the Chief Medical Officer of Health of Ontario conducted a report titled "The Potential Health Impacts of Wind Turbines" which states<sup>1</sup>:

"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, and there is no scientific evidence to date that vibration from low frequency wind turbine noise causes adverse health effects."

In "Health effects and wind turbines: A review of the literature", Canadian based Loren D. Knopper and Christopher Ollson state:

"To date, no peer reviewed articles demonstrate a direct causal link between people living in proximity to modern wind turbines, the noise they emit and resulting physiological health effects."<sup>2</sup>

Canadian Wind Energy Association's "Wind Turbine Sound and Health Effects: An Expert Panel Review" states:

- Sound from wind turbines does not pose a risk of hearing loss or any other adverse health effect in humans;
- Sub-audible, low frequency sound and infrasound from wind turbines do not present a risk to human health;
- Some people may be annoyed at the presence of sound from wind turbines.
   Annoyance is not a pathological entity; and
- A major cause of concern about wind turbine sound is its fluctuating nature. Some may find this sound annoying, a reaction that depends primarily on personal characteristics as opposed to the intensity of the sound level.<sup>3</sup>

Q:

#### WHAT IS STRAY VOLTAGE?

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.

# 0:

# 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?

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 the Adelaide Wind Energy Centre 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.

- <sup>1</sup>The report can be found at: http://www.health.gov.on.ca/en/public/publications/ministry\_reports/wind\_turbine/wind\_turbine.pdf
- <sup>2</sup>The report can be found at: http://www.ehjournal.net/content/10/1/78
- <sup>3</sup>The report can be found at: http://www.canwea.ca/pdf/talkwind/



Public

Input

Public

Input

# THE RENEWABLE ENERGY APPROVAL PROCESS

In Ontario, all proposed renewable energy projects - including wind turbines - must go through an approval process regulated by the Ministry of the Environment and the Ministry of Natural Resources. Under the Renewable Energy Approval (REA) process, a proposed wind project must show that it meets the guidelines as set out by Ontario's Green Energy Act.



As part of the REA process, we have undertaken a number of comprehensive studies that assess how the proposed project will impact the cultural and heritage resources and natural environment as well as the local community.

As part of this, we will continue to consult you and your local community, setting up further public meetings and drop-in sessions. For example, we anticipate hosting a public meeting in late spring/early summer – we will update you separately about this. As we move forward, we will - to the greatest extent possible - enhance our design to reduce, eliminate or mitigate potential effects, to the greatest extent possible, which may be identified during this process.

When all studies are complete, NextEra Energy Canada will provide the public with the studies 60 days prior to our final public meeting, which will likely take place in early summer 2012. After we have received your comments, we will submit the REA application for review by the Ministry of the Environment. Other agencies, including the Ministry of Natural Resources, the Ministry of Transportation, the Ministry of Tourism and Culture and local conservation authorities also provide input to the approval process.

# OVERVIEW OF THE APPROVAL PROCESS

Notice of Proposal & Draft Project Description Published

# Public Meeting #1

\* Complete Environmental & Technical Studies

Design Draft Project Layout

Draft Reports Released for Public Review

Public Meeting #2

Submit REA Application to Ministry of the Environment

Notice of Filing Posted on Environmental Registry

Ministry of the Environment Review of Proposal

**REA Decision** 

WE ARE HERE

### WHY WIND?

The Ontario Government has identified a need to increase clean, renewable energy generation in Ontario through renewable energy projects including solar farms and wind turbines. This is intended to reduce our province's dependence on traditional forms of energy while boosting investment and creating local jobs.

Not only are wind turbines considered 'clean energy' as they help reduce our dependence on fossil fuels without producing harmful waste, greenhouse gases or water emissions, they can also bring a host of benefits to your local community.

While the costs of fuel for many forms of conventional energy are volatile, wind energy only relies on the free and limitless wind. This means that once a wind farm is built, the price of electricity is stable for the lifespan of the wind turbine – approximately 20-30 years.

Developments in technology have also resulted in more efficient wind turbine production and the last twenty years has seen the cost of wind-generated electricity drop significantly. On top of this, there has been a threefold increase in the amount of power wind turbines can generate, making wind an increasingly cost-effective energy resource.

The construction and maintenance of wind turbines also benefits your local community as they stimulate economic growth.

BY 2018<sup>4</sup>, IT IS

ANTICIPATED THAT THE

WIND ENERGY SECTOR WILL

ATTRACT BILLIONS OF DOLLARS OF

PRIVATE INVESTMENTS TO ONTARIO, AND

ONCE THE WIND TURBINES ARE INSTALLED

AND PRODUCING POWER, MORE THAN

HALF OF THIS — APPROXIMATELY \$8.5

BILLION<sup>5</sup> — WILL BE SPENT LOCALLY

IN COMMUNITIES ACROSS

THE PROVINCE.

IN ONTARIO ALONE,
LANDOWNERS ARE EXPECTED
TO BENEFIT FROM OVER \$1 BILLION
IN LEASE PAYMENTS OVER THE 20-YEAR
LIFESPAN OF PROJECTS — ENSURING
THAT THEY AND THEIR FAMILIES CAN
CONTINUE TO RELY ON THE LAND AS A
VALUED SOURCE OF INCOME FOR
GENERATIONS TO COME.

Looking ahead, when the wind turbines are decommissioned, there is no hazardous cleanup and newer, more efficient models could potentially take their place, making the cost of wind energy even more economical.

Lastly, wind energy diversifies and increases farmers' incomes as they continue to rely on traditional land use while receiving payments to lease their land.

For these reasons, we believe wind turbines are a win-win situation for all.

<sup>&</sup>lt;sup>4</sup> ClearSky Advisors

<sup>&</sup>lt;sup>5</sup> Economic Impacts of the Wind Energy Sector in Ontario