## **Bornish** ATRE NEWS

**SPRING 2012** VOL. 1



#### WELCOME

As you may be aware, Bornish Wind, LP, a subsidiary of NextEra Energy Canada, was selected by the Ontario Power Authority (OPA) to develop a wind energy project in Middlesex County, Southwestern Ontario. The proposed wind turbines will be located on privately-owned land to generate clean, renewable energy, producing no air pollutants and allowing landowners to use their land as they did before.

In November 2011, we hosted a public meeting at the Ailsa Craig Community Centre. There were approximately 200 participants in attendance. We were pleased that so many people showed up to ask questions and learn 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.

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.

• WRITE TO:

NextEra Energy Canada,

Burlington, ON L7L 6W6

5500 North Service Road, Suite 205

Kind regards,

Adam Camp Project Director Bornish Wind Energy Centre

#### **CONTACT US**

For more information or to contact us directly:

- CALL OUR TOLL-FREE NUMBER: 1.877.257.7330
- FMAII:
- Bornish.Wind@NextEraEnergy.com
- VISIT OUR WEBSITE: www.NextEraEnergyCanada.com/projects/bornish.shtml

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#### 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 BORNISH WIND ENERGY CENTRE

#### LOCATION:

The Bornish Wind Energy Centre will be located on private land in North Middlesex, Ontario.

This location has been specifically chosen because of the site's potential to capture energy from wind at minimal impact to the local community and environment. 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. Of note: bird, bat and other wildlife and vegetation studies will be underway at various locations during 2012. Reports that describe what has been done to date will be available this spring on www.nexteraenergycanada.com.



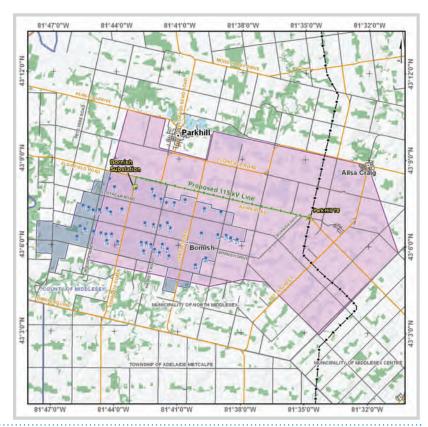


#### **ECONOMIC BENEFITS:**

For Middlesex County, we anticipate the project 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 \$121 million in corporate income tax and \$8 million in property taxes to the local County in addition to approximately \$15 million in landowner payments.

#### **QUICK FACTS:**

- We anticipate the Bornish Wind Energy Centre will generate up to 73.5 megawatts using up to 48 wind turbines.
- At maximum capacity, this project is expected to produce enough energy to power approximately 18,375 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, all located in Middlesex County, Southwestern Ontario, 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, all 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 transmission line to an interconnect point on 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 Bornish, this meeting will likely take place in early summer 2012.



#### FREQUENTLY ASKED QUESTIONS

In our conversations with community members, we are often asked questions that are relevant to the entire community – we have answered some commonly asked questions below. If you have any additional questions or would like any further information, please do not hesitate to contact us.

## 0:

## 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>

## 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.

## DO WIND TURBINES CAUSE STRAY VOLTAGE?

electrical system.

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

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.

## 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 Bornish 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>&</sup>lt;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>&</sup>lt;sup>2</sup>The report can be found at: http://www.ehjournal.net/content/10/1/78

<sup>&</sup>lt;sup>3</sup> The report can be found at: http://www.canwea.ca/pdf/talkwind/ Wind\_Turbine\_Sound\_and\_Health\_Effects.pdf

# THE RENEWABLE ENERGY APPROVAL PROCESS

Proposed wind and renewable energy projects in Ontario 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.

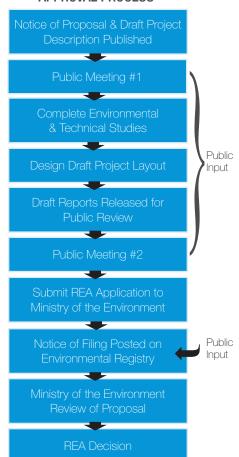


As part of the REA process, we have undertaken a number of comprehensive studies that assess how the proposed project will impact the cultural and heritage resources and natural environment as well as the local community.

As we move forward, we will continue to consult you and your local community, setting up further public meetings and drop-in sessions. We will also enhance our design to reduce, eliminate or mitigate potential effects, to the greatest extent possible, which may be identified during this process. We will inform you separately about any forthcoming public meetings.

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 receiving 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, Culture and Sport and local conservation authorities also provide input to the approval process.

## OVERVIEW OF THE APPROVAL PROCESS



#### 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, the cost of wind energy is fixed. 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