# Bluewater
# WIND ENERGY CENTRE NEWS

VOL. 3 SPRING 2012

## WELCOME

As you may be aware, Varna Wind, Inc., a subsidiary of NextEra Energy Canada, was selected by the Ontario Power Authority (OPA) to develop a wind energy project in Huron 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.

We hosted a Drop-in Centre at the Bluewater Community Complex in Zurich and a public meeting at the Seaforth Community Centre in December 2011. There were approximately 100 participants on each day and the NextEra team was pleased that so many people showed up to ask questions and learn about the project.

In this newsletter, you will find an outline of the proposed turbine locations and transmission line route, updated information on the project based on field studies completed over the summer, and answers to some of the most frequent questions asked during the December public meeting.

Wind is a safe and reliable energy source. We know that there are many complex issues that require ongoing consideration and discussion. We are committed to continuing to work closely with the public at large and the Huron 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,

Nicole Geneau
Project Director
Bluewater Wind Energy Centre

### CONTACT US

For more information or to contact us directly:

- CALL OUR TOLL-FREE NUMBER: 1.877.257.7330
- EMAIL: Bluewater.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/Bluewater.shtml

### IN THIS EDITION



### ABOUT NEXTERA ENERGY CANADA

- NextEra Energy Canada ULC 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.

NEXTera™ ENERGY CANADA

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 BLUEWATER WIND ENERGY CENTRE

### LOCATION:

The Bluewater Wind Energy Centre will be located on private land in the Municipality of Bluewater, Huron County, Southwestern Ontario, and will include a transmission line extending into the Municipality of Huron East, Huron County.

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 the design, construction, operation and maintenance of the wind turbines and will ensure that factors relating to the people, natural environment and local economy are included in our planning and construction processes.

### PROJECT STATUS:

Over the last year, we have been conducting archeological assessments, which mainly involve pedestrian surveys of ploughed fields to look for artifacts, as well as biological field studies for the Natural Heritage Assessment. Both findings will be reviewed as part of the REA process. The biological fieldwork includes avian surveys, water body and amphibian analyses and ecological land classification to determine what flora and fauna are located with natural features in proximity to proposed infrastructure for the project.

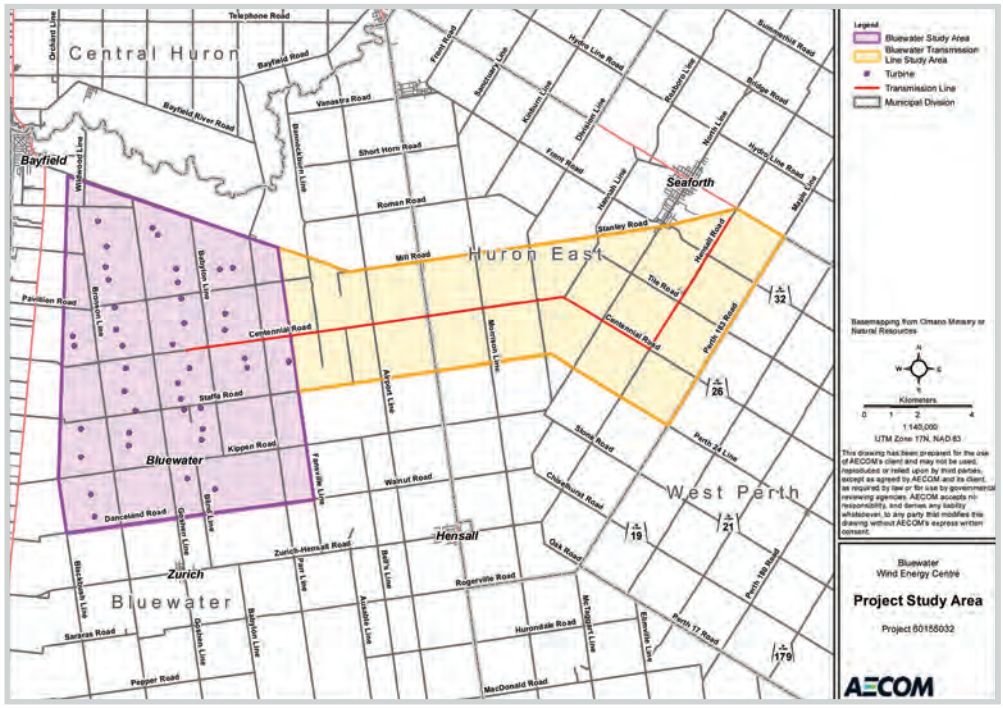
### ECONOMIC BENEFITS:

For Huron 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 $80 million in corporate income tax, $9 million in property tax revenue to the local County, in addition to approximately $13 million in landowner payments. Lastly, we are in discussions regarding contributions to a Community Vibrancy Fund, established specifically in recognition of the project's broader community impact.

### QUICK FACTS:

- We anticipate the Bluewater Wind Energy Centre will generate a maximum of 60-megawatts (MW) consisting of 37 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 LINE?

In our Community Update Meeting on December 7, 2011, we explained that the Bluewater Wind Energy Centre will include a transmission line extending into the Municipality of Huron East, Huron County. The proposed 115 kilovolt (kV) transmission line will carry electricity from the project's transformer substation along Centennial and Hensall Road to the existing Hydro One Seaforth Transformer Station.

### HOW MUCH ELECTRICITY WILL THE TRANSMISSION LINE CARRY?

The proposed transmission line for the Bluewater Wind Energy Centre is 115 kV. The line will be mounted on new or existing single hydro poles, constructed of wood, concrete or steel, which will be between 18 to 30 metres tall.

It is important to note that the proposed transmission line is much smaller than the 500 kV steel lattice-tower transmission line that currently runs north-south through the study area between Goshen Line and Babylon Line.

# FREQUENTLY ASKED QUESTIONS

Please find below an outline of some of the key issues discussed in the community meetings held in December. If you would like any further information, please do not hesitate to contact us.

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

**A:** 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[1]:

> "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."[2]

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.[3]

## Q: HOW DOES THE COST OF WIND ENERGY COMPARE TO OTHER ENERGY SOURCES?

**A:** The cost of wind power generation is competitive with that of other newly-installed power sources. Once turbines are installed, the cost of generating wind power will remain steady for decades because the cost of the fuel – wind – is free.
In Ontario, energy that is generated by wind power is added to the provincial grid so the cost to consumers is the same as any other power-generating source.

While wind energy does not create additional costs, it is true that electricity prices have risen steadily across Ontario over time and this has happened for a number of reasons:

- Ontario is closing its fleet of dirty, coal-fired generation by 2014 and replacing it with cleaner, greener sources. There is a cost associated with replacing coal, which has not historically been priced to capture the broader negative externalities associated with electricity production.
- As mandated by the government, there is a pressing need to update and modernize Ontario's infrastructure, such as transmission lines which were built in the 1950s and 1960s with a useful life of 40 years. As this happens, higher charges to end-users are applied.
- Historically, the cost of generating and delivering electricity to consumers has been heavily subsidized within crown corporations. The government agencies in charge of setting fees have stated they are in the process of adjusting the fee structure to more accurately reflect the true cost of energy production.

## Q: WILL THIS PROJECT AFFECT AGRICULTURAL PRODUCTION?

**A:** No. Wind turbines occupy only a small fraction of the property where they are built, allowing land use to continue as it did before. Farming and grazing continue undisturbed and the landowners hosting the project benefit from an added source of guaranteed income.

[1] The report can be found at: http://www.health.gov.on.ca/en/public/publications/ministry_reports/wind_turbine/wind_turbine.pdf

[2] The report can be found at: http://www.ehjournal.net/content/10/1/78

[3] The report can be found at: http://www.canwea.ca/pdf/talkwind/Wind_Turbine_Sound_and_Health_Effects.pdf

## 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 the Bluewater 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.

# THE RENEWABLE ENERGY APPROVAL PROCESS

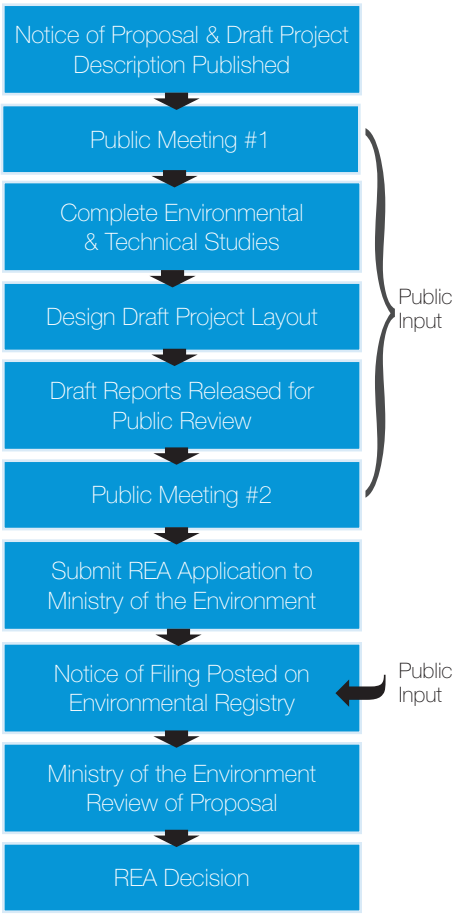
Proposed wind and renewable energy projects in Ontario must go through an approval process regulated by the Ministry of the Environment and the Ministry of Natural Resources. Under the Renewable Energy Approval (REA) process, a proposed wind project must show that it meets the guidelines as set out by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

As part of the REA process, we are undertaking 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. This includes the Natural Heritage Assessment Report, which will be submitted to the Ministry of Natural Resources for review and approval as well as the Environmental Effects Monitoring Plan, which will assess potential impacts on bird and bat species during the first three years of the wind turbines' commercial operations. Many of the studies conducted this summer will be incorporated into these reports.

As part of this, we will be consulting you and your local community as we conduct site studies and set-up public meetings and drop-in sessions – very much like the Drop-in Centre and Community Update Meeting held on December 6 and 7, 2011, respectively. As we move forward, we will enhance our design to reduce, eliminate or mitigate any potential effects, to the greatest extent possible, which may be identified during this process. When we complete the studies, NextEra Energy Canada will provide the public with the studies 60 days prior to our final public meeting.

After receiving comments, we will submit the REA application for review by the Ministry of 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 20 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.

> REPEATED STUDIES AROUND THE WORLD HAVE FOUND NO SCIENTIFIC EVIDENCE OF HEALTH IMPACTS FROM WIND POWER PROJECTS.[4]

Looking ahead, when the wind turbines are decommissioned, there is no hazardous clean-up 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. This helps stabilize the overall economic prosperity of the community, while allowing traditional land-use practices to continue undisturbed.

> "THERE IS NO END TO THE POTENTIAL OF ALTERNATIVE, NON-POLLUTING ENERGY SOURCES."[4]
>
> *PRIME MINISTER STEPHEN HARPER*

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

[4] Blowing Smoke: Correcting Anti-Wind Myths In Ontario