

## Grand Bend Wind Farm

### Frequently Asked Questions – Provided for PIC #1 (Alphabetical Order)

**Approval Process** – The Project is subject to the Renewable Energy Approval (REA) process, subject to the provision of the Environmental Protection Act and Ontario Regulation 359/09. The REA process involves consideration of environmental aspects, natural heritage features and water bodies as well as heritage and archaeological resources. In addition, the process involves public, agency and First Nations consultation.

The Grand Bend Wind Farm Project will undertake the following general steps:

- 1) Notice of Proposal and Public Meeting
- 2) Public Meeting #1
- 3) Completion of Environmental and Technical Studies
- 4) Notice of Public Meeting #2
- 5) Public Meeting #2
- 6) Reports Finalized
- 7) REA submitted/Decision.

The following reports will be available for public review prior to the second public meeting:

- Archaeology and Heritage Resources
- Construction Plan
- Decommissioning Plan
- Design and Operations Report
- Natural Heritage Report
- Project Description Report
- Wind Turbine Specification Report

**Archaeology/Heritage** – A Heritage Assessment and Archaeological Assessment will be conducted, which will consider whether engaging in the project may have an impact on any archaeological resources or heritage resources. The project layout will be designed to avoid features where possible.

**Aviation Safety** – Aviation safety is the jurisdiction of the Federal Government. The project locations will be submitted to Department of National Defense (DND), Transport Canada (TC) and NAV Canada. The project will be assessed for Federal Airport Zoning Regulations for lighting and marking requirements, impacts to radar instrument approaches and other applicable safety elements.

At present Northland is considering alternatives with regard to turbine lighting, such as installing radar equipment to only turn on lighting only when an aircraft is present – ultimately this option would only be viable with approval from NAV Canada.

There are no provincially regulated setbacks from private airstrips in Ontario, however, the turbines have been set back more than 1,000 m from any known private airstrip.

**Benefits of Wind Energy** – The Province of Ontario is committed to wind power forming part of Ontario's energy mix. Wind energy is generating clean electricity, new jobs and economic development opportunities in communities across the country, in addition to providing tax benefits for municipalities.

Wind is an affordable source of new energy supply that protects against unpredictable fuel and carbon costs. It is an important tool in our fight to avoid climate change.

Wind requires no fuel, produces very little waste and consumes barely any water during operation. This makes it an important part of our energy framework, given the potential risk and uncertain costs of complying with future greenhouse gas emission restrictions and other environmental legislation that may be imposed to deal with climate change.

Wind turbines do not use fossil fuels for producing electricity; this means that once a wind farm is built, the price of the electricity it produces is set and remains at that level for the entire life of the wind farm, which is in excess of 20 years. In a time of increasing price volatility of traditional sources of energy, the price stability of wind farms provides important protection for consumers. Jurisdictions in Canada have developed strategies for capturing the value that wind energy brings to a power system. Feed-in-tariffs (FIT) are one way of creating a stable market for renewable energy investment by providing predictable revenue to wind producers and increasing their access to financing.

**Community Benefits** – The Project will bring benefits to the local community, including:

- Employment opportunities (up to 300 employed during the construction phase and 10 during the operation phase).
- Financial benefits:
  - New additional tax revenue to the municipality
  - Supplemental income for participating landowners, and
  - Improvements to some local roadways.

A Community investment fund will be developed in discussion with municipalities.

**Complaint Response** – Northland will continue its pre-construction contact with Project stakeholders during construction and operation as long as this is an effective two-way channel for communications. A complaint response protocol will be implemented by the construction contractor/Northland Power during construction/operation.

**Decommissioning** – Northland Power will repower or decommission the project after 20 years. Northland Power is responsible for the decommissioning of the project, including the cost of component removal.

Northland has committed to returning the site to safe and clean conditions after decommissioning of the Project. Components will be recycled or reused wherever possible.

**Health** - A growing body of peer-reviewed scientific evidence indicates that there is no direct link between wind turbines and health effects in humans. Wind energy has been utilized for over 25 years in a host of different countries and health effects have been studied extensively.

Responsible siting of turbines is an important consideration and Ontario has one of the most stringent regulations in Canada with its requirements that turbines be at least 550 m from dwellings (non-participating).

One of the most recent health studies in Ontario was published in May 2010 by the Chief Medical Officer of Health (CMOH) of Ontario in response to public health concerns about wind turbines, particularly noise. This study considered submissions by Wind Concerns and many other scientific and peer reviewed reports. The following is a quote from the study, *“This report presents a synopsis of existing scientific evidence on the potential health impact of noise generated by wind turbines. The review concludes 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”*,

On July 18, 2011, the Ontario Environmental Review Tribunal (ERT) issued its decision in the appeal brought by residents in Chatham, Ontario (the Appellants) relating to the issuance of a Renewable Energy Approval (REA) by the Ministry of the Environment for the 20 MW Kent Breeze wind farm (the Project), owned by Suncor Energy Services Inc. The decision follows 17 days of hearings that began in February 2011. The central issue raised by the Appellants was whether engaging in the Project in accordance with the REA will cause serious harm to human health. In short, the ERT dismissed the appeal and concluded that the Appellants failed to convince the ERT that the Project will cause serious harm to human health.

**Natural Environment** - There are many natural environment studies currently underway to accurately characterize the existing natural environment within the study area. Our team is working closely with the Ministry of Natural Resources (MNR) and the Ausable Bayfield Conservation Authority (ABCA), with the ultimate aim of ensuring minimal impacts to the natural environment as a result of the Project.

In addition, we will be working with Environment Canada (EC)/Canadian Wildlife Service (CWS) to address any federally designated species. We will also be undertaking meetings with Dr Scott Petrie (recommended to us by local residents) to obtain some additional information with regard to Tundra Swans. The following documents will be produced as part of the Approval process:

- Natural Heritage Assessment, including:
  - Records Review
  - Site Investigation
  - Evaluation of Significance
  - Environmental Impact Study
  - Environmental Effects and Monitoring Report and Approval and Permitting Requirements Document (Endangered Species Act).

As part of this work, the following field studies and ecological inventories are being undertaken:

- Vegetation surveys and vegetation community classification (Ecological Land Classification),
- Bird migration, breeding and over-wintering surveys,
- Amphibian breeding surveys,
- Aquatic habitat mapping,
- Reptile hibernacula surveys, turtle surveys,
- Bat habitat mapping,
- Wetland assessments and surveys to identify specific endangered, threatened, special concern and rare species.

**Noise** - The Project will be sited to comply with the requirements of O.Reg 359/09. The contribution of the turbines to the noise levels at all residences is required to be below 40 dBA, which is comparable to the background noise in a home.

A comprehensive Noise Assessment has been completed for the preliminary layout. The Noise Assessment has been conducted in compliance with the Ontario Ministry of Environment requirements published in the "Noise Guidelines for Wind Farms (October 2008)" and the requirements of the Renewable Energy Approval regulation. A final assessment will be included as part of the Approval process.

**Property Values** – Multiple studies have consistently found no evidence that wind energy projects are negatively impacting property values:

- A 2010 study conducted in Chatham-Kent, Ontario, found there was no statistically relevant relationship between the presence of a wind project and negative effects on property value, (Effect on Real Estate Values in the Municipality of Chatham-Kent – Canning Consultants Inc and John Simmons Realty Services Ltd., Feb 2010).
- A similar analysis by the US Department of Energy's Lawrence Berkeley National Laboratory found that proximity to wind energy facilities does not have a pervasive or widespread effect on the value of nearby homes, the study covered a time span from before the wind farms were announced to well after construction and operation, (The Impact of Wind Power Projects on Residential Property Values in the United States: A Multi-Site Hedonistic Analysis – Ben Hoen, Ryan Wiser, Peter Cappers, Mark Thayer and Gautam Sethi, Dec 2009).
- A 2010 study looking at property values near the 396MW Twin Groves Wind Farm in Illinois found prices were negatively affected before the wind farm was built, but rebounded after it was in place, (Wind Farm Proximity and Property Values: Pooled Hedonistic Regression Analysis of Property Values in Central Illinois – Jennifer L Hinman, May 2010).

**Telecommunication** – Northland Power will undertake a telecommunications impact assessment to determine the effect on local telecommunications. The criteria for this assessment have been developed through consultation of the wind development industry and the Radio Advisory Board of Canada. In the event that disruption occurs, mitigation measures may include replacing the receiving antenna with one that has a better discrimination, relocating either the transmitter or receiver or switching to an alternate means of receiving information (e.g. satellite).

**Tourism** – Wind farms can generate tourism for the local community. Some wind farms get upwards of 60,000 visits a year.

- A study conducted for Prince Edward Island concluded that 72% of islanders and 75% of visitors agreed or strongly agreed that the government should encourage more wind farms.
- Glasgow Caledonian University was commissioned by the Scottish Government in June 2007 to assess whether the Government priorities for wind farms in Scotland are likely to have an economic impact on Scottish Tourism. Key findings confirmed that three-quarters of tourists felt wind farms had a positive or neutral impact on the landscape. The vast majority of tourists that had seen a wind farm suggested that the experience would not have any effect on their decision to return to that area. Some people indicated that the experience actually increased the likelihood of returning. The impact of wind farms on tourism revenues that may arise through changes in the price of accommodation, even in the short run, was found to be small.

**Turbine Location** - There will be approximately 45-48 turbines located within our study area. In general our turbines are clustered together; the average distance between turbines is approximately 430 m. All of the turbines are located to the east of Highway 21. The closest turbine to the Highway is approximately 650 m away (the majority of turbines are located between 1,000 - 4,000 m away).

**Visual** - We will be undertaking visual assessments with the aim of informing the Project layout and mitigation, if appropriate (photomontages will be available at PIC #2). Ultimately, we understand that the effect of wind turbines in the viewscape is a subjective negative or positive judgment by observers.

**Who Is Northland Power** – Northland Power is an Ontario-based company with over 20 years experience developing, building, owning and operating clean and green power generation projects.

Our facilities generate over 1,000 MW of electricity. Our head office is located in Toronto. Our units and shares have been publicly traded since 1997.

Northland has 2 operational wind facilities in QC (Jardin d'Éole and Mont Louis) and one in Germany. Northland has 5 operating thermal plants in ON (Cochrane, Iroquois Falls, Kingston, Kirkland Lake and Thorold), 2 plants in Saskatchewan and one in the US. Project sizes range from 21 MW to 265 MW. Northland also has a number of wind and solar facilities in the development stages in ON.

We pride ourselves on our commitment to meeting both power demands and community expectations. Sustainability is a core value at Northland Power. All of our development efforts and operational practices focus on ensuring Northland will continue to provide long-term benefits to our customers, investors, employees, communities and partners.