The Manitoulin Expositor
FISHING • YACHTING • CAMPING • HUNTING
"Published Weekly On the Largest Freshwater Island In The World"
Wednesday, April 27, 2011

MANITOULIN WIND NEWS

THE EFFECT OF TALLER TURBINES

By Rick Martin,
Senior Manager, Business Development Wind Energy
Project Manager, McLean's Mountain Wind Farm
Northland Power Inc.

Why change the height of the wind turbines for the McLean's Mountain Wind Farm? What are the benefits of taller turbines? What does the change in turbine tower height mean for the entire wind farm project?

These questions can be addressed in greater detail at the upcoming Public Information Centre meeting organized and advertised for Wednesday, May 18 at the Royal Canadian Legion No 177 on Vankoughnet Street East, in Little Current, from 7:00 to 9:00 p.m.

The change to the height of the turbines is in response to public comments and requests regarding initial turbine placement and number of turbines. A benefit of taller turbines is it lets us reduce the number of turbines and in that process relocate or remove turbines from the original turbine layout. The immediate impact is improved visual effects and reduced annoyance. The proposed McLean's Mountain Wind Farm project will now consist of 24-26 Wind Turbine Generator Units (WTG's) producing a maximum of 60 MW of electricity to be sold into the Ontario Grid through the Feed In Tariff (FIT) process.

Increasing the turbine tower height has other benefits. It means improved efficiency and greater power generation. Tower height is an important factor in the design of horizontal-axis wind turbines (HAWTs). The wind blows faster at higher altitudes because of the drag of the surface (sea or land) and the viscosity of the air. The variation in velocity or wind speed that comes with increased turbine height is a result of wind shear. Wind shear is a change in wind speed or direction with height in the atmosphere. Increasing turbine height means increased wind speeds and increasing expected power.

There is a math calculation used. I'll share it with you for those interested in the science of wind power. A doubling of the wind speed results in an eightfold increase of power available. This is due to the cubic relationship of power to wind speed, a fundamental law of fluid dynamics. The power available to a wind turbine is calculated by the following equation:

$$P = 1/2dAV^3$$

where P is power, d is the density of the air,
A is the swept area of the rotor, and V is the wind speed.

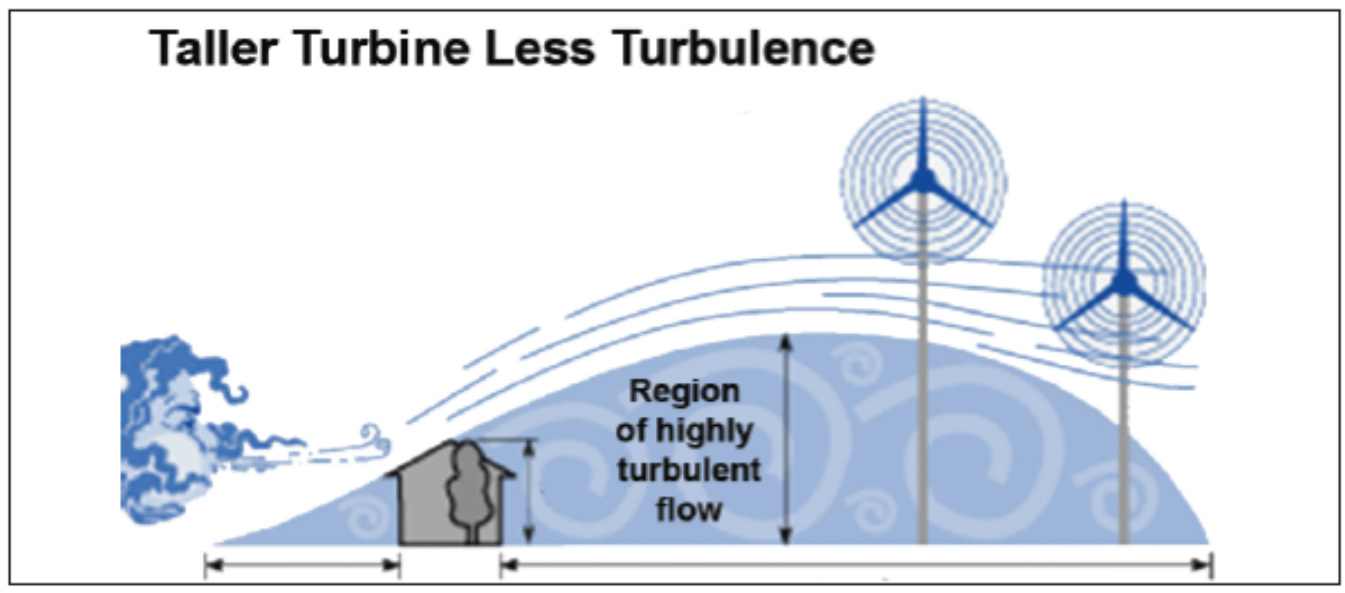
At night time, when the atmosphere becomes stable, wind speed close to the ground usually subsides whereas at turbine hub altitude it does not decrease that much and may even increase. As a result, the wind speed is higher and a turbine will produce more power than expected. I shared the math equation, but there's also something called the "1/7 power law." It predicts that wind speed rises proportionally to the seventh root of altitude. It's not rocket science and I am not trying to make this sound complicated. Basically, wind energy capacity curves improve with height because the wind profile is stronger.

What other benefits are there to increasing turbine tower height? Well, for one thing, improved community relations. We think it is important to be able to accommodate resident requests when possible and many wanted specific turbines relocated or removed. One result will be reducing the visual impact with fewer turbines. Plus, as mentioned before, the total wind farm footprint is significantly reduced.

What else? Well there are also environmental benefits from taller turbine towers. How and why? Fewer turbines mean fewer roads which means a smaller area of the site is affected by construction traffic. This also means less earth work and less grading impact. Another benefit is that taller turbine towers benefit from less wind turbulence, less air density, less friction over the blades resulting in lower frequency rotation of the rotor which is good news for those concerned about wind sound. It also means less impact on birds. The birds can detect this lower rotation sound and divert their flight paths.

I don't want to share so many details that you decide not to come out to the public meeting. The point is the public consultation process has had an impact and we have a duty to explain these things to you so the new turbine configuration and turbine tower height are understood. I do hope many of you come out to the May 18 meeting and bring your questions.

For those who cannot attend and would like to go over the effect of the taller turbines, please drop into the project office or give us a call. The contact information is included with this column.



NEXT WEEK:
WIND FARM COMPATIBLE WITH
AGRICULTURAL LAND USES

McLean's Mountain Wind Farm
Northland Power Inc.
13 Worthington Street, Little Current Phone: 705-368-0303

NORTHLAND POWER

Northland Power, in business since 1987, develops and operates clean and green power generation projects, mainly in the provinces of Ontario, Quebec and Saskatchewan.

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MANITOULIN WIND NEWS

AGRICULTURAL LAND USE AND TURBINES

By Rick Martin,
Senior Manager, Business Development Wind Energy
Project Manager, McLean's Mountain Wind Farm
Northland Power Inc.

Are wind farms compatible with agricultural and other rural land uses? How do wind turbines impact on crops and livestock? How much land is taken up by a wind farm's turbine layout? All important questions focusing us on how we make sure the McLean's Mountain Wind Farm is compatible with current uses of the land on this part of Manitoulin Island. The fact is wind energy is often a good fit with rural life and agricultural land uses. Farming, ranching and hunting can continue without challenges on wind farms. Why? The footprint of a wind turbine is relatively small—the base of the tower is typically about fifteen feet across. Large wind turbines typically use less than half an acre of land, including access roads, so farmers can plant crops and graze livestock right up to the base of the turbines.

They are called wind farms for a reason. Harvesting wind into energy is about improving air quality, reducing greenhouse gas emissions and fitting in with local landscapes. Wind farming consumes no fuel and emits no air pollution. Some may say that the carbon footprint related to building and transporting the wind turbines makes wind energy less environmentally friendly than the clean, green energy label applied to it. This isn't the case. Experts have done the calculations and conclude the energy consumed to manufacture and transport the materials used to build a wind farm is equal to the new energy produced by it within a few months.

I have mentioned in an earlier Manitoulin Wind News column and in conversations with landowners and with some who have attended the public information centre meetings that there are studies indicating that wind turbines can actually benefit crops. Some of you have been good enough to send to me articles from agricultural magazines you subscribe to highlighting wind turbine benefits to land uses. In the spring of 2010, researchers in the United States conducted studies on the impact of wind turbines in corn fields and adjacent lands that are important to this discussion.

The studies found benefits to agricultural use resulted from turbines helping the surrounding crops stay cooler and dryer, fight off attack from fungi and toxins and actually improved CO2 extraction. How? According to the researchers from the University of Colorado (Tackle and Lindquist) the turbines channel air downwards, increasing airflow to the surrounding crops and speeding up natural processes such as heat exchange. The impact is keeping crops cooler during hot days as a result of the improved air circulation keeping crops warmer at night and warding off early frosts. The process also appears to increase the carbon dioxide extraction from both the air and the soil. The study found a positive and measurable benefit to crops and adjacent lands.

The local landowners involved will tell you wind can become a new and valuable cash "crop" for them, supplementing regular farm income. The compatibility of wind farms with rural and agricultural land uses is further enhanced by proper turbine layout. The McLean's Mountain Wind Farm is, for the most part, not visible from most sight lines in Little Current. Situated up on the plateau and along the cliff lines, the turbines will work in harmony with current land uses. Yes, turbines are tall and we recently increased the height of the turbine selected to be able to reduce the number in the wind farm project, but the turbine tower is slim. Turbine siting is being done now. The McLean's Mountain Wind Farm turbine layout is not in typical single or double rows, but rather by strategic placements surrounding landscape features with spacing between turbines of one-half to one kilometer apart. This further adds to the small footprint.

I don't want to make it sound as if there is no risk of harmful impact. There is. There are two types of negative impacts that may result from construction of wind farms to agricultural lands. They are being studied too. One is the risk of permanent loss of productive land as a result of access roads and turbine tower installation, as well as to construction impact when connecting turbines to transmission lines. The second is potential damage to soil resources in areas disturbed during construction. Both of these risks are minimized and managed with proper planning and careful construction practices.

Northland Power is an experienced wind developer and its projects are conducted with care and attention to the details that ensure topsoil material is not stripped from agricultural areas and road access is conducted systematically not impacting drainage patterns, soil conditions or creating other disturbances.

Development of a wind farm in harmony with established land uses is our commitment. If you have any concerns or would like to talk about construction plans and details that ensure this project will respect the lay of the land then please come visit us at the project office, give us a call or be sure to attend the upcoming Public Information Centre on Wednesday, May 18 at the Royal Canadian Legion No 177 on Vankoughnet Street East, in Little Current, from 7:00 to 9:00 p.m. There is another notice for this meeting in today's newspaper.

NEXT WEEK:
LET'S TALK ABOUT CARBON FOOTPRINTS

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MANITOULIN WIND NEWS

LET'S TALK ABOUT CARBON FOOTPRINTS

By Rick Martin,
Senior Manager, Business Development Wind Energy
Project Manager, McLean's Mountain Wind Farm
Northland Power Inc.

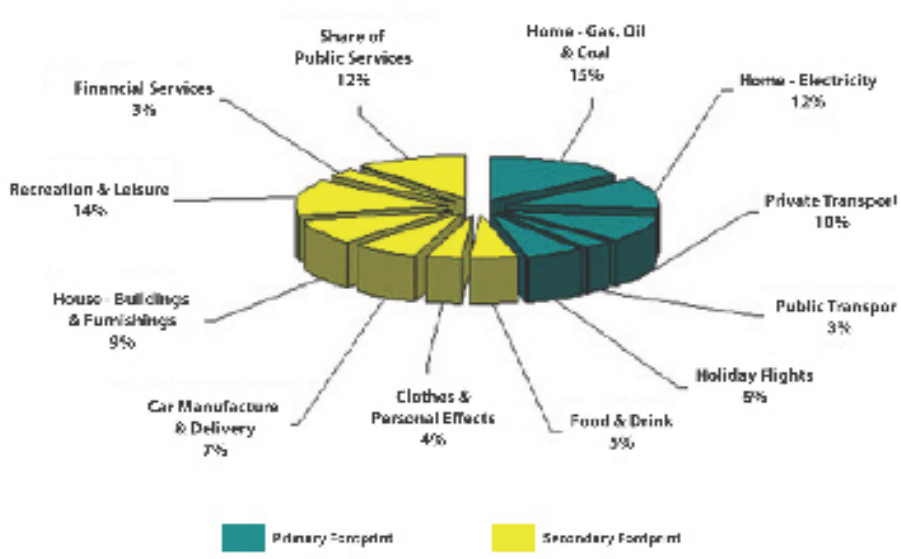
What is a "carbon footprint"? What is the carbon footprint of a wind turbine? How do we reduce our carbon footprint? We may have been collectively tip-toeing through the issue of climate change until former U.S. Vice President Al Gore published his book and the movie was released, "An Inconvenient Truth". Gore's work introduced the world to the concept of a carbon footprint.

A carbon footprint is a measure of the impact our daily activities have on the environment, and in particular to climate change. A carbon footprint is the measurement of all greenhouse gases (GHG) we individually produce and has units of tonnes (or kg) of carbon dioxide equivalent. The experts tell us that every Canadian produces about five tonnes or more of greenhouse gas emissions every year. They also rank Canada as one of the world's largest GHG emitters.

Canada's GHG emissions have increased by 32 percent in the past 15 years according to the Conference Board of Canada. Canada ranks 16th out of 17 OECD countries on GHG emissions per capita which gives us a "D" grade. As a result, there is now something in Canada called the "One Tonne Challenge". Maybe your children have come home from school with information on the One Tonne Challenge. It is dedicated to having Canadians learn about GHG emissions and committing to reduce their carbon footprint. If you ask the kids, they can probably tell you they've learned the tomato is one of the worst offenders having the greatest carbon footprint of any of the salad vegetables. Imagine.

Food, home items and appliances, wood, roads, transport, fuels, services and, of course, energy has all been reviewed and assessed in terms of CO_2 released when making and using products. A carbon footprint is made up of the sum of two parts: The primary footprint is a measure of our direct emissions of CO_2 from the burning of fossil fuels including domestic energy consumption and transportation (e.g. car and plane). The secondary footprint is a measure of the indirect CO_2 emissions from the whole lifecycle of products we use - those associated with their manufacture and eventual breakdown. See the pie chart with this column.

What is A Carbon Footprint?



Everything from eggs and potato chips to corrugated cardboard, laundry detergent, asphalt, online bank accounts and electricity generation has been ranked. You can find that full ranking of CO_2 emissions at www.co2list.org.

In terms of our on-going discussions of issues related to the McLean's Mountain Wind Farm, I thought you might be interested that wind energy has a lower carbon footprint than electricity produced by traditional utilities. Since climate change is now the most serious global environmental threat, the move from fossil-based power to renewable energy has become a priority.

Carbon calculators rank power sources by Grams of CO_2 per Megajoule (with a Megajoule (MJ) being a metric measurement unit of energy). That ranking lists –

Electricity(Grid)	210	USA average
Ethanol	120	from growing crops and clearing land
Nuclear	113	including mining, processing, defending waste
Coal	101	when used for heating
Gasoline	85	
Natural Gas	65	
Wind	13	from construction and land clearing
Solar	8	from manufacture
Hydroelectric	1-250	from flooded plants

Among those studying the carbon footprint of wind and other energy sources are the American, British and Canadian governments and associations such as the American Wind Energy Association, the Canadian Wind Energy Association and Renewable U.K. The wind energy statistics indicate that every unit (kWh) of electricity produced by wind displaces a unit of electricity which would otherwise have been produced by a power station burning fossil fuel. Wind-generated electricity does NOT replace electricity produced by nuclear power plants because they operate at "base load".

One emissions reductions calculation is done using the following formula --

---

CO_2 (in tonnes) = (A x 0.3 x 8760 x 430) / 1000

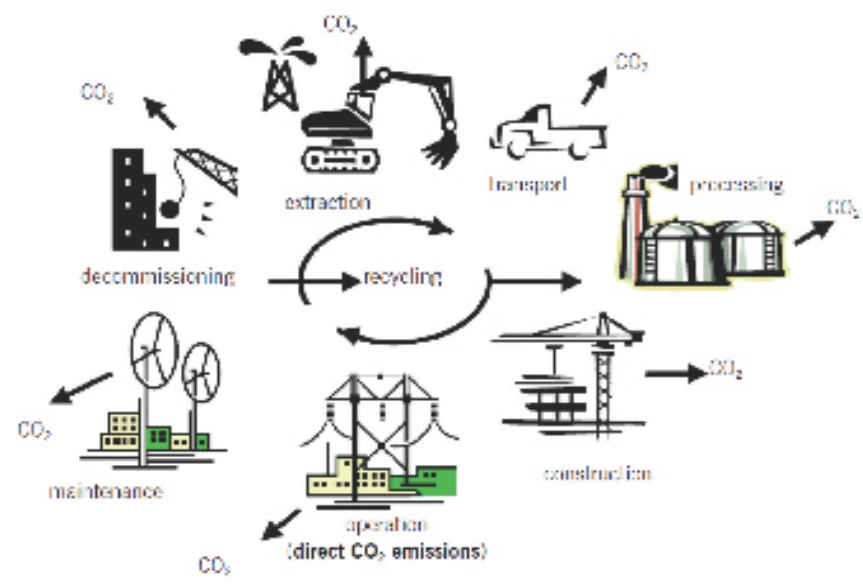
Where A = rated capacity of the wind energy development in MW (Mega Watts)
[in the case of the McLean's Mountain Wind Farm,
the rated capacity of the project is 60 MW.]

Where 0.3 is a constant, the capacity factor taking into account
the intermittent nature of wind.
Where 8760 is the number of hours in a year.
430 is a static number representing 430g CO_2 / kWh

This formula is used to estimate a typical wind turbine accounting for a reduction in emission reductions of roughly 2,260 tonnes of CO_2 per year.

Another method of calculating carbon footprints of electricity generation is by life cycle assessment (LCA). This method analyses the cumulative environmental impacts of a process or product through all stages of its life. It takes into account energy inputs and outputs from exploration and extraction of raw materials to processing, transport and final use. The LCA method is internationally accredited by ISO 14000 standards. This process again ranks wind energy as having one of the lowest carbon footprints. See the illustration with this column.

Life Cycle CO_2 Emissions for Electricity Generation Technologies



As mentioned in a previous Manitoulin Wind New column, some may say that the carbon footprint related to building and transporting the wind turbines makes wind energy less environmentally friendly than the clean, green energy label applied to it. This isn't the case. Experts have done the calculations and conclude the energy consumed to manufacture and transport the materials used to build a wind farm is equal to the new energy produced by it within a few months.

Greenhouse Gases (GHG) include carbon dioxide and methane produced when fossil fuels are burned. GHG's also occur in nature and from a natural "greenhouse" that keeps the Earth warm. One of the most effective ways of reducing GHG emissions is switching to renewable energy. It's a responsibility that governments everywhere have assumed as they appeal to each of us to join the global effort top reduce consumption from non-renewable sources.

We can all do the math. We can all reduce our carbon footprint. Turning off lights and TVs and DVD players when not in use, installing energy saving light bulbs, insulating the hot water tank, replacing old freezers and refrigerators, car pooling, the list goes on. Here on Manitoulin Island, we've taken a big step forward in reducing that footprint by being part of Ontario's move to wind energy to eliminate coal-produced power.

The experts behind these carbon footprint calculations tell us the average wind turbine generates enough power to run a computer for 1,620 years, make 170 million cups of coffee or tea, power 1,000 homes annually and prevent emissions of thousands of GHG equal to taking thousands of cars of the road. Isn't it time we looked at reduced carbon footprints as a result of wind energy as a positive contribution to our planet's healthy future?

April 22nd marked Earth Day with an incentive to take a billion green-friendly acts. It's a novel consciousness-building effort and a reminder that every day has to be Earth Day. The wind turbines of McLean's Mountain Wind Farm will soon be turning reminding us of that commitment.

If you have any questions about the McLean's Mountain Wind Farm project, would like further information on any aspect of the construction and operation of the project, please give us a call or drop into the Project Office. It would be great to see you at the upcoming May 18 Public Information Centre meeting on the wind farm project to be held at the Royal Canadian Legion No. 177 on Vankoughnet Street East, in Little Current, from 7:00 to 9:00 p.m.

NEXT WEEK:
MYTH THAT WIND POWER IS RAISING HYDRO RATES

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MANITOULIN WIND NEWS

MYTH WIND POWER RAISING ELECTRICITY RATES

By Rick Martin,
Senior Manager, Business Development Wind Energy
Project Manager, McLean's Mountain Wind Farm
Northland Power Inc.

Is wind generated electricity driving up the cost of hydro rates in Ontario? How significant are the subsidies for renewable energy? Is the cost for clean and green energy too high? Media stories with bold headlines, bloggers and anti-wind advocates are proclaiming green energy is hurting hard-working families, small business and the Ontario economy. This is far from the truth.

The talk is electricity bills are rising dramatically as a result of the cost of subsidies to wind and solar initiatives, as well as the cost of energy conservation programs. The 80 cents/kilowatt hour (kWh) for solar is frequently cited as the greatest offender, even though that rate only applies to rooftop solar with a capacity of 10 kW or less. In total, such installations currently amount to just 34 MW out of the 37,000 MW of installed generation in the province.

The point I'd like to make is that much of the wind power projects awarded by the province has not even been built yet. Between now and 2025, Ontario will need to replace about 80 per cent of its electricity system because it is aging. As Premier McGuinty often states, we are still using the electricity system built by our grandparents. Energy costs are rising with or without green energy projects. What is needed is a basic primer on how energy is priced, subsidized and built in Ontario. It is a complicated process.

Where to start? Where to get the information needed? A typical electrical bill consists of a charge per kWh of electricity used, plus a charge for transmission and distribution, plus a fixed fee to the utility, plus a regulatory charge, plus a debt retirement charge, plus HST, less the 10% the provincial government has just given in the clean energy benefit.

A government official, in a recent media story, gave a cost comparison using a typical home that heats with natural gas and uses 800 kWh of electricity per month compared to a similar house with electric heat that uses typically 2500 kWh of electricity per month (averaged over 12 months). Why the difference? Could be due to insulation or due to the time of usage (peak). The costs per month shown in the comparison varied $105 vs. $303. The point the official made was the cost of electricity per kWh "all in" was the same, about 13 cents.

This provides some context. The 13.5 cents per kW-h prices being paid for wind power under the Green Energy Act are competitive for the most part, especially when one considers they are 20-year contracts. The impact so far of Ontario's FIT/green energy on electricity bills is 0.4 cents. That doesn't sound like the trigger for spirally cost increases.

You personally can have an impact on how much you pay based on time of use. Have you heard of Ontario's new "Time-of-Use" pricing for hydro? See the three charts provided in this column that show a range in pricing of 5.9 cents (off-peak) to 10.7 cents (peak).

Time-of-Use prices are electricity prices based on the time of day, day of week (weekdays versus weekend), and by season (winter or summer) reflecting the cost to produce electricity at different times. Time-of-Use prices are set by the Ontario Energy Board (OEB) and will be subject to change each May and November.

TOU Prices (cents/kWh)*	Summer (May 1st - Oct. 31st)	Winter (Nov. 1st - April 30th)
On-peak 10.7 ¢	Weekdays: 11:00 a.m. - 5:00 p.m.	Weekdays: 7:00 a.m. - 11:00 a.m. & 5:00 p.m. - 7:00 p.m.
Mid-peak 8.9 ¢	Weekdays 7:00 a.m. - 11:00 a.m. & 5:00 p.m. - 7:00 p.m.	Weekdays 11:00 a.m. - 5:00 p.m.
Off-peak 5.9 ¢	Weekdays 7:00 p.m. - 7:00 a.m. Weekends and Holidays All day	Weekdays 7:00 p.m. to 7:00 a.m. Weekends and Holidays All day

* Time-of-Use prices and periods as of May 1, 2011. Time-of-Use prices reflect the cost of the "Electricity" line of your bill only. Delivery, Regulatory, and Debt Retirement charges are additional line items found on your bill and are not included in chart.

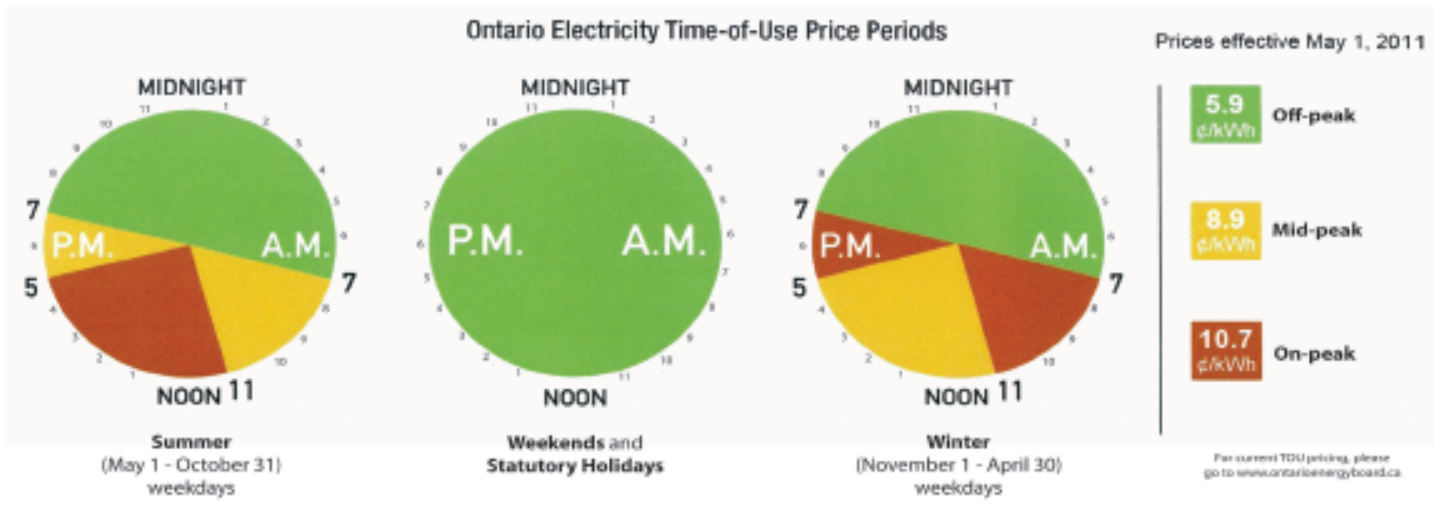
Time-of-Use electricity pricing was developed to encourage a shift in electricity usage from on-peak to off-peak periods when possible. You can also see the impact that shift can make to your hydro bill by each appliance if you go to http://www.ieso.ca/house/hydroone/

A visual of a house filled with appliances appears and you click on washer/dryer, furnace, TV, etc and calculate cost to use during different times. It's quite remarkable the difference and the savings to be achieved.

Wind power under development in Ontario cannot be blamed for rising hydro costs. Renewable energy costs are predicable and competitive. Renewable energy is a new industry. Last week, the United States set a target for 80 per cent clean energy by 2035, creating a huge market to the south to export solar panels, wind turbines and Ontario know-how. It also signals that Ontario, like other jurisdictions is moving forward with green energy and continuing to invest in one of the fastest growing industries in the world. There is a cost to ignoring the trend to renewable energy beyond just the environmental benefits.

The days of cheap energy may be gone, but the winds of change are not the result of renewables. I hope you check out the control you can have over your electricity bill by avoiding peak usage and in turning off appliances when not in use. We will all become better, smarter users of electricity in the coming years.

If you have any questions about wind energy, the McLean's Mountain Wind Farm project, anything in this or other columns presented, please do not hesitate to contact the project office by phone or by dropping in to meet with us. There is another Public Information Centre meeting planned for Wednesday, May 18 at the Royal Canadian Legion No. 177, Vankoughnet Street East in Little Current from 7:00 to 9:00 p.m. Come out and get an update on the project, ask your questions, discuss any issues or concerns you may have with us directly.



Source: Ontario Energy Board

NEXT WEEK:
HOW THE ELECTRICAL GRID WORKS

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MANITOULIN WIND NEWS

HOW THE ELECTRICAL GRID WORKS

By Rick Martin,
Senior Manager, Business Development Wind Energy
Project Manager, McLean's Mountain Wind Farm
Northland Power Inc.

IESO –The Independent \Electricity System Operator
The IESO manages the wholesale electricity market and oversees the reliable operation of the provincial electricity grid.

HONI – Hydro One Networks Inc
Hydro One delivers electricity across the province of Ontario. It is a crown corporation wholly-owned by the Government of Ontario.

OPA – Ontario Power Authority
The OPA plans and buys electricity supply from numerous resources and is responsible for making sure Ontario achieves its ambitious conservation targets.

OPG – Ontario Power Generation
The OPG is Canada's largest owner of nuclear power plants with responsibility for operating the Pickering A, Pickering B, and Darlington nuclear generating stations in Ontario.

How does Ontario's power grid work? How does the addition of renewable energy sources affect the grid? How does the "greening" of the electrical grid fit with the province's efforts to create a Smart Grid? Most of us don't think about how electrical power is delivered until we flick a switch that doesn't come on and we find ourselves in darkness. Where's the power? Why are the lights, the TV, the dishwasher not coming on? We take our electrical grid system for granted.

Ontarians use more than 139,000,000 megawatt (MW) hours of electricity a year. Power travels from a point of electrical generation (power plant, wind farm, power dam, solar panels) to your house through an amazing system called the power distribution grid. In almost all cases, the power plant consists of an electrical generator. Something has to spin that generator. It might be a water wheel in a hydroelectric dam, a gas turbine in a generation plant or a wind turbine. Today's transmission grid is a highly integrated, interconnected system transmitting electricity from the source of generation to the load where it is used by consumers.

The transmission system moves power long distances with high interconnectivity increasing the system's reliability. What does that mean? The power systems within the grid are interconnected. There are regions and authorities within the major interconnection points. In Ontario, you will hear reference to a number of power companies and entities such as the IESO, HONI, OPA, OPG and other local distribution companies. They each have different roles. See the side bar of this column for brief explanations.

The IESO is the Independent Electricity System Operator working at the heart of Ontario's power system, connecting all participants - generators that produce electricity, transmitters that send it across the province, retailers that buy and sell it, industries and businesses that use it in large quantities and local distribution companies -- that deliver it to peoples' homes. The Independent Electricity System Operator is a not-for-profit corporate entity established in 1998 by the Electricity Act of Ontario. It is governed by an independent Board. Its Chair and Directors are appointed by the Government of Ontario. Its fees and licences to operate are set by the Ontario Energy Board and it operates independently of all other participants in the electricity market.

Despite what has been said by anti-wind groups, the IESO, as the system operator, has been very engaged bringing wind projects into service and ensuring that Ontario's power system can support increased levels of wind generation and the variation of load that results. The IESO monitors the quality of the electricity generated. The quality of electricity is based on consistency of frequency, voltage and power factor. This is controlled by the IESO using various infrastructure built-in to the grid. Ontario is at the forefront of wind energy in Canada, with more than 2,600 MW of wind generation capacity expected to be in service by the end of 2011. Adding wind power to the electrical grid is an IESO priority. It hasn't been working on this in isolation. The IESO has been engaging the public and stakeholders in the process. It created a Wind Power Standing Committee and a stakeholder Working Group. Northland Power is proud to be participating in the initiatives of the IESO to make bringing wind onto the grid and power system easier.

For power to be useful for households and businesses it comes off the transmission grid and the voltage is "stepped-down" to the distribution grid. An example of this is the 115,000-volt line coming from Sudbury to Goat Island which is dropped down to two 44,000-volt lines that cross on the towers over the North Channel onto Manitoulin Island. This is lowered again at each community to a voltage level that can be handled by the transformers feeding the electricity on the poles outside your homes.

The "greening" of the grid is occurring as the IESO brings renewable energy into the supply mix. The new linking of environmental and energy policies has also introduced new innovations. Have you heard about the Smart Grid?

It's all about new efficiencies and ways to be able to increase conservation and put real power into the hands of consumers. In last week's column, we touched on the difference to your electrical bills from being more aware of peak versus off-peak usage charges. The Smart Grid takes this to a new level. It's happening now. Experts comment that the introduction of renewables into the electricity system served to shift thinking about how we generate, manage, consume and value electricity. Once that door opened, all aspects of the electrical grid system were studied.

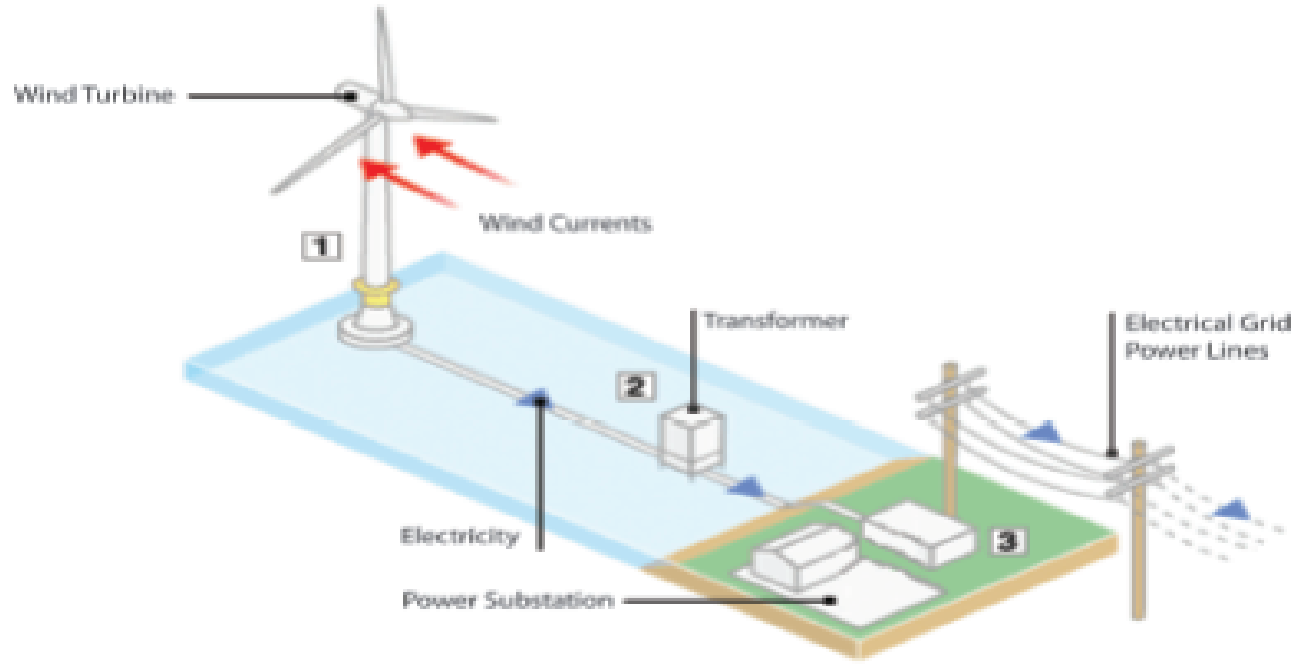
The IESO and others in the system discovered that by applying the latest technologies including benefits of the new internet protocols (IPv6) they could use megabytes of data to move megawatts of electricity more affordably – hence smarter. Smart metres were part of phase one of a smart grid. Next steps will see introduction of new devices that can be wired into the home, letting you program appliances to be used at lowest cost times, conserve energy and reduce bills.

Two months ago, in March 2011, a $40 million GE Grid IQ™ Innovation System was installed in Markham, Ontario. It's a 200,000 square foot centre developing grid modernization technologies. In 2004, Hydro One opened its state-of-the-art $125 million Grid Control system in Barrie, Ontario. By 2015, smart home technology is to be embedded in most household appliances and devices permitting homeowners to plan energy use around market and system pricing. Use the link provided to take you to the Smart Home Roadmap. ..http://www.ieso.ca/imoweb/pubs/smart_grid/Smart_Home_Roadmap.pdf

There's no turning back. Climate change was the wake-up call with new technologies making sustainability of energy possible. The winds of change are blowing us forward.

Enhancing the electrical grid through smart technologies, clean energy sources and high-speed, information technology communications has resulted in an unexpected level of grid performance. A smart grid will ensure electrical cars can plug in to the system too. It sounds like something out of a science fiction story, but it is here now and Ontario plans to lead the way. Manitoulin Island is part of the new smart grid, the new cleaner energy sources and soon an electricity system that's "wired" through transmission and with the internet.

If you have any questions or issues related to the McLean's Mountain Wind Farm project or would like more information on the smart grid system and wind generated power, please don't hesitate to give us a call or drop into the Project Office. Special thanks to all of you who attended our public information centre meeting last week and helped to make it a great success.



NEXT WEEK:
COME JOIN US AT THE MANITOULIN TRADE FAIR

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Wednesday, June 1, 2011

MANITOULIN WIND NEWS

COME JOIN US AT THE MANITOULIN TRADE FAIR

By Rick Martin,
Senior Manager, Business Development Wind Energy
Project Manager, McLean's Mountain Wind Farm
Northland Power Inc.

Why support and attend the Manitoulin Trade Fair? Why visit the McLean's Mountain Wind Farm booth at the Fair? How will the McLean's Mountain Wind Farm fit in with local businesses and local priorities? Close to 10,000 people are expected to come to this weekend's Fair, now in its 22nd year. With close to 200 exhibitor booths expected, this Fair is one of the largest of its kind in Northern Ontario. The organizers, the sponsors and partners deserve recognition and support for this remarkable biennial effort. We are pleased to support the Manitoulin Trade Fair and plan to continue to participate in this event every two years.

We are hoping it's marked on your schedules over the June 3-5 weekend and that you come to visit us at booths 42 and 43 located in the curling arena. Should the weather not cooperate, you'll be safe and dry inside the rink. We have been trying to present and share a lot of information about wind power, the wind farm project, how the grid works, while addressing issues and concerns that have been expressed, or misinformation that has been circulating. We've also hosted a number of public information meetings and have an open-door policy at the project office; all to reach out to the NEMI community in an open, informative and respectful manner. The focus is on the frequently asked questions and standard issues raised about wind power and renewable energy projects. But, maybe you have an individual, specific question that has not been addressed or not addressed adequately. We hope you feel comfortable to drop by the McLean's Mountain Wind Farm booth, come in and sit down with us and chat about that concern. Don't worry if the children are with you, we have colouring sheets and some fun, child-friendly handouts to keep them busy.

The Manitoulin Trade Fair encourages businesses and services in the Manitoulin/LaCloche area to promote themselves and to sell their products to the Trade Fair visitors. Like many of the Fair's major supporters – the Manitoulin Tourism Association, organizations such as the Great Spirit Circle Trail, the North Channel Marine Tourism Council, the Manitoulin Chamber of Commerce, Manitoulin Farmers' Markets and the province of Ontario – the McLean's Mountain Wind Farm fits in with the collective focus on sustainability, stewardship, promotion and protection of natural resources. Harnessing Manitoulin Island's unique wind resources is compatible with long-term sustainability goals.

Much of NEMI's leadership from within community-based groups and organizations and long-time businesses, are tireless advocates for environmental stewardship, climate change action, eco-tourism and exploring local solutions to local challenges. Supporting a reliable renewable energy source such as wind power fits well with those efforts and goals. The McLean's Mountain Wind Farm will connect right here at the main Transformer Station and serve NEMI residents and businesses. The talk that it doesn't and won't is untrue. If you think there is no local benefit to the wind farm then please make a point of coming by the booth and dropping in for a one-on-one chat with me.

The sustainability plans for NEMI are sound and prudent. I believe the McLean's Mountain Wind Farm has an important role to play in supporting those plans and that wind-generated energy is consistent with those goals. There may be a sometimes noisy few who seem determined to disrupt those goals, but the fact is there are far many more community leaders within the NEMI and First Nations' communities, here on the Island, who are standing up and working hard on Manitoulin's future. We'd like to stand with you.

This year, there's another "first" for the Manitoulin Trade Fair that is worth noting and supporting. June 3 will be the launch of a 10-day 'TASTE OF MANITOULIN FESTIVAL' developed and organized by the Manitoulin Tourism Association (MTA). I understand MTA President, Laura Wally-Varey, deserves credit for the idea. There will be local events including a fish recipe contest to encourage us and visitors to the Island to taste and sample local foods and culture. If you'd like a copy of the fish recipe I developed to salute the MTA's Festival, you'll have another reason to drop by the McLean's Mountain Wind Farm booth. Feel free to pick up the "Haweater Perch Bake" recipe.

Every Taste of Manitoulin Festival event has a focus on food with at least one ingredient being grown or made on Manitoulin. The concept is based on the principles of the '100-Mile Diet'. Thinking locally and using natural resources are consistent with thinking and supporting renewable energy. It's about reducing the carbon footprint as we've discussed in previous articles and it is another call to action in support of climate change initiatives.

The Canadian duo's idea is now a global movement. In 2005, Alisa Smith, a freelance writer in Vancouver, British Columbia and James (J.B.) MacKinnon, an independent Canadian author, began a one-year experiment in local eating. Their 100-Mile Diet book and challenge struck a deeper chord than anyone could have predicted, inspiring thousands of individuals, and even whole communities, to change the way they eat. I believe Manitoulin Island leaders who stand up and support the power shift to wind and renewable energy could also be part of a clear and conscientious decision to live greener and cleaner, kinder to local ecosystems.

Want to stand up and be recognized for your forward-thinking leadership, your commitment to sustainability and your support for the principles of renewable energy and locally-generated wind power for NEMI? Then we'd also ask you to drop by our booth. We'd also like to ask that before you are prompted to sign a petition and apply your signature to a document that could be submitted to the provincial government that you take the time to be fully-informed. The wind development team is a phone call or email away with facts, studies and expert third-party reports worthy of your consideration. Any petition, to be accepted as legitimate by the government, must include your name, your address and your signature. We are pleased and proud to be supporting the Manitoulin Trade Fair and other efforts underway throughout NEMI that we believe are consistent with clean, renewable energy. Don't hesitate to come by and chat and get the facts you need to feel comfortable about declaring yourself to be ready to accept wind-generated powers part of a responsible future here and throughout Ontario. See our full-page ad on page 5 in the Manitoulin Trade Fair insert in this issue of the Expositor.

See you June 3-5 at booths 42 and 43 in the curling rink at the NEMI Recreation Centre in Little Current.

If you can't attend the Fair or come by the booth and have questions that remain unanswered, or you'd like to see raised, give us a call at the project office, send an email or come by so we can sit down and chat face-to-face. Facts are better than rumours in making sound decisions.

NEXT WEEK:
YOUTH AND WIND POWER SHIFT

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Northland Power Inc.
13 Worthington Street, Little Current Phone: 705-368-0303

NORTHLAND POWER

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MANITOULIN WIND NEWS

YOUTH AND WIND POWER SHIFT

By Rick Martin,
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Project Manager, McLean's Mountain Wind Farm
Northland Power Inc.

If the shift to renewable energy as a cleaner and greener energy source is about the future, how are youth involved in the process and decision-making? Who is behind the global youth movement on climate change? How can local youth be engaged in the McLean's Mountain Wind Farm discussions? Canada's youth has been very involved in climate change and power shift initiatives for over two years. We here at the McLean's Mountain Wind Farm project office would like to applaud youth involvement in efforts related to sustainability, the shift to renewable energy and the impact of climate change.

I try and keep up with news about activities, programs and initiatives related to the move here in Canada and around the world to clean and green energy solutions. I became particularly interested in the youth role when I learned of a M'Chigeeng First Nation youth named Lynzii Taibossigai who had participated as a Canadian Youth Delegate to the December 2009 United Nation's (UN) Climate Change Summit held in Copenhagen, Denmark. I have not spoken with Lynzii nor am I suggesting she is a supporter of our project. I just believe her efforts and actions deserve recognition. Plus, I wondered if she stayed involved since 2009. I spoke with the UCCMM and learned she is still very involved with climate change issues and has explored clean energy solutions.

Here are some of the questions she raised after the Copenhagen Summit –

What can we do to really make a difference?

What will really influence change for the betterment of all of our futures?

Is it the everyday things, like using a reusable water bottle, carrying a grocery bag with us everywhere we go, biking to work and school?

Or is it developing renewable energy, such as wind and solar power?

Or educating the next generation on the importance of living sustainably and being respectful to Shkakmig-kwe (Mother Earth)?

In 1992, the promise of action to combat climate change called the Kyoto Protocol emerged from the Rio Earth Summit in Brazil. The Kyoto Protocol was officially adopted in 1997 and implemented in 2005. Over 187 countries signed and ratified the protocol as of November 2009, including Canada. The Protocol was an agreement under the United Nations Framework Convention on Climate Change (UNFCCC) aimed at combating global warming. The UNFCCC is an international environmental treaty with the goal of achieving "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system."

Kyoto served as a call to action for youth to gain a place at UN tables at which they did not feel they had representation or a voice. And, that's just what they did. The international youth movement, or YOUNGO, gained official UN constituency status in 2009. Young people, as responsible global citizens, started responding to climate change from a grassroots levels to the highest political platforms. It's really something special to read about.
You can learn more at: *http://www.youthclimate.org.*

At a follow-up UN climate talk session, held in Mexico, more than 100 youth from around the world attended, lobbied for and achieved passage of something called "Article 6". In UN talk, the Article ensures that education for sustainable development is supported, especially through outreach by youth non-governmental organizations. For youth leaders, this was a moment of success following more than five months crafting policies that would appeal to all nations to achieve tangible gains for youth. In one of the media stories, there is a quotation from a Youth Climate Coalition delegate praising Article 6's passage, and framing the importance of it with the statement, "No decisions about us, without us."

One of the youth had a bold message that read: "Don't Be A Fossil: Support Wind". It made me think about how our youth must be concerned about their future because of the climate change predictions and current signs of the impact. It shouldn't be a discussion among adults and politicians only. It's not just about a "power shift" from fossil fuels, but also a power shift from this generation to theirs.

Also, as we all grapple with the shift to renewable energy many may be feeling decisions are being made without them having a say. The current anti-wind forces are claiming fault lies in the process to shift to renewable energy and not in the choice of energy selection. That is an important distinction. As a company and as a wind project developer, we have made a point of following and complying with all government requirements, directions and processes.

The McLean's Mountain Wind Farm project did double duty on its Ministry of the Environment (MOE) approvals. We were almost 95 percent finished with the initial MOE-defined approvals process when the Renewable Energy Approval (REA) was established. We redid studies, committed to additional requirements and studies and are now almost finished and ready for submission again. In both processes, we have met with municipal Councils and respected and complied with municipal requests. We have NOT circumvented municipal democracy as some claim the REA has permitted. We can state that we have been openly and constantly engaged in municipal consultations and interactions with NEMI's Council, Councillors, Planning Department and CAO's office for the past 8 years.

Meeting or exceeding requirements is a commitment Northland Power and the McLean's Mountain Wind Farm project takes seriously. We have exceeded community consultation requirements and we continue to reach out to all NEMI residents to hear your issues, respond with facts and proof of compliance and consideration and were happy to do so. The Manitoulin Trade Fair was another opportunity to meet with thousands here on the Island to continue the discussion about wind energy and wind turbines on Manitoulin. We heard from residents of all ages, including youngsters who took time to colour sheets with images of wind turbines in open fields at our booth.

Youth have been participating in climate change groups on college and university campuses, at provincial, national and international summits and at events such as the one called Power Shift. The last Power Shift Canada conference was held in 2009. The next Power Shift conference to hosted here in Canada will be in October 2012. For those interested, information on the last conference is available at *http://www.ourclimate.ca/wordpress/powershift-subpage/power-shift-principles/* Maybe a number of NEMI youth will attend the event in 2012. Maybe they'll be able to stand proudly and talk about wind power on Manitoulin Island.

This summer, high school students will have an opportunity to join the global youth movement in climate change at one of the six regional summer camps the Canadian Youth Coalition on Climate (CYCC) has organized. It's all happening as part of their "Power Summer" program. If you're interested, the Ontario camp will be held August 18-21 near Shelburne, Ontario.

Youth interested in learning more about the McLean's Mountain Wind Farm can come to the project office, give us a call or send an email. We might be able to help you find eligible tasks and opportunities to earn community service hours. Since every Ontario student must complete 40 hours of community service before graduating from high school, and the focus of those hours is community-service related, we may be able to help you meet that need while learning about the shift to renewable energy in the process. If you have a science or environment project on wind energy give us a call or come in and visit at the project office, we'd be happy to help.

NEXT WEEK:
EIGHT YEARS OF DIALOGUE

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MANITOULIN WIND NEWS

EIGHT YEARS OF DIALOGUE

By Rick Martin,
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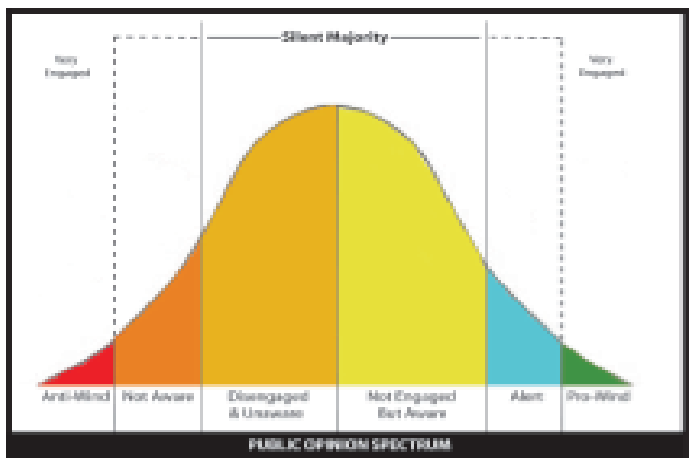
Northland Power Inc.

How long does it take to develop a wind farm and how much of that time is spent communicating with the municipality and residents? Who defines what is adequate community engagement? How is public input captured and acted upon? The McLean's Mountain Wind Farm has been under development for over 8 years and throughout that time there has been regular, on-going contact and communication. The bigger question is how best to reach and engage the vast majority of people who do not take a position in the pro or anti camps. I think last weekend's, June 3 to 5, Manitoulin Trade Fair gave us a unique opportunity to speak with thousands of people – local residents, local businesses, regular tourists and first time visitors – to talk about wind energy in a meaningful way. It was face-to-face communication. The discussions were open, honest and respectful. I'll share some of that with you later in the column.



We at the McLean's Mountain Wind Farm project took a special approach to communicating with residents and the municipality. We focused on developing a real "public dialogue" on wind energy and the proposed wind project for Manitoulin Island. This included meaningful consultation and accommodation with the First Nations of the UCCMM and with Wiikwemkoong First Nation. The partnership with the Mnidoo Mnising Power Corporation is testimony to the excellent understanding achieved and the blessing of Mother Earth that followed at a Sunrise Ceremony.

The purpose of "dialogue" is to build true community among participants on a specific topic – in this case wind energy. It's a slow process. It's not easy. But I have to admit I take great pleasure in going into a NEMI store to pick up a bag of milk and seeing someone shopping with an I SUPPORT WIND ENERGY T-shirt on. Public dialogue is a cornerstone of participatory democracy. Don't let anyone tell you the wind project is being rammed or pushed through without real due diligence and due consideration of local issues and concerns. That just is not the case.

I started work on what became the McLean's Mountain Wind Farm back in 2003. The project pre-dated the provincial Green Energy Act (GEA) and the Renewable Energy Approval (REA) process. Although the GEA has permitted circumvention of formal municipal processes, we have not. In the REA process, there are requirements to gain municipal approvals, albeit very limited. We made an initial presentation to NEMI Council and have had ongoing discussions with senior staff about location, plans, requirements and permits from the municipality's perspective. We asked permission. We earned permission. We have worked cooperatively with the 2003, 2006 and 2010 elected Mayors and Councils. Upon the election of each new Council, we invited the Mayor and Councillors to personal or collective briefings on all aspects of the McLean's Mountain Wind Farm project. For every municipal permit or requirement milestone that resulted in a Council vote, we have gained that Council's support. We have not circumvented municipal input or processes. We have made deputations, responded to public and Council questions and addressed needs directly. That's an important part of multi-stakeholder dialogue.

NEXT WEEK:
RENEWABLES AND FIRST NATIONS

We never sought nor did we expect unanimous acceptance or support. That would be near impossible to achieve. There will always be early adopters of new ideas and new technologies, just as the opposite is true with immediate and consistent naysayers. See the public opinion spectrum diagram with this column that maps typical engagement. What we wanted to do was broaden the discussion from anti versus pro to reach the silent majority. We wanted to be sure and we felt we had a duty to ensure that it was not only the voices of a few being heard. How to do it?

The Ministry of the Environment has a strict process for public consultation that revolves around something called a PIC – public information centre – which is an advertised and organized public meeting at which the developer must communicate specific advances and elements of a project, get public questions and respond to them in writing sharing questions and answers with the government, on the public record. We've had a number of PICs and again I did a column on the process that appeared in an earlier issue of The Expositor. All the past columns are archived and available to anyone from the McLean's Mountain Wind Farm project office. The weekly columns published in The Expositor are to help get factual information to all residents.

The experience of the Manitoulin Trade Fair was beyond our hopes for public conversation and dialogue. It was an amazing three days. The organizers deserve lots of credit for hosting and running Northern Ontario's largest event of this kind. The crowds of people were pleasant, orderly and curious. The children who attended were polite and great at colouring. We still have well over 120 pieces of their finished artwork. The budding artists were given whistles and T-shirts and other fun items as rewards for their enthusiasm and artistic flair. Bravo to all.

The Fair attendance was pegged at 8,000 people and many took the time to come to our booths, have a good conversation and then over 800 signed up in the affirmative. They said YES to wind power. This is remarkable. The fact is that it is much easier to be opposed to something, particularly when you're hearing wild tales about possible negative impacts and being shown seriously out-of-scale models and unidentified source pictures that have nothing to do with what is proposed for here. Many people approached our booth asking questions such as "Is it true people are dying from wind turbines in California?" or "Is it true that the wind power generated on Manitoulin Island will be sent to Toronto for use there?" Where did the questions come from? Those asking them of us said they'd been told such things at an anti-wind booth also located at the Trade Fair.

Misinformation isn't much of a communication challenge when you have the benefit of years of studies, reports and proven facts to refer to and share. So, the answers were clear. NO, people in California are not dying from wind-generated power. NO, the power generated from the McLean's Mountain Wind Farm is not for export. The wind farm will connect to the electrical grid just upstream of the Transformer Station on Goat Island. The first draw on that wind-generated power will be here on Manitoulin Island. Given wind capacity is factored at 30-32% of power generated, the roughly 20 MW the McLean's Mountain Wind Farm will produce will be used to serve the consistent 9 -13 MW of need on Manitoulin. Any excess would be used by the next available community which would not be Toronto.

Some organized groups are saying they have studied all the information emerging from the project reports, but in fact they have not come to the office nor have they met with the project development team to get facts checked or to be sure their interpretations are accurate. Passionate rejection of facts doesn't make them right. If you have concerns, please get all sides before making a decision or taking a stand.

Public conversations are a form of dialogue that serves to tackle deeply divisive topics. We are achieving true public dialogue on Manitoulin Island. Thanks to all you good folks who take the time to have a meaningful conversation with us about wind energy and the McLean's Mountain Wind Farm. We've heard from youth who say they are proud Ontario is going green; seniors who are more afraid of nuclear power than harnessing nature's wind forces; parents who want a sustainable future for their children; tourists who say wind turbines on the Manitoulin landscape would not be a negative to return visits. Let's keep talking.

Please do not hesitate to give us a call at the project office, send an email or drop in for a conversation so we can personally address concerns or misinformation you may be hearing. We plan to be here as part of this community for years to come. By the way, if you missed a chance to sign up as a wind energy supporter, there's still time.

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MANITOULIN WIND NEWS

RENEWABLES AND FIRST NATIONS

By Rick Martin,
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Northland Power Inc.

Is renewable energy consistent with First Nation philosophy? Are many First Nations in Ontario and Canada involved in wind energy development projects? Why have the federal and provincial governments started Aboriginal Energy Funds and Aboriginal Energy Programs? Manitoulin Island can boast of a couple of firsts when it comes to First Nations embracing wind power as an important source of renewable energy.

There has been much enthusiasm for the M'Chigeeng wind farm project that was approved by the Ontario Power Authority (OPA) under the project name Mother Earth Renewable Energy. It makes M'Chigeeng the first Aboriginal developer of a commercial scale wind farm in this province. Chief Joe Hare has been quoted: "I am very excited how we are in a good position in the alternative energy industry. The government of Ontario has done well to legislate how these opportunities can be relied on through the Green Energy Act, the FIT program and the loan guarantee program; it's a very good thing for First Nations." Rather than teaming up with a development partner, the First Nation of M'Chigeeng has boldly moved to create the wind farm, on the bluff, overlooking its land, on their own.

"We, as Anishinabek people, are proud that the Mnidoo Mnising Power project will gather our resources and harness nature to create clean renewable energy in harmony with Mother Earth."

The McLean's Mountain Wind Farm's 50-50 partnership with the UCCMM's Mnidoo Mnising Power Corporation is another first for Manitoulin Island. The First Nations involved in doing the due diligence on wind energy and then on the project were very thorough and we engaged in meaningful consultations, accommodations and the eventual partnership. There were many comments made at the official announcement worth sharing because of the strength of the support for wind-generated energy.

"The United Chiefs and Councils of Mnidoo Mnising are committed to the thoughtful and responsible development of our natural resources, where our families' needs are addressed and that provides a better future for our young people," said UCCMM Tribal Chair Chief Shining Turtle.

The partnership with Northland Power is an important model of how First Nations can work closely with the private sector and government on something that both benefits First Nation peoples and supports the Province of Ontario's leadership in renewable energy.

"I think on a broader scale, it brings a lot of hope and opportunity to the people on Manitoulin Island, particularly the First Nations people," said Chief Joe Hare of M'Chigeeng First Nation. "We have developed an overall plan and that consists of being business partners in the development of wind turbines on Manitoulin Island."

"We, as Anishinabek people, are proud that the Mnidoo Mnising Power project will gather our resources and harness nature to create clean renewable energy in harmony with Mother Earth," said Chief Endanawas of Sheshegwaning First Nation.

Government funds and programs are focused on helping establish collaborative, productive, meaningful partnerships. As the federal Minister of Indian Affairs and Northern Development stated at a recent Aboriginal energy conference: "It is these partnerships that open the door to wealth of opportunities for First Nations throughout Canada … Now is the time for First Nations to have a leadership role in the energy sector… All Canadians prosper when First Nations prosper."

There has been considerable involvement of First Nations of British Columbia in wind and solar projects. In fact, there is an excellent program built on some important relationships with many communities, elders, thought leaders, youth and the University of British Columbia's Sauder School of Business resulting in a FIRST NATIONS RENEWABLE ENERGY ROADMAP. (Link to source http://isis.sauder.ubc.ca/research/first-nations-renewable-energy-roadmap/) The essence of that work and the many wind and solar projects that have resulted is underpinned by the belief that green energy initiatives are aligned with First Nation philosophies about being good to Mother Earth and in building the foundation of self-determination through this type of economic development.

Ontario made First Nation engagement in the Green Energy Act a strong commitment. The Aboriginal Community Energy Plan (ACEP) is available to First Nations and Métis communities in Ontario. The Plan is integrated with the Aboriginal Energy Network and Aboriginal Energy Fund. The programs have been well-received and First Nation projects have been submitted and accepted under FIT. The federal and provincial Ministers responsible for Aboriginal issues agree the renewable energy sector offers the most robust economic development opportunities, business partnerships and long-term self-sufficiency opportunities for First Nations.

In fact, First Nation leadership has stated publicly that this time the Ministry's involved "got it right" in the manner in which First Nations have been involved and are participating in renewable energy.

Given growing awareness and concern about climate change, energy production, from all sources, is now under scrutiny. There is considerable discussion about nuclear energy, spent nuclear rods being inserted into Mother Earth and one can only question why that could possibly be acceptable while harnessing nature's wind would be rejected. The fact that large solar farms require roughly 10 acres of clear cut forest per MW has raised concerns about the size of this larger footprint and its impact on the ecosystem. All energy sources present with issues.

Manitoulin Island is indeed a special place. We all recognize it has beautiful scenery, boasts the Great Spirit Trail and is the largest freshwater island in the world. Using wind energy to provide clean, green, sustainable energy is consistent with preserving all of that for generations to come. The majority of the Island's First Nations agree that wind energy is in harmony with ecological concerns and environmental stewardship principles. However, there are more open discussions and exchanges that need to happen.

If you have any concerns about the McLean's Mountain Wind Farm, about First Nation wind-generated energy issues or about any rumour that is circulating related to wind power or this project, please do not hesitate to call us, send an email or drop in to the project office. The shift to renewable energy is well underway to benefit Manitoulin Island and our province now and for the years to come.

NEXT WEEK: LOCAL COMMUNITY WIND FACTS & FICTION

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MANITOULIN WIND NEWS

COMMUNITY WIND FACTS & FICTION

By Rick Martin,
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Northland Power Inc.

Canada's wind resources are currently providing power to over 315,000 homes. Canada has more than enough wind resources to meet 20% of its electricity needs or enough to power 17 million homes. On Manitoulin Island, wind projects are under development. There is the Spring Bay project, the McLean's Mountain Wind Farm and the solely-owned First Nation wind farm. It was great to attend last week's public launching of the Mother Earth Renewable Energy wind farm project on the M'Chigeeng First Nation. Here on the Island, as elsewhere in Ontario and Canada, people are embracing wind power as a source of clean energy and a real solution to getting off coal and lessening dependency on fossil fuels. There are a few who are not happy with the shift to efforts to harness the wind as a more environmentally prudent way to meet energy needs. Change doesn't come easy for all. You can accept someone's right to be opposed, but it is not right to have fear used to justify the spreading of misinformation or unsubstantiated statements.

There is one fact that the community can check readily. Wind developers are subjected to numerous, stringent, requirements for studies commissioned by expert, third parties and examined and validated by government officials trained in the relevant field to levels of high proficiency. It is disrespectful, hurtful to those challenged and even harmful to public trust in our institutions to suggest the tests, studies and reviews are mere rubber stamping, or not to the highest standards. The fact is that opposition comments are not subjected to such regulatory scrutiny. Last week, the Ontario courts again, on appeal, struck down attempts to discredit the mandatory 550 metre setback limits for turbines. This isn't a plot. This is not because wind developers have influenced the judicial review. They haven't. This is because independent experts ruled the setbacks were sufficient and even among the most rigorous in the world.

I thought it might be useful to share some of the outrageous statements being made about wind energy by those opposing the McLean's Mountain Wind Farm and other wind projects in planning or under development on Manitoulin. But then, I realized, I might only be giving more air-time to them. You've probably heard them anyway.

The shift to green energy -- in which wind power is among the cleanest, most reliable, least impactful – has been well studied and the facts speak for themselves. I would ask that if people tell you that the Island will be subjected to brush fires and deforestation, that the wind farm will lead to wildlife extinction, threaten our pristine Island scenery, or put an end to tourism and destroy property values ask for the proof. Who has validated these allegations? What is the experience being documented and validated in Ontario?

Let's talk about the facts versus the fiction being spread. The source? Much of what we hear in terms of opposition claims comes from those of you who come and ask for our comments/responses to what others have told you. We have to agree with you; much of those contrary statements is unfounded as well as alarming to the point of being irresponsible.

FICTION: All wind developers are large multinational corporations only interested in profit.

FACT: On Manitoulin Island the two biggest wind farm operations under development are M'Chigeeng's and McLean's Mountain Wind Farm. Northland Power is a 50-50 partner with the UCCMM's Mnidoo Mnising Power Corporation. Northland is a Canadian company and it is proud of its Northern Ontario start and corporate roots. We are in business to be profitable, but that doesn't keep us from being a respected company that meets or exceeds government requirements for all power projects built and managed. We are publicly-traded and everyone has an opportunity to be part of Northland. Visit us at *www.northlandpower.ca*

FICTION: Wind power is a poor way to generate energy

FACT: Wind is a proven reliable way to generate energy. Technological advances in wind turbines have been shared in previous columns. The fact is that wind has an availability factor of 98%. Most turbines are located in sites where there's enough wind to produce electricity 70-80% of the time. Wind is variable and does not have a 100% capacity, but no other energy source does. There are many sources documenting the efficacy and reliability of wind power from experience in Denmark, Germany, etc. One online available source is *http://cleantechnica.com/world-wind-power/*

FICTION: Wind power is paid 80 cents per KW of power produced.

FACT: Under the Ontario Power Authority FIT (Feed-In-Tariff) program, wind power is NOT paid 80 cents per KW. That is the solar power tariff. Wind power gets 13.5 cents per KW produced.

FICTION: Solar and biomass offers a lower environmental impact than wind-generated energy

FACT: Any independent source of information on energy will state categorically that wind generated power has the lowest carbon footprint of any source of power. Wind energy is emissions-free and is a proven best alternative to offset the effects of climate change.

FICTION: People are "dying" in California from wind energy.

FACT: There is no independent, medical or scientific reporting of mortality from wind power in California or elsewhere.

FICTION: The wind power generated from the McLean's Mountain Wind Farm will be sent to Toronto for use there.

FACT: NO, the power generated from the McLean's Mountain Wind Farm is not for export. The wind farm will connect to the electrical grid just upstream of the Transformer Station on Goat Island. The first draw on that wind-generated power will be here on Manitoulin Island. Given wind capacity is factored at 30-32% of power generated, the roughly 20 MW the McLean's Mountain Wind Farm will produce will be used to serve the consistent 9 -13 MW of need on Manitoulin. Any excess would be used by the next available community which would not be Toronto.

FICTION: Peoples' health is at risk as a result of annoyance and sleep deprivation

FACT: We have confronted erroneous opposition claims about health impacts from wind turbines in a previous column. The allegation was also presented to Ontario courts, reviewed and rejected based on lack of medical or scientific proof. Ontario's Chief Medical Officer (CMO) of Health, Dr. Arlene King, concluded there is no link between wind turbine noise and health effects. The anti-wind activists claim annoyance has resulted in anxiety and sleep deprivation. The fact is that there is a medical condition known by a number of names - Metatheslophobia and Fear of Change -- being the most common. The condition often significantly impacts the quality of life. Medical journals and studies cite this condition as "a persistent, abnormal, and unwarranted fear of changes" and states each year this surprisingly common phobia causes countless people needless distress. This cannot mean that everything one fears is harmful.
The CMO's report can be accessed online at
http://www.health.gov.on.ca/en/public/publications/ministry_reports/wind_turbine/wind_turbine.pdf

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Rather than repeating the fictitious statements being presented as facts by those in opposition to wind energy development, I'd refer you to past columns and invite you to contact the project office and let us show you the numerous studies conducted to meet government environmental and other guidelines and requirements so you can see for yourself the rigour of the research, reviews and expert opinions. Yes, wind developers are required to pay for the work, but we cannot influence the work. The list includes the following --

FICTION: Wind turbines negatively impact the health of livestock
FICTION: Wind turbines can result in extinction of migratory birds
FICTION: Wind farms lead to deforestation
FICTION: Wind farms destroy wetlands and ecosystems
FICTION: Property values will decline by 30%
FICTION: Tourism will be irreparably affected

The studies have been done around the globe. Studies that have been commissioned by other than wind developers. Studies such as the one done in 2004 in Nature that estimated that up to one-quarter of all bird species could become extinct by 2054 due to global climate change for which wind-generated energy is actually one solution.

Wind power is not new. Wind power has been studied by governmental bodies as well as by scientific and industrial watchdog agencies and others for decades. Ontario is moving forward not backward by embracing wind power as a solution to providing safer, cleaner energy.

Get the facts. Don't let fear and untested statements shape your views without first coming to review studies and facts for yourself. They are available. We are available to you. The fact is the independent, third-party, expert studies and the testing are mandatory for any wind developer.

Our contact information is provided and we remain a phone call or email away.

NEXT WEEK:
WIND AND TOURISM

McLean's Mountain Wind Farm
Northland Power Inc.
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NORTHLAND POWER

Northland Power, in business since 1987, develops and operates clean and green power generation projects, mainly in the provinces of Ontario, Quebec and Saskatchewan.