



ENERGY FACTS

The Project:

Horizon Wind Inc. is proposing and has entered into an agreement with the City of Thunder Bay to construct a 27 megawatt wind farm on 17,000 acres of city owned land. This will consist of 18 turbines. Each turbine has a maximum output capacity of 1.5 megawatts. The windmill towers are 100 metres in height and the blades are 41 metres in length. The overall height to the tip of the blades will be 141 metres or 463 feet. The Nor'wester Mountains are approximately 180 metres or 590 feet high.

The **FIT (Feed in Tariff)** program created for **GEA (Green Energy Act)** projects under the current Liberal government will pay wind energy developers 13.5 cents a kilowatt for 20 years. Hydroelectric power in Northwestern Ontario can be produced for approximately 2 cents kilowatt. The **GEA** also gives the wind developers the added bonus of going on the grid first and coming off last. What this would mean in Northwestern Ontario which already has an overabundance of generation is the hydroelectric dams would have to be bypassed to keep the expensive wind generation on the grid. If you had a choice would you pay 13.5 cents a kilowatt when it can be produced for 2 cents a kilowatt?

Since the implementation of the **GEA** Thunder Bay Hydro (This utility is owned by the City of Thunder Bay) will be held responsible to pay up to 90,000 dollars per megawatt to install and/or upgrade transmission lines to the electrical grid for this 27 megawatt project. This adds up to 2.43 million dollars. Prior to the **GEA** this cost would have been paid for by the developer.

The City of Thunder Bay will receive 2% of the gross revenue from this project. 20% of peak capacity is the average output of a wind farm. This 27 megawatt wind farm would generate 9.6 million a year to the developer. 2%= \$192,000 per year to the city. Doesn't the City of Thunder Bay receive 2% of the casino revenues as well as all the problems associated with gambling? Was that a good deal for us or the province?

The developer does not have to post a decommissioning bond (This is basically an insurance policy that would cover the cost of decommissioning the project if the developer were to go bankrupt etc.) because the **GEA** has removed that responsibility. The life expectancy of a wind farm is 20 to 25 years. Do you remember what the City of Thunder Bay taxpayers were left with in the Sas-Pool 6 fiasco?

Due to the intermittent and unpredictability of wind generated energy every megawatt of wind energy has to be backed up by a megawatt of a stable type of generation. This would likely be in the form of natural gas or biomass generating stations. This will further drive up the costs due to extra infrastructure for wind energy projects. This will also not bring down carbon emissions as claimed by the developer according to the **OPA (Ontario Power Authority)**. Denmark, Germany and Britain and now Ontario are constructing additional fossil fuel plants (Typically natural gas) to provide stability to the electrical grid.

Energy Generation in NWO (Northwestern Ontario):

OPG (Ontario Power Generation) operates 10 hydroelectric plants on 5 river systems for a total capacity output of 680 megawatts and two fossil fuel plants, one in Atikokan (230 megawatts) and one in Thunder Bay (320 megawatts). The coal plants are scheduled to close in 2014. The Atikokan plant has been earmarked to be converted to burn biomass(wood pellets). It is not yet known what plans there are for the Thunder Bay plant.

According to the **IESO (Independent Electricity System Operator)** total generating capacity in **NWO** is 1400 megawatts. This includes privately owned/operated generating stations. The peak demand in **NWO** is between 500 & 600 megawatts.

Due to transmission line restrictions a maximum of 325 megawatts can be shipped to Southern Ontario. We currently have a surplus of 800 to 900 megawatts.

Some new projects **OPG** are pursuing are the Little Jackfish hydroelectric station at 100 megawatt output and the Upper and Lower Matagami at 485 megawatt output.

The Domtar Dryden pulp and paper mill has received 22.7 million dollars in federal funding to increase the production of renewable energy. This will nearly balance the mill's production and consumption of electricity. The AbitibiBowater mill in Thunder Bay is also close to a deal to do the same type of project. These projects will further reduce the demand for electrical energy in **NWO**. High energy costs in Ontario have caused the need for what mills are left to install renewable projects in order for them to be viable. Will new industry look at Ontario to as a place to set up shop with electricity rates about to become the highest in North America?

Other Quotes & Facts:

The Ontario Government estimated green energy projects will increase our hydro bills by 1% per year. Now they have changed their story. We'll have to wait and see how much????

Quote from the OPA: October, 2007, Ontario Power Authority (OPA) (Government's own agency tasked with planning Ontario's power system and now entering into long-term contracts with renewable energy producers - published its Integrated Power System Plan.)

Concluded "Since wind generation has an effective capacity of 20% compared to 73% for hydroelectric generation, additional generation capacity with better load-following characteristics would need to be installed. This needed capacity will likely have to be obtained by installing additional gas fired generation. Thus in addition to incurring further capital costs for the gas generation installation, higher gas usage would be expected to make up for the reduced amount of renewable energy from wind compared to that from hydroelectric generation or this alternative. Therefore, this alternative would result in higher greenhouse gas emissions."

Suggested "The hydroelectric generation developments in Northern Ontario are cost effective compared to developing additional wind generation; In conclusion, development of major hydroelectric generation north of Sudbury, with major reinforcement of the transmission north of Sudbury is the preferred alternative compared to additional renewable generation in Ontario."

Closing statement:

Is this project and Ontario's energy policies good for Thunder Bay & **NWO**?
City receives 2% of gross revenue. Thunder Bay Hydro is responsible for the cost of the transmission line installation/upgrade (2.43 million dollars). Decommissioning costs could be left up to the city due to the fact the developer does not have to put up a bond for the decommissioning. We already have more hydroelectric green energy than we can use or export. Renewable energy projects should be sited where the demand is, not where developers can make a fortune due to the **GEA** mandate. Ontario's energy picture is not one that would invite future industrial development. **OPG** and **Hydro One** have submitted requests for rate increases in the 9 to 11% range. The smart meter rate is another huge increase you'll see. Let's not leave out the 8% **HST (Harmonized Sales Tax)** increase. Is this just the tip of the iceberg?

