



Why is this called the **Big Thunder Wind Park**? Who named this?

This is misleading. The geography is completely wrong. It is on Mount Johnson, home of Loch Lomond Ski Area. A **Park** is what we **will never have** if this project proceeds!!

Fact

- On **April 12, 1988 a real park was proposed for the area** by then **Alderman Ken Boschcoff**: "City moves for Nor'Wester Range as possible area for a provincial park."
Councillor Ian Angus is quoted as saying he wanted to protect this area "that our children and our children's children can enjoy it long into the future"

Horizon says

"Big Thunder Wind Park will provide power for 9000 homes in Thunder Bay."p3

Facts

- Northwestern Ontario (NWO) does not have the need for all the power we produce, or the ability to ship all the excess power to alternative areas. **THIS IS WASTEFUL & UNNECESSARY!**
- Wind power costs over 2 times more than what OPG is paid for their power and 10 times what clean hydroelectric power can be produced for.
- If private wind energy were to have priority, water will spill over the dams.

Horizon says

"One Turbine can produce enough clean energy to power 500 homes without producing any emissions or waste materials."p3

Facts

- We are currently using green hydroelectric power dams that do not create any emissions or waste materials and, again, we have enough power, and we can't use it all or ship it. This project is wasteful!
- No turbine is CO2 free. All turbines require being manufactured, installed, and their concrete is incredibly CO2 expensive to produce.

Question

- Will you provide a full life cycle analysis for the above issues and for the eventual decommissioning of the units?

Horizon says

"The City of Thunder Bay will be the first jurisdiction in Ontario to host a wind farm on City-owned lands."p3

Questions

- **WHY** are we the **FIRST AND ONLY IN THE PROVINCE?** Who contacted whom?
- Why don't we join the 42 other Municipalities in Ontario who are doing due diligence by expressing their concerns and/or requesting the Province conduct health studies?
- Why don't we join the Canadian Federation of Municipalities request for a moratorium on wind development until a non-biased health study is conducted?

Horizon says "Big Thunder Wind Park will displace 15,000 tons of carbon dioxide every year, equivalent to taking 3000 cars off the road for the next 20 years."p3

Facts

- This calculation is very strange as it is comparing the emissions of producing 27 MW by the worst polluter, coal power, to wind power. Hydroelectric power, of which NWO has more than enough, produces no CO2 emissions.
- According to the City's "Community Environmental Action Plan", Thunder Bay's green house gas emissions are 50% from natural gas and 21% from gasoline. In order for wind energy to significantly reduce the GHG emissions here in Thunder Bay, the residents would have to replace any natural gas furnaces and appliances for electrical ones and replace their vehicles with electric ones.
- We in NWO create a small amount of CO2 only when the coal plants are operating
- Our 2 coal plants rarely operate. There are plans to convert them to burn biomass and therefore will be carbon neutral soon.

Horizon says "Less than 2% of the lands in the project area will be required for the turbines and access roads. The rest will remain forested and untouched."p3

Questions

- So why, if we have all this 17,000 acre area, have they chosen the 2% closest possible to homes, businesses, schools and recreational areas?
- Why are they so close to the cliff where birds live and hover and where rare maple trees as well as white pines and other rare species exist?

Horizon says "This project will cost \$75 million. Of that, \$15 million will be injected into the local economy. The remaining 80% are costs for towers, blades, and generators, which Horizon Wind Inc. hopes to purchase from Ontario."p3

Questions

- Where exactly do their figures come from? Where will the \$15 million be injected!

Horizon says "Thirty direct (construction) and ninety (indirect) jobs will be created in Thunder Bay."p3

Questions

- What are these "indirect" jobs? Are they full time or temporary?

Fact

- Short term, specialized out of town workers will arrive. Local jobs will be minimal at best.

Concern: The Northwestern Ontario Region has a Generation Oversupply (p4)

Facts

- The statement as to the "Generation oversupply" is true at this time.
- Because of transmission line restrictions, there is no way to send the excess power to Southern Ontario who actually wants it. There is 1500MW in the grid now and NWO is using only 650MW. We generate 650 MW via green (water) power and 150MW via natural gas, and 517 MW via coal (which is not being used). Again, we cannot ship our power to the south. Is the goal to replace our coal plant here in Thunder Bay? It hasn't operated since February 2009; it is being converted to bio-mass so it will be "green". Further, it will still be required to back up the "wind farm" if constructed, as wind is variable.

Concern: Health

Horizon says "Many studies have been done to assess the potential impacts of wind turbines on human health...The evidence says wind farms are safe neighbours" (p4)

Facts

- There is no peer-reviewed study to substantiate this claim. No health study on human beings show that the turbines are safe to site within 2 kilometres of anyone's home, school, business or recreational area.
- Health Canada recognizes that there is peer-reviewed scientific evidence that wind turbines have an adverse impact on human health.
- There have been many wind turbine accidents reported in Canada and around the world.
- A court application was filed in Ontario for a judicial review of the Green Energy Act 2009 based on the Precautionary Principle as it applies to industrial wind turbine installations.
- The Canadian Federation of Municipalities has asked for a moratorium.
- 42 Ontario Municipalities have expressed their concerns about the impact of wind turbines on human health to the Province and asked for various things from a moratorium to conducting health studies.
- Families in Ontario have had to vacate their homes after wind turbines were installed near them.
- Wind Companies have purchased homes and installed gag orders.

Horizon says "The alternatives are coal and nuclear...the province's coal plants kill 668 people a year"(p5)

Question

- Why is no mention made of water power which is green and exists in abundance in NWO?

Facts

- The fact is that coal plants "contribute" to approximately 668 premature deaths. This doesn't negate the impact of coal on health.
- Wind turbine accidents from ice throws and structural failure causing death are well-documented and on the increase.

Horizon says "Based on all available scientific and medical information it is Canadian Wind Energy Association's (CanWea) position that audible sounds from wind turbines have no direct harmful affect whatsoever on human health."(p.5)

Facts

- CanWea is not a government agency as some might think by their name. It is in fact a lobby group who advocates for the wind industry.
- There are many health issues associated with audible sounds from wind turbines.

Horizon says "The basis of health concerns revolve around the claim that wind turbines cause low frequency sound waves inaudible to the human ear."(p. 5)

Fact

- Well stated. In fact, the health effects on those subjected to long and frequent periods of pulsating, low-frequency noise associated with wind turbines include sleep disturbances leading to depression, chronic stress, migraines, nausea and dizziness, exhaustion and anger, memory loss and cognitive difficulties, cardiac arrhythmias, increased heart rate and blood pressure.

Horizon quotes

memorandum

Dr. Chief Medical Officer of Health Dr. Arlene King in October 2009

to Medical Officers of Health and Environmental Health Directors throughout Ontario that; "there is no scientific evidence, to date, to demonstrate a causal association between wind turbine noise and adverse health effects." (p.5)

Fact

- Dr. King then contradicted herself one month later by telling the legislative committee she wants more information about health effects of wind turbines: "what we'll be doing, when time permits is having a thorough discussion with all of the medical officers of health in this province about the existing information we have on any possible health effects related to wind turbines and determining whether any additional research needs to be done."

Horizon quotes

from

Dr. Geoff Leventhall "I can state that there is no significant infrasound

current designs of wind turbines. There will not be any effects from infrasound from turbines." (p.5)

Facts

- G. Leventhall PhD is from the U.K.; he works for wind energy companies as a noise consultant. Dr. Leventhall has also stated the exact opposite opinion: "Infrasound exposure is ubiquitous in modern life...it is common in urban environments, and as an emission from many artificial sources: ...industrial machinery, ...air movement machinery including wind turbines, ...the effects of infrasound or low frequency noise are of particular concern..." (May, 2003)
- People have abandoned their homes, been bought out by Wind Companies, been silenced by contracts.
- There are over 100 people claiming adverse health effects from Wind Turbines in Ontario alone.
- There has never been an independent study conducted.

Horizon says

"Health concerns surface in countries that do not have wide adoption of the wind turbines, however countries that have decades of experience, do not express any issues."(p.6)

Facts

- There are over 370 grassroots coalitions from 20 European countries demanding a halt or larger setbacks for the safety of the citizens.
- Setbacks are greater in many European countries and have been continually increased.
- The Chair of Energy Policy in the Danish Parliament calls it a "terribly expensive disaster."

Concern: The placement of Wind Turbines will destroy the land and trees

Horizon says

"The Environmental Assessment ensures the proposed wind project does not pose risk to the local habitat."(p.6)

Facts

- The environmental assessment is only as good as the studies that are done and the experts who are utilized.
- McGuinty's Green Energy Act replaced the normal Full Environmental Assessment process and many feel it was rushed and has not followed the Precautionary Principle.
- A lawsuit against the province stating the Precautionary Principle was not followed in developing the Green Energy Act has been brought forth by Ian Hanna and his lawyer Eric Gillespie.

Horizon says "There are already existing trails in this area; however people use the lands illegally."(p6)

Questions

- If the land is city-owned and citizens are using them, how is this illegal?
- Why does the City not provide access to this unique piece of city-owned land for its citizens to enjoy?
- Why won't our City study the potential of this beautiful asset as it has studied the Waterfront?

Facts

- A typical forest walking trail is irrelevant to a huge construction project such as this. Sixty-six foot wide roads are needed to bring up all construction equipment, 500 tons of equipment per turbine. The destruction will be irrevocable.
- This project will increase liability by opening these trails to become the "superhighways" needed for construction. Young people will now have greater access to use them as raceways, party places, etc.

Comment

- It should be illegal to destroy this land for future generations.

Horizon says "The predominant area of Sugar Maple is found on Square Top Mountain, several km from the site. Horizon Wind will try to replant any that has been cut down during construction."(p.6)

Facts

- There are more rare Sugar Maples on this site than on Square Top Mountain. This is the most northern point in North America for this species.
- Replanting rare Sugar Maples to reach their present grandeur would take over 150 years and wind turbines have lasted only 20 years on past projects.
- The turbines are located in an area where there are 10-30% Sugar Maple trees and access roads may be going through areas with more than 40% Sugar Maple trees.
- The ANSI is LESS than 3 km away.
- These trees will not grow on 1 metre of soil on top of concrete after the turbines leave. The ANSI was done over 20 years ago and clearly needs to be updated!
- Many large majestic White Pine that are also found in this area are threatened.

Concern: Animals

Horizon says "Literature review and project survey show that the site is not a major migration route for birds."(p.6)

Facts

- The wind turbines are a threat for more than just migration routes.
- The most immediate threat is habitat loss and degradation on their breeding grounds, wintering grounds, and at migratory stopovers.
- Birds often take advantage of an atmospheric phenomenon called thermals. This phenomenon may explain why raptors, such as our threatened Peregrine falcon may actually be ATTRACTED to the wind turbines.

Horizon says "Bat collision is only a concern for migrating species."(p.6)

Facts

- Most bats don't die from collisions (misleading statement); they die from barotrauma (internal haemorrhaging due to a sudden drop in air pressure). Barotrauma is a significant cause of bat fatalities at wind turbines.

Concern: Wind turbines will have an effect on property value

Horizon says "It has been found that in many cases prices actually increased faster in communities where wind farms are visible."(p.7)

Questions

- Will you put it in writing that our property values will not decrease and that, if they do, your company would compensate the land owner for their losses?

Facts

- The Canadian Federal Government states "there is evidence that both the visual and noise pollution do have an economic effect in the form of lowered property values...by 30% in the presence of wind turbines."
- Studies indicate properties will be devalued significantly for vacant and residential property in proximity to wind turbines. This devaluation varies between 15% and 45% depending on how close the turbines are to the affected property. The effect on property values will be widespread.

Concern: Wind farms are only operational 30% of the time

Horizon says "A modern wind turbine will generate enough electricity to meet the demands of more than five hundred homes over the course of a year."(p.7)

Fact

- Wind turbines operate at an efficiency level between 25 - 40% which would equate to between 125 and 200 homes.
- The wind turbines do not produce a steady flow of power as the wind fluctuates. This destabilizes the power grid. Hydroelectric dams provide a constant, stable and inexpensive source of power.
- The intermittent nature of wind means other forms of generation will have to ramp up and down when the wind fluctuates. The only generation capable of this is fossil, meaning gas and coal or biomass (after 2014). These generators are made to run at 80% of capacity or better; when they ramp up and down they produce more carbon dioxide than if they run at design output. This means wind power causes more carbon dioxide output from these plants than if there is no wind power.

Concern: Distance

Horizon says "the setback guidelines are set provincially...there is a minimum of 550 setback from homes and 40 dBA limitation. "The Big Thunder Wind Park is proposed to be 600 metres from the nearest home"(p.7)

Facts

- Ontario is new to this. We need to learn from past practices.
- UK Noise Association: 2006 "It would be prudent that no wind turbine should be sited closer than 1 mile (1600 metres) from the nearest dwelling."
- France, March 2006: Setback is 1.5 km (1500 metres) until the completion of an epidemiological study to determine health effects.

Horizon says "Horizon Wind's noise study show that they (setback guidelines) are beyond the minimum requirements at 35dBA" (p.7)

Question

- Will you put in writing that it will never exceed 35dBa?

Horizon says "less than twenty homes are within a one-kilometer radius of the closest turbines"(p.7)

Question

- Are 20 homes and the citizens of this city dispensable? Precautionary Principle should apply here.

Facts

- Shear Wind, a Canadian wind developer, recently agreed to redesign a proposed wind farm to assure no turbines are any closer than 1.4 kilometres from a residence.

Horizon says "The closest turbine to Loch Lomond Ski Hill is located approximately **150 meters** from the border of the nearest slope. There are currently no provincial provisions for setbacks to ski hills."(p.7)

Questions

- Who will guarantee (in writing) that 150 metres is safe for skiers and workers at Loch Lomond Ski Area?

Facts

- There are no other ski areas in North America with an industrial wind farm. The detrimental effects to skiers and workers have not been studied. This is, at best, an experiment.
- Accidents have occurred involving ice throws and signs posted by other wind farm developers warn people to stay away much farther than 150 metres.
- Australia is presently conducting an investigation of worker and business safety issues around wind turbines to ensure workers are equally protected; not simply landowners.

Horizon says "There are currently no provincial provisions for setbacks to ski hills, however the setback from provincial roads is the length of the wind turbine blades plus ten meters. The blades for the proposed turbines are 38.55 meters in length."(p.7)

Facts

- Signs outside wind turbine installations warn people to stay back 305 metres due to the possibility of ice throws.
- Loch Lomond Ski Resort receives over 70,000 skier visits per year. These skiers would be only 150 metres away from a wind turbine and have no roof over their heads. They would be in constant danger of being hit by an ice throw.
- As of July 2008 Hydro One increased setbacks to the edge of right of way for 500 kV assets (critical assets) to 500 metres, 230 KV (redundant assets) to 250 metres, and 115 kV assets (inconvenience but not significant) to 150 metres.
- ***It is interesting that Horizon recommends 150 metres to protect the lives of skiers and workers compared to the 500 metre safety setback that Hydro One calls for to protect its critical assets.***

Concern: Shadow Flicker

Horizon says "Only 19 receptors were identified to experience shadow flicker ...maximum worst case scenario is six hours of flicker over an entire year."(p.7)

Questions:

- Are we to assume "receptor" means people? Or does "receptor" refer to a household?
- Were the people skiing, who must concentrate, considered receptors?
- Can we have a guarantee in writing that this will not be a detriment to business as you claim?

Images: Visual Simulations of Big Thunder Wind Park (p.8-15)

- The photos are intentionally deceiving to minimize the reality.
- Horizon uses a lot of technical jargon to convince us that they are providing photos with accurate placement and size of the turbines. However, Horizon has not been clear or accurate concerning location, size and scale of the turbines.

Quick Facts

Horizon says "In Ontario the minimum distance between a turbine and a house is 550 metres, this is four football fields. The minimum setback distance for a provincial highway (a source of constant noise) is 50 meters, or half a football field" (p.16)

True BUT Roads are zoned Industrial. This area is Recreational where people come to "re-create" their lives and enjoy the natural aspects of the area.

Horizon says "Countries like Denmark already get 20% of their electricity from Wind."

True BUT Its electricity generation costs are the highest in Europe (15 cents/kwh compared to Ontario's current rate of about 6 cents and NWO's rate of 4 cents). The Chair of Energy Policy in the Danish Parliament calls it "a terribly expensive disaster"

Horizon Wind Inc./Big Thunder Wind Park Community Consultation (p.17)

FACT

- Poor job of Public Consultation as so few people knew of this project, including City Council. Notices were **not mailed** to all 200 homes within 2 kilometres of the proposed project and this size of mailing area is grossly insufficient. Residents will sign affidavits stating this. Who do you trust? Your neighbours or a non-local company making money from this project.

What does Horizon say about tourism or recreation? Nothing

What does Horizon say about Professional Recruitment and Retention to this Area? Nothing

"People may be reasonably happy with one or two wind farms carefully sited in particular places. But as more and more farms are added over time their tolerance likely will diminish. In Australia the experience has been that once an initial wind farm has been built, that very quickly gets added to and can double or triple in size quite rapidly. The other issue is that towers are getting bigger all the time so that people may well be reasonably tolerant of wind farms that they have seen but are not aware that future towers will be very much larger."

Dr. David Mercer, a world-renowned expert on environmental issues, including wind farms and a Professor at the royal Melbourne Institute of Technology in Australia

What does Horizon say about future plans or a possible phase 2? Nothing

Is the plan to put in this extensive infrastructure for 18 turbines? Shelburne, Ontario started with 45 turbines and now has 133.

WHAT DOES OUR COMMUNITY WANT FOR THE NOR'WESTER MOUNTAIN RANGE? Industrial Wasteland or Recreational Area/Park

