

8850, Second Concession Rd.,
Stella, ON K0H 2S0

Oct. 8th, 2008

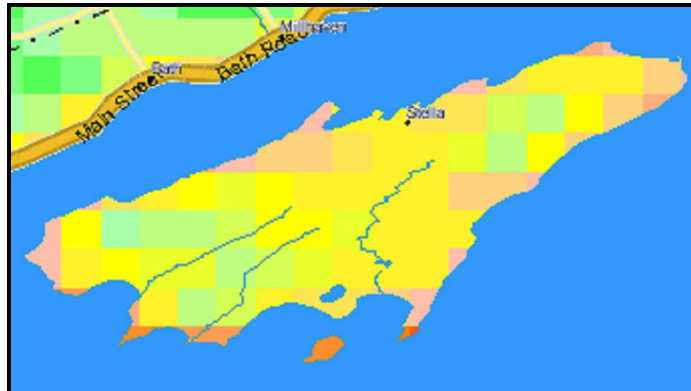
Mr. Colin Anderson,
Ontario Power Authority,
Suite 1600,
120 Adelaide Street West,
Toronto, ON M5H 1T1

Dear Mr. Anderson,

I am writing concerning a proposed wind energy project that will be submitted to OPA in the up-coming RFP for renewable energy. This proposal by Windlectric, a joint company formed for the project by Gaia Power and Algonquin Power, is to erect wind turbines on Amherst Island, towards the eastern end of Lake Ontario. I would like to explain why this is a very bad idea.

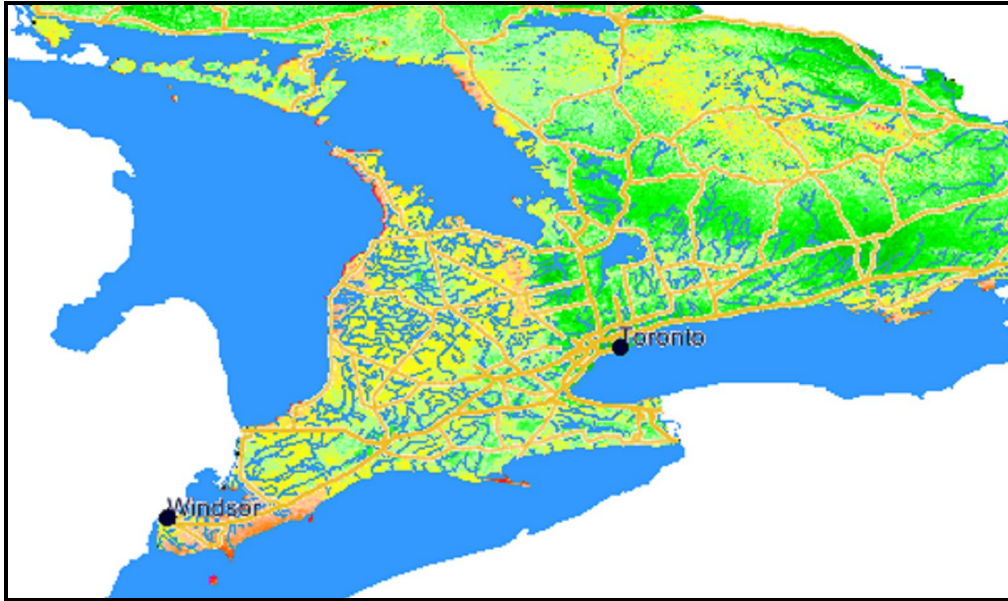
Wind Resource

According to the Ministry of Natural Resources, Amherst Island has only acceptable wind speed at 80 metres (6.5 m/s on average). The small regions on the map that correspond to 7.5 m/s wind speed will be excluded as either zoned *shoreline residential* or isolated by land that is zoned *environmentally protected*.



A cursory glance at the Ontario Wind Atlas (see page 2) shows that there are large areas of Ontario, many with low population density and closer to large urban centres, with a similar wind speed average. There are also large areas with wind speed averages in the “very good” classification of 7.5 m/s on average. I remind you that the power derived from a turbine varies as the third power of the wind speed. The third power of the ratio

of 7.5 m/s to 6.5 m/s is 1.5 or a 50% premium. Put another way, a wind project on Amherst Island will have an annual average capacity factor of only 20% compared with the 30% average for the five projects presently in operation in Ontario*. These five projects are all in “very good” classification zones.



Even compared to neighbouring regions at the eastern end of Lake Ontario, the wind resource on Amherst Island is poor:



** Several weeks ago, I sent an analysis of the IESO wind energy data to IESO and the Ministry of Energy. A copy is attached to this letter.*

I would also like to point out that, in a report commissioned by OPA from Helimax to investigate potential sites for wind energy, Amherst Island did not make the list of 60 sites. That is, it did not even rate “least favoured”. The ranking factors used by Helimax were: a) wind speed; b) megawatt capacity density; c) road access; d) social factors.

Windlectric does have its own wind speed map based upon measurement from 3 test towers and upper atmosphere modeling. It shows somewhat higher wind speeds than does the Ontario Wind Atlas. Nevertheless the Ontario Wind Atlas will give a better picture of comparative wind speeds across Ontario.

Project Area

Amherst Island does not have the land area for a large project. Windlectric has announced only that the proposal will be for up to 199 MW of nameplate power. The total area of Amherst Island is 16,500 acres. Of this, I estimate that 3000 acres is either zoned environmentally protected or environmentally sensitive and 2500 acres is zoned either hamlet or shoreline residential. All of this is “off-limits” under the Official Plan Amendment of Loyalist Township, presently with the Ministry of Municipal Affairs and Housing for final approval. These numbers do not include the area of buffer zones around these four zone classifications. This leaves less than 11,000 acres.

Algonquin Power has one newly operating wind energy project, at St Leon in Manitoba. For that project the nameplate power is 99 MW and the area occupied is 23,000 acres. A similar density on Amherst Island would limit the project to considerably less than 50 MW, surely not viable given the expected low capacity factor and the expense of an underwater cable of 3 km or more, depending upon where Windlectric can find land to lease or purchase for the transformer sub-station.

Opposition to the Project.

There is on Amherst Island a large and well-organized opposition to a large wind energy project. The Coalition for the Protection of Amherst Island (CPAI) has about 150 members and 175 people have signed a petition to Loyalist Township to oppose a large project. This from a population of 450 year-round and perhaps up to 800 with summer cottagers. There are many others who do not want to declare themselves for business or family reasons or just so as not to upset neighbours. The opposition is not against wind energy as such; the reasons are the noise, flicker and safety problems associated with close proximity to wind turbines, the ensuing health problems, concern with ground-water problems (much of the island is fractured limestone), environmental concerns (Amherst Island is one of Canada’s “Important Bird Areas”) and destruction of a beautiful island. This coalition will oppose a large-scale wind energy project by every possible means.

Until recently, the options to lease land were held by Gaia Power and Canadian Hydro Developers (CHD) which had bought out the interest of Vector Power several years ago. CHD had stated in a letter to CPAI that if they were not wanted by the community they

would develop elsewhere where they were welcome. CHD has since abandoned development on Amherst Island, presumably because of insufficient wind, because of a significant number of islanders who did not want them and because they realized that a proposal for Amherst Island would trigger a federal Cumulative Environmental Impact Assessment (CEIA) which could well sink the project. As the Ministries of Energy and the Environment are surely aware, CHD stated categorically that there would be “no development on Amherst Island in the foreseeable future” in order to forestall a CEIA for the Wolfe Island wind energy project. The quote is from the Wolfe Island Environmental Review Report.

Impact on Rural Residents

The three sections above relate to the obvious reasons why Amherst Island is a very bad choice for a wind energy project. There is a more general point to make and that concerns the selection of sites in Ontario where people are presently living. Wind power and solar arrays do offer a means of generating renewable energy. They produce expensive energy but, comparatively, not so expensive if we factor in the true cost of CO₂ generation by fossil fuels. Solar arrays involve many toxic chemicals in their production but once in place are relatively benign. However, wind turbines and their infrastructure are intrusive in many ways when sited inappropriately. I have seen wind energy projects in N Dakota, Saskatchewan and Alberta; they were in true rural areas amongst very large farms. The only people within sight or sound were the few farm residents who would have made a decision to welcome the wind energy companies and who are stake-holders in the development. This seems to me to be an ideal.

In Ontario, as initially was the case in Europe, our government (Ministry of Energy and OPA) is forcing wind energy projects on rural residents who are not stakeholders and who do not want wind turbines intruding into their lives. In this, the government is aided and abetted by the Canadian Wind Energy Authority which puts out statements such as there is no noise annoyance with set-backs of 300 to 400 metres. This is quite incorrect but how many municipal governments know this and how many members of the general public know this? Remember, the Ontario government has downloaded responsibility for turbine siting to municipalities! This is not the place to argue that turbines should be at least 1.5 km from residences. This I have been doing as a member of a focus group at the Ontario Ministry of the Environment (see the attached report to the Director of Environmental Assessment and Approvals Branch of the Ministry of the Environment) and as I did earlier this year before an audience of international pro-wind-energy experts at the World Wind Energy Conference held in Ontario (a copy of the paper is attached to this letter). What I do want to argue is that in selecting projects to go ahead, the OPA and the Ministry of Energy should support only those that are truly in rural areas. Otherwise, the wind-energy industry and the Ontario government will win a few battles but, as in Europe, will lose the war. I refer to the recent rally held in Paris and the resulting pan-Europe protest movement that has brought together many very influential people and groups. Bear in mind that our population density is so much smaller than that of Europe, particularly northern Europe; we have no excuse for imposing wind turbines on people.

I will finish with a comment on the state of the proposal that will be submitted to you. Your requirements include the presentation of the plan by the developers to the local municipality and to the community. There was indeed a presentation to Loyalist Township Council but there was no content beyond an introduction to the companies involved. There was no indication of the size of the project, the number of turbines, the location of the turbines or the transformer sub-station. To my amazement, not one of the team of four Algonquin Power representatives at the council meeting had, at that time, even visited Amherst Island! On October 5th, there was an Open House on the island and representatives from Algonquin Power, Gaia Power and Golder, the consulting company, were present. However, despite our requests, it was not a public meeting with the opportunity for public questions and answers. Instead it was a series of posters manned by Algonquin Power and Golder representatives. The representatives were polite and listened well but again allowed no information on the project. I do believe that they have no idea how big the project will be and where the turbines will be sited. As yet, they do not even have the locations of all of the residences on the island. In any case, they were clearly going through the motions so that they could tick off a box on your application form!

Yours sincerely,

John Harrison
harrisjp@physics.queensu.ca

PS: Mr Murray Beckel, Planner for Loyalist Township, can verify (or otherwise) the information on Amherst Island that I have presented in this letter. I will send a copy of this letter to him. His e-mail address is MBeckel@loyalist.ca

cc: Hon George Smitherman, Minister of Energy
Hon. Dalton McGuinty, Premier
Mr. John M. Beck, Chair, Ontario Power Authority
Ms. JoAnne Butler, VP Procurement, Ontario Power Authority
Mr. Jason Chee-Aloy, Procurement Director, Ontario Power Authority

encl: a) Correlation of Ontario Wind Farm Power Output with Wind Farm Separation.
b) Inadequacy of Present Ontario Turbine Noise Guidelines
c) Disconnect between Turbine Noise Guidelines and Health Authority Recommendations.