

September 30, 2013

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Dear Honourable Ministers and Premier;

My name is Marianne Kidd and I am a concerned Ontario resident, mother and community member. The purpose of this open letter is specifically related to concerns arising from the Niagara Regional Wind Corporation project proposed for the Haldimand, West Lincoln and Wainfleet townships. The 3MW turbines proposed would be the largest Industrial Wind Turbines ever installed in North America to date. Many of the residents who will be living in proximity (2km or less from a proposed IWT) have written to your government asking for this project to **be deemed "Incomplete"** and the application **sent back to the NRWC Company**. We believe that if the NRWC project is approved by the Ministry of the Environment, the 3500+ neighbouring households in the Niagara and Haldimand communities will have their health affected. Poverty is a determinate of health and due to rising electricity prices in Ontario (as per FIT contracts signed with Wind Energy Companies); energy poverty is becoming a reality for many Ontario families.

Of most concern is a recent study released out of Australia (August 2013) related to the Macarthur Wind Energy Facility. This energy facility has **3MW turbines**, similar to the ones being proposed by the NRWC. Households located within 10km of the Wind Factory were "Anonymously" asked to fill out a self-reporting survey where the findings demonstrated a significant size of the population are experiencing negative impacts from the project. It should also be noted that even host farmers (who cannot publicly disclose issues) also were included in the results due to their anonymity.

In the Australian study, the key findings were as follows⁶:

“* 66% of the responding households were affected by the WEF.

* Of those households affected, 96% reported disturbance by the turbines during the day and 100% reported disturbance during the night (10pm-7am).

* Of those households affected, 91% reported negative changes to their health.”

If results in this study hold true, then over 2310 households in the West Lincoln and Haldimand areas, where these turbines are proposed, will experience negative impacts from the 3MW Turbines. **This only includes residents within 2km of these proposed turbines; whereas the study actually looked at an area up to 10km away.**

The reality is that Industrial Wind Turbines DO affect Humans in all parts of the world...and this includes Children. In the United Kingdom, the Advertising Standards Authority ruled in August 2013 against a Wind Company who was advertising there was no health effects from wind turbines. ¹ The Canadian Wind Energy Association is also advertising that “wind turbines are not harmful to human health”. ² Many concerned citizens from across the province have repeatedly written into our Ontario Government showing that this is mis-leading information. In FACT, the Grey Bruce Health Unit performed a literature review in 2013 where they concluded that all studies reviewed showed an association between wind turbine noise and human distress. ³

In July 2011, an **ERT decision** for an IWT project in Ontario ⁴ confirmed IWTs can harm humans:

“This case has successfully shown that the debate should not be simplified to one about whether wind turbines can cause harm to humans. The evidence presented to the Tribunal demonstrates that they can, if facilities are placed too close to residents. The debate has now evolved to one of degree.” (p. 207) (Emphasis added)

Aarhus Convention

It is our belief that the Ontario Green Energy Act is in contravene of the Aarhus Convention as your government has not given the people transparent and fair framework, allowing sufficient time for citizens to become informed and to participate effectively in the decision process. Open houses which are held by the wind companies are nothing more than “show and tells”. At the NRWC open houses, representatives without any medical degrees were positioned at “Health” booths offering the public assurances that no health problems would occur to them if the project got approved and went forward. They were even referred to as “Doctors” simply because they had a PhD. This key information was only given to the public, if the qualifications of the representatives were asked by concerned citizens. The key here is that there is not transparent or fair framework. By taking away the input of the municipalities, you have in fact taken away the voice of the people you are affecting. Although your government has tried to back track and implement new procedures and procurement processes, it does not excuse your government from awarding projects which are currently in place or in the project registry queue.

In May 2012, the European Union had the The Compliance Committee of the United Nations Economic Commission for Europe (UNECE) rule on a section of the Aarhus Convention demonstrating that:

“the EU did not ensure that the public had been provided with the necessary information within a transparent and fair framework, allowing sufficient time for citizens to become informed and to participate effectively in the decision process.”⁵

In a quote from the complainant Pat Swords:

“In the EU,” remarks the engineer, “what we’ve had is a travesty of public participation in a policy having hugely negative impacts on the environment and the economy.”

Legitimate Concerns Raised by Non-Participating Receptors:

Citizens who will be living in the immediate area’s surrounding the NRWC proposed project have not been able to publically review the Noise Assessments or sound studies for the E-101 Enercon Turbines. Ms. Doris Dumais, **Director** of Environmental Approvals, has stated in a letter to area residents that, ““Additionally, the Noise Assessment received by the ministry as part of the REA application includes both the Enercon E101 and E82 wind turbines.”⁹; yet these reports have not been open to the public for an opportunity to review. NRWC Draft documents from Enercon state that:

“ENERCON is in the process of undertaking sound power level measurements for the E-101 3.0 MW according to IEC 61 400 – 11 ed. 2 (“Wind turbine generator systems – Part 11: Acoustic noise measurement techniques; Second edition, 2002-12”). The complete report of the sound power studies is anticipated to be available end of December 2012.”¹⁰

The public has also raised questions with the NRWC related to conflicting documentation provided by NRWC of an Enercon E-101 turbine. In the Draft documents provided by NRWC, it shows the preliminary results of tests indicate:

“The maximum sound power level (SPL) of the E-101 3.0MW turbine, for the entire operational range of wind speeds from cut in to cut out, is 105.0 dBA.”¹⁰

Research by concerned citizens has uncovered conflicting documentation from the manufacturer Enercon, which shows a sound power level of 106.0 dBA. In the same document, it demonstrates that at 620m from the hub (height 135m), the sounds would be measured at 40dBA.¹¹ The NRWC project has Industrial Wind Turbines proposed from 550m-620m to a non participating receptor. This would clearly cause the project to be in violation of the GEA noise setbacks. In addition, it should be noted that the larger the turbine, the further setbacks need to be. In this case 550m does not adequately protect neighbouring residents.

Sound violations will become reality if this proposed project proceeds. The NRWC company has not taken into account the excess noise created due to ice or debris accumulated on turbines. In a study performed by Peter Arbinge of AF Sound and Vibration, it demonstrates that guaranteed sound power levels by manufacturers, does not take ice accumulation on turbine blades into consideration. In his study her notes the following¹²:

- Average of 11 dB over guaranteed levels in all icing events.
- Increase even with small amounts of ice

If ice accumulation is taken into account, the NRWC proposed project would be in violation to surrounding residents.

The average location for the NRWC, Enercon E-101 turbine's sited on host farmers property lines is within 80m from the property boundary. Safety has not been adequately addressed by NRWC. Children living on neighbouring properties need to be a minimum distance of at least 400m to the Turbine while in operation. The NRWC needs to match standards in the Industry related to 3MW Turbines. For example, Vesta's 3MW Turbines state the following in their Maintenance and Operating Guide:

"Do not stay within a radius of 400m (1300ft) from the turbine unless it is necessary. If you have to inspect an operating turbine from the ground, do not stay under the rotor plane but observe the rotor from the front.

Make sure **that children do not stay** by or play nearby the turbine. If necessary, fence the foundation." ⁸

Since the Director has the ability to refuse approval, we are asking that you listen to the concerned citizens and in the name of public interest, refuse to issue a renewable energy approval to the NRWC company or any other wind power projects currently in the MOE queue.

Energy Poverty for Ontarians

The fact is that Ontario does not currently need anymore Wind Turbine projects put into construction. Our current output, exceeds demands which also forces Ontario to sell (at a loss) or at times pay neighbouring provinces/states to take our excess electricity. According to the Fraser Institute¹³:

"Eighty percent of Ontario's wind power generation occurs at times and seasons so far out of phase with demand that the entire output is surplus and is exported at a substantial loss. The province has already lost close to \$2 billion on such exports and currently loses, on average, \$24,000 per operating hour on such sales, totaling \$200 million annually. The loss rate will continue to grow with every new wind turbine installation, because the mismatch between the timing of wind-powered generation and Ontario electricity demand is structural." (McKittrick, 2013, p28)

and the report also notes that:

"Electricity prices for large users in Ontario are now among the highest in North America and are expected to increase by 40% to 50% further, in large part to pay for costs incurred under the GEA. As a result, the effect of the Green Energy Act on Ontario industry will be to increase unit costs, diminish competitiveness, cut the rate of return to capital in key sectors, reduce employment, and make households worse off." (McKittrick, 2013, p29)

With regards to output:

“Output of Ontario’s wind turbines is below one-fifth of rated generating capacity about half the time, and below one-third of the rated capacity about two-thirds of the time. Due to fluctuating output, 7 MW of rated wind energy are needed to replace 1 MW of conventional power generating capacity. Consequently the cost of achieving the provincial targets for wind energy in the coming years will be far greater than has been acknowledged or, alternatively, will entail relying on sources that are unreliable depending on the season.”(McKittrick, 2013, p28)

The Auditor General’s report from 2011 also shows¹⁴:

No proof of net benefit in public’s best interest:

“Specifically, the OPA, the OEB, and the IESO acknowledged that:

- no independent, objective, expert investigation had been done to examine the potential effects of renewable-energy policies on prices, job creation, and greenhouse gas emissions; and
- no thorough and professional cost/benefit analysis had been conducted to identify potentially cleaner, more economically productive, and cost-effective alternatives to renewable energy, such as energy imports and increased conservation.” (Auditor General, 2011 p97)”

Net Exports:

“In 2010, 86% of wind power was produced on days when Ontario was already in a net export position. Although export customers paid only about 3¢/kWh to 4¢/kWh for Ontario power, electricity ratepayers of Ontario paid more than 8¢/kWh for this power to be generated. Based on our analysis of net exports and pricing data from the IESO, we estimated that from 2005 to the end of our audit in 2011, Ontario received \$1.8 billion less for its electricity exports than what it actually cost electricity ratepayers of Ontario.” (Auditor General, 2011 p112)

Backup Power required:

“The OPA informed us that because viable large-scale energy storage is not available in Ontario, wind and solar power must be backed up by other forms of generation. This backup power is generated mainly from natural gas, because coal will be phased out by the end of 2014. The backup requirements have cost and environmental implications. For example: The IESO confirmed that consumers have to pay twice for intermittent renewable energy - once for the cost of constructing renewable energy generators and again for the cost of constructing backup generation facilities, which usually have to keep running at all times to be able to quickly ramp up in cases of sudden declines in sunlight levels or in wind speed. The IESO confirmed that such backups add to ongoing operational costs, although no cost analysis has been done.” (Auditor General, 2011 p113)

In summary, approving more Wind Power projects in Ontario (through the GEA MOE approval process) is not in the public interest to do so.

The Director's Powers include⁷:

"47.5 (1) After considering an application for the issue or renewal of a renewable energy approval, the Director may, if in his or her opinion it is in the public interest to do so,

- (a) issue or renew a renewable energy approval; or
- (b) refuse to issue or renew a renewable energy approval."

At the very least, you must deem this application, for the NRWC project, as "Incomplete" and send it back to the company. **Specifically, serious issues with the project have not been addressed and it is our belief, that the company is unable to address them.** These project issues have been sent to your government by numerous individuals. The items have not been addressed by the wind company or the MOE (which contravenes the GEA public consultation process) and includes the following:

- 1) The average location for the NRWC, Enercon E-101 turbine's sited on host farmers property lines is within 80m from the property boundary. Safety has not been adequately addressed by NRWC. Children living on neighbouring properties need to be a minimum distance of at least 400m to the Turbine while in operation. The NRWC needs to match standards in the Industry related to 3MW Turbines.
- 2) The public has not had an opportunity to review any noise assessment data on the E-101 Enercon Turbine. Transparent and fair opportunities, as per the Aarhus Convention, allowing sufficient time for citizens to become informed and to participate effectively in the decision process needs to be given.
- 3) Conflicting manufacturer information of Sound Power Levels from 105dBA vs. 106dBA has not been adequately addressed. Noise assessments must take the higher decibel rating into calculations at "Non Participating" receptor properties.
- 4) Ice or debris accumulated on Turbine blades has not been addressed by the NRWC. This accumulation could see a rise in sound power level of up to 11dBA. Since many nonparticipating receptors have had their noise assessments completed without this in mind, violations will occur if these turbines are put into place.
- 5) As per the MacArthur Wind Facility survey for 3MW turbines, 66% of residents living up to 10km from the turbine were affected by the wind energy facility. Of those residents 91% are experiencing negative health impacts (including host farmers due to anonymity). This means that we are putting the health and wellbeing of residents of our communities at risk. Over 3500 households in Haldimand, West Lincoln and Wainfleet will be living within 2km of the proposed 3MW turbines. There is more living up to 10km away.
- 6) It is not in the public's interest to approve any additional wind energy projects (regardless of status in MOE Registry queue). The director needs to CANCEL any "unapproved" wind turbine projects.

Sincerely,

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