



July 12, 2021

TO:

Julia Robertson, Project Manager,

Birgit Isernhagen, Program Planning and Evaluation Officer

Emma Langham, Communications and Outreach Coordinator

Janice Ashworth, Project Manager, Environmental Program

City of Ottawa

Copies to: Mayor Jim Watson; Councillor Scott Moffatt, Chair Environmental Protection, Water and Waste Management Committee

By email

Re: Ottawa's Energy Evolution document and wind power

What follows are our comments on what we have learned to date on the Energy Evolution document with regard to Ottawa's plan to encourage the development of wind power to help achieve "Net Zero" by 2050.

Let me begin by saying that **everyone wants what is best for the environment**. Our concerns are based on what we have seen in Ontario since 2006, and especially after 2009 and the Green Energy Act. As a community group member of the Wind Concerns Ontario community group coalition, we have participated in sharing experiences with residents in other areas of Ontario, and have been active on this issue since 2009.

People across Ontario have had valid concerns about the high impact that industrial-scale wind power has on communities and the environment. That is why several municipalities are now working on more protective bylaws for noise emissions and setbacks between turbines and homes. It is disappointing to see that other municipalities in Ontario, currently living with operating wind turbine projects, were not consulted for the wind power portion of the Energy Evolution document. That is an opportunity for important learning on the impact of these power facilities, on the environment, on the social fabric of the community, energy costs, and important issues such as safety and liability.

We have a few general comments about the document, such as that several of the assumptions about wind power development are not accurate. The claim of “green” jobs, for example, does not apply to wind power: there are short-term construction jobs, but operating wind power projects require few jobs, and they may not even be local as many operators use technicians operating remotely to monitor operations. The calculations of how many turbines would be built to achieve the megawatts of power needed also betray a lack of awareness of the facts. Doing the simple math indicates that the authors of the report assume 5 or 6 megawatt turbines. This is not correct: the largest on-land turbines operating now are the 3.4-megawatt generators south of Ottawa at Nation Rise. According to the European Wind Energy Association, wind turbines in Europe are in the 2 to 2.5 megawatt range.

Our major concerns are: **reliability** of wind as a power source; the **costs** associated with reliance on wind power; **noise pollution** and health concerns; **safety**; and, impact on the **environment**.

RELIABILITY OF POWER SOURCE

There appears to have been no review of the Ontario experience with wind power as part of the electricity supply since 2006 and, significantly, since the Green Energy Act in 2009. This is an important omission as the experience has been problematic, and resulted in multiple recommendations from Auditors General as to the sort of analysis that ought to have been done, but was not (and still hasn't).

As part of the necessary review of the Ontario experience with wind power since 2006, it is essential to do a cost-benefit analysis for wind power, and to prepare a **full and honest estimate** of what the costs would be for the people of Ottawa, and the taxpayers of Canada who are apparently going to be asked to help pay for these plans.

The fact is, wind is not a reliable source of power. In a Commentary prepared for the Council for Clean & Reliable Energy, author Marc Brouillette said this:

“Wind generation output is inherently intermittent as it depends on Mother Nature. For example, in 2015 Ontario’s wind farms operated at less than one-third capacity more than half (58%) the time. That means 70 per cent of wind energy was produced in the remaining 42 per cent of the time...Indeed, wind output over any three-day period can vary between zero and 90 per cent of capacity.”

He went on:

“Seasonally, Ontarians’ energy use is highest in winter and summer and lowest in spring and late fall. This is almost a **mirror image of wind [power] production patterns**”.¹

In short, wind might be somewhat useful as part of a mix of power supply, but it cannot be relied upon. Although there is a popular statement that wind replaced coal as a power source in Ontario, that is completely false: coal was replaced by nuclear and natural gas.

¹ Brouillette, M. 2017. Ontario’s High-Cost Wind Millstone. Council for Clean & Reliable Energy, p.1.

Again, a cost-benefit analysis that justifies this in terms of actual effectiveness in climate action will be mandatory.

Our question is: with the federal government investing in new nuclear technology, which is a Canadian technology that can be marketed globally for real jobs and careers, and which can offer actual renewable, clean, reliable, emissions-free power, why isn't Ottawa offering to be a world leader in demonstrating that technology?

COST

In a recent article in the Financial Post, economist Dr. Jack M. Mintz² emphasized the need for honest accounting of the costs of climate policy, and he used the Ontario example:

“Despite implementing various cost-reduction measures the Wynne government was saddled with expensive sole-sourced contracts for wind and solar electricity awarded by the McGuinty government. Those subsidies were put on the backs of Ontario ratepayers who saw their electricity bills jump.”³

In the Pathway Study on Wind Power in Ottawa, the author stated that because the Ottawa-area is a low wind power resource, financial encouragement would be needed to attract wind power developers. That means subsidies; that means higher electricity bills.

As for the choice of wind power, Dr. Mintz noted:

“Governments generally do not understand and certainly cannot predict the evolution of technology so should not try to pick the ‘winning’ technologies themselves. They should instead put a price on environmental damage”.⁴

In a Commentary for the Council for Clean & Reliable Energy on energy costs, author Marc Brouillette stated that “Renewables-based DER systems in Ontario could cost 60-percent to 230-percent more than an alternative nuclear-based DES option. These higher costs have the potential to increase ratepayer bills by 10 percent to 20 percent.”⁵

² Dr. Mintz was Professor of Business Economics at the Rotman School of Business from 1989-2007. He was Clifford Clark Visiting Economist at the Department of Finance, Ottawa; and Associate Dean Faculty of Management, University of Toronto. He served on numerous panels and boards at the federal and provincial levels. Dr. Mintz has consulted widely with the World Bank, the International Monetary Fund, the Organization for Economic Co-operation and Development, federal and provincial governments in Canada, and various businesses and non-profit organizations in Canada and abroad. Dr. Mintz became a member of the Order of Canada and received the Queen Elizabeth Diamond Jubilee Medal in 2012.

³ Mintz, J. 2021. What does your climate policy cost? Financial Post, July 2, 2021.

⁴ Ibid.

⁵ Brouillette, M. 2019. Ratepayer Cost Implications, Part 2 of Renewables-based Distributed Energy Resources in Ontario: a Three-Part Series of Unfortunate Truths.

In its 2016 annual report, the Ontario Association of Food Banks wrote about energy poverty and connected poverty to Ontario's electricity bills:

“Since 2006, hydro rates have increased at a rate of 3.5 times inflation for peak hours, and at a rate of 8 times inflation for off-peak hours. Households across Ontario are finding it hard to keep up with these expenses, as exemplified by the \$172.5 million in outstanding hydro bills, or the 60,000 homes that were disconnected last year for failing to pay. **In rural Ontario, the effects of the rising cost of hydro can be felt even more acutely.** According to a recent report, rural Ontarians can expect current hydro bills to increase by 11.5 per cent by 2017, on top of their current hydro costs, which are already higher than those in cities or larger urban areas.”⁶

You may or may not be aware, that Ottawa's rural communities are served by Hydro One—not Hydro Ottawa—and costs are significantly higher already.

Again, there has been no full and honest discussion of the costs to the people of Ottawa in the Energy Evolution document.

NOISE POLLUTION/HEALTH CONCERNS

In 2010, while a Germany-based power developer was trying to get approval for a 20-megawatt project in Richmond-North Gower, a company representative was asked by journalist Mark Sutcliffe, “Do wind turbines make noise?” His answer: “Of course they do! They are power generators!”⁷

Ontario's regulations for wind turbine noise limits and setbacks have not changed since 2009, despite the fact that wind turbines are larger and more powerful and produce more noise emissions. The Chief Medical Officer of Health statement on wind turbine noise and health was published in 2010 and is gravely out of date; it does not reflect more than a decade of international research. In an email to me personally, Dr. Ray Copes, one of the authors of that statement and former head of Public Health Ontario, said it is past time for an update of that statement. It is not to be relied upon for assurances about health impacts of wind turbine noise.

Similarly, the Health Canada “Wind Turbine Noise and Health Study” published in 2014 is commonly characterized as evidence that there is no association between wind turbine noise and health effects.

That is not true.

Health Canada met with Wind Concerns Ontario in the fall of 2014 (I was at that meeting) and in the presentation made several facts clear:

- The conclusions of the study apply only to the wind power projects studied and are not to be used to influence policy decisions, or to make general determinations.

⁶ Ontario Association of Food Banks. 2016. Special Report: Shedding Light on Energy Poverty in Ontario. [Hunger-Report-Digital.pdf \(feedontario.ca\)](#)

⁷ The proposal failed. Members of the community held a referendum in which almost every citizen of North Gower voted against the proposal. That petition/referendum was presented to and accepted by Ottawa City Council.

- The research did show that “community annoyance” was created with exposure to wind turbine noise emissions; “annoyance” in this context is a measure of well-being and is related to stress or distress.
- It was found to be “statistically significant” that as wind turbine noise levels increase, so did “annoyance”.
- In comparison with noise from other sources such as road traffic noise, problems associated with wind turbine noise began at lower levels, i.e., 35 dBA⁸
- The research team found that more than 10 percent of people living between 550 metres and 1 km of a turbine were very or extremely annoyed/distress; that number jumped to 25 percent at 550 metres or less. The Ontario setback is 550 metres currently; this suggests the current setback is inadequate. **Health Canada research data suggests that 1,300 metres is appropriate for safety and health.**
- The research team confirmed the physical results of annoyance with measured results such as elevated cortisol (an indicator of stress), and elevated blood pressure.⁹
- Annoyance/distress is an indirect pathway to other health impacts including migraines, tinnitus, heart disease, sleep disorder, and diabetes.

Other documents exist that also suggest problems with Ontario’s current regulations, including the Council of Canadian Academies 2015 document that explained current methods of measurement of wind turbine noise rely on dBA only, and are therefore missing the larger range of problematic emissions. The World Health Organization document on community noise identified wind turbine noise as a factor in health impacts, and also suggested the need for more research, and more stringent protection.

Unfortunately, in Ontario, the Green Energy Act removed the responsibility for tracking health reports from local health units and placed it with the environment ministry, which has not documented health impacts. That said, the ministry does have more than 6,000 files from residents reporting excessive noise and vibration or sound pressure from wind turbines, many associated with reported health impacts. Sleep disturbance was commonly reported.

Again, it would have been useful for Ottawa to meet with communities actually experiencing wind turbine operations. In the July 8 meeting of the Multi-Municipal Wind Turbine Working Group in Ontario, mayors and councillors in attendance again expressed concern about Ontario’s inadequate regulations, and concluded they will send a message to the Ontario government demanding change as soon as possible.

The Energy Evolution document makes no mention of noise pollution problems with turbines.

It is a significant policy failure that the Precautionary Principle in public health was not employed for wind turbines in Ontario. An academic team led by University of Ottawa’s Stewart Fast commented that:

⁸ Health Canada’s Wind Turbine Noise and Health Study. 2014. Page 11. Document available on request.

⁹ Ibid, page 12.

“...public policy takes an ‘innocent until proven guilty’ view of this evidence, rather than a more precautionary approach.”¹⁰ The authors suggested a better approach: “... rather than dismissing health claims as groundless or inconsequential, **policy-makers should take a precautionary approach** so as to more thoroughly address the factors that contribute to frustration on the part of host communities.”¹¹

Then Ontario energy minister Glenn Thibeault admitted in 2017 that mistakes had been made with Ontario’s wind turbines and in particular, that siting had not been “optimal.”

If Ottawa is looking at wind power as part of its climate action plan, it has a duty and responsibility to review the experiences elsewhere in Ontario to date, review the research from around the world, and then **develop and employ the best protective measures possible**.

We met with Councillor Eli El-Chantiry in 2019 in his capacity as an Ottawa councillor and also at the time vice-chair of the Rural Ontario Municipalities Association (ROMA) to discuss this need for better bylaws for Ottawa. He said as there was no provincial procurement, we had lots of time to plan for this. Of course, in 2017 the Pathway Study on Wind Power had already recommended as much as 200 megawatts of wind power for Ottawa; that report was accepted by Council and as you know, was one of the foundational reports for the Energy Evolution document.

We are very concerned that the founder of one of the “partners” listed in the Energy Evolution document referred to rural residents as “NIMBYs” during a regional information event held in January by the Independent Electricity Systems Operator (IESO). Mr. Doug Bakker, founder and representative of the Ottawa Renewable Energy Cooperative was responding to our question about the need for cost-benefit analyses for wind power, and said rural residents had a “knee-jerk reaction to industrialization.” The fact is, the term NIMBY is an insult designed to demean community concerns and is only used by the uninformed.

ENVIRONMENTAL IMPACTS OF WIND TURBINES

Almost every single approval of a wind power project in the Province of Ontario resulted in an appeal by citizens of the relevant community.¹² Their concerns were generally related to environmental impact (killing of wildlife species, damage to aquifers, noise pollution); several were successful, most notably the “White Pines” project in Prince Edward County which was reduced from 29 to 27 turbines, then 27 to 9 turbines, before being cancelled. The government determined that the risk to the endangered Blandings turtle was too high to allow the project to proceed.

The American Bird Conservancy has stated that wind turbines, when poorly sited, are responsible for hundreds of thousands of bird deaths each year. The birds killed by turbines and the associated

¹⁰ Fast, S., et al. 2016. Lessons Learned from Ontario wind energy disputes. Nature Energy, p. 2.

¹¹ Ibid, p.3.

¹² [Déjà vu and Wind Turbines: A Review of Lived Experiences after Appeals of Ontario Industrial-Scale Wind Power Facilities - Open Access Library Journal - SCIRP](#)

infrastructure includes birds not commonly killed by housecats including raptors like hawks and eagles. Raptors are essential to the ecosystem and to agricultural for their role in controlling vermin.

“Alternative energy is critically important to address pollution and [climate change](#), but we strongly believe that renewable energy sources **should not be embraced without question**. Our [Bird-Smart Wind Energy](#) Program's primary goal is to protect U.S. native birds from the rapidly growing threat of poorly sited and managed wind turbines.”¹³

The Ottawa area, particularly the rural area, is in important migratory bird pathways. The City of Ottawa policy claims to value birds:

Birds are an essential natural resource in Ottawa. They perform numerous roles in our environment such as pollinating plants, distributing seeds, and eating insects, all of which help to maintain the ecological health of wetlands, forests and valleylands. They are also useful for pest control and pollination for agriculture and forestry. Birds are also important for keeping nature in the city and add to our quality of life through their song and colourful appearance.¹⁴

So, while Ottawa has clear guidelines on the design characteristics of buildings in order to protect birds, the City now proposes to build as many as 700 industrial-scale wind turbines in rural areas, part of migratory bird routes.

Ontario’s bat population is also a critical part of the eco-system, and is essential to agriculture for their role in controlling harmful insects. A reduced bat population will result in the increased use of pesticides which will affect the food chain, and cost our farmers. Researchers state that the number of bats killed each year will increase with more turbines and will have “population-level impacts”—in other words, contribute to extinction.¹⁵

SAFETY

It is possible that the authors of the Energy Evolution document are unaware of the failures of wind turbines in Ontario, some of which have been catastrophic, to use the term employed by engineers. There was a turbine fire near Goderich where the flaming debris was spread a distance of 550 metres, for example. Another catastrophic event occurred in Port Ryerse when a turbine blade delaminated, hit the mast, and caused the entire structure to collapse. Similarly, a blade failure was noted at Pontypool; the blade was shredded and remained unrepaired for a year, but the structure remained standing.

Just a few days ago, another catastrophic failure occurred, this time in Western Ontario in Grey County. This event is currently under investigation but it appears a blade struck another part of the turbine, shattered, and was shot some distance from the turbine. County roads were closed for several days

¹³ American Bird Conservancy. [Wind energy and birds \(abcbirds.org\)](http://abcbirds.org)

¹⁴ City of Ottawa website. [Bird-friendly Design Guidelines | City of Ottawa](#)

¹⁵ Zimmerling and Francis. 2016. Bat mortality due to wind turbines in Canada. Journal of Wildlife Management. Available at: [\(1\) Bat mortality due to wind turbines in Canada: Bats and Wind Turbines | Request PDF \(researchgate.net\)](#)

following the incident, due to the danger to nearby road users; the turbine is just 195 metres from the busy County Road 8. (See Photo in Appendix 1.)

Current setbacks from roads are clearly inadequate at one blade length plus 10 metres. This is another issue that Ottawa has a duty and responsibility to research and consider, and then formulate appropriately protective regulations.

CONCLUSION

We have been told that the Energy Evolution document is “high level” and for discussion only, and that industrial-scale wind turbines may not come to Ottawa’s rural communities. Our reading of the document differs. In specific:

- Page 12: “sufficient renewable electricity (mostly **wind** and solar) generation ...**will be required** to meet demand and offset emissions on the provincial grid”
- Page 17: “Table 7. Projects to be undertaken in the electricity sector **2020-2025**” Project description: “to develop local or regional renewable electricity supplies and advocate for zero emission at the provincial level”. Project Metrics: point 2, “**20 MW Wind**”.
- Page 21: Under “Next steps and reporting,” “**All 20 projects will be further developed** with input from staff, stakeholders and the public as required.”
- Page 68: “The model indicates that **the minimum results required** to meet the 100% scenario under the electricity sector are...wind generation reaches 3,218 MW by 2050 (approximately 710 large scale turbines)”

That sounds like plan already in action to us. As does an email from a City staffer to Mr. Moffatt, which he copied to me, that refers to a study **already done** by the City identifying sites for wind and solar development.

The project formerly proposed in North Gower was based on contracts signed in 2008; by the time the community learned of it in 2009, people were told it was “a done deal.” That cannot, and will not, happen again. The community must be involved, now.

What we want:

- **Immediate disclosure** to Ottawa’s rural communities of the City’s plans for grid-scale wind power
- **Immediate presentation of the costs** to electricity customers/citizens of the use of wind power
- **Preparation of new zoning regulations** related to noise limits and setbacks. Recommended are setbacks of at least 1,300 metres between wind turbines and property lines (not the centre of a house as is the case currently)
- **Plans to engage the public** on these plans as soon as possible, and participate in meaningful dialogue.

We also suggest that City staff and elected officials involved in the energy transition must take a tour of the nearby Nation Rise wind power project in order to see what operating wind turbines actually look like. (It will not help to try to speak with people who leased their land for turbines as they are

contractually forbidden to discuss any negative impacts from the turbines.) We would be happy to suggest a route.

As the City enjoys success in the fight against SARS-COV2, it is now time for full public engagement in which all the risks and costs are identified.

Thank you.

Jane Wilson, RN, B.A.

Chair, OTTAWA WIND CONCERNS

North Gower

ottawawindconcerns@gmail.com

Ottawa Wind Concerns is a community group member of the Wind Concerns Ontario coalition.

NOTE: THIS DOCUMENT WILL BE MADE PUBLIC ON OUR SOCIAL MEDIA JULY 13, 2021.

Appendix 1.



Port Ryerse turbine collapse



Turbines near Chrysler, Ontario, June 2021. An industrial use of the land



Blade portion of failure at Capstone Skyway 8, June 30, 2021. Major portion of the blade was injected into the ground, at speed. Roads were closed for safety.