

From: [Sherri Lange](#)
To: [Puco ContactOPSB](#); [Joseph W. LRB Krawczyk](#)
Cc: [Liz Hartman](#)
Subject: RE Additional comments please for Docket 16-1871-EL-BGN
Date: Sunday, March 19, 2017 12:21:45 PM
Attachments: [stephana comments to DOE.docx](#)
[OFFSHORE BOAT LANDING SAFETY.docx](#)

16-1871-EL-BGN

Dear Matt and Mr. Krawczyk

Please find additional documents for the LEEDCo Windbreaker proposal.
Please include this email as well as a comment.

Please note the following statistics on the preferences of Ohioans.

[Ohioans Prefer Energy Choice](#)

<!--[if !supportLists]-->1. <!--[endif]-->**February 10, 2017**

A recent poll of Ohioans found support for the benefits of a deregulated energy marketplace. The Fallon Research firm was engaged by the Alliance for Energy Choice to measure Ohioans' attitudes and opinions about energy policies.

- 91.5% oppose changing Ohio law to allow utilities, like AEP and First Energy, to charge customers for the cost to build their new plants.
- 78.7% oppose a change in law that would eliminate the ability to shop for the best price for electric and natural gas service from a variety of providers and require customers to take services only from their local utility.
- 62% disagree that utility customers should pay the additional cost to support uneconomical power plants because it may preserve jobs in certain communities.
- **55.5% agree that Ohio should increase electric market competition, even if it means the elimination of the government-mandated electric utility monopoly that has existed for decades.**

[Manufacturing Facts](#)

For every \$1.00 spent in manufacturing, another \$1.81 is added to the economy. That is the highest multiplier effect of any economic sector.

The vast majority of manufacturing firms in the United States are quite small. In 2014, there were 251,901 firms in the manufacturing sector, with all but 3,749 firms considered to be small (i.e., having fewer than 500 employees).

There are 12.3 million manufacturing workers in the United States, accounting for 9 percent of the workforce. Since the end of the Great Recession, manufacturers have hired more than 800,000 workers.

Ohio proudly boasts a very strong manufacturing base. The world has experienced displaced manufacturing of a very high order, since the proliferation of wind turbines (and solar subsidies as well). The COST of manufacturing drives them to look for lesser subsidized jurisdictions. Please note this cautionary tale from Ontario, Canada. Turbines do not operate outside of traditional grids and conventional reliable power sources, such as gas, nuclear, hydro electric, and coal. Indeed, MORE of these are required to back up fickle wind, 100% of the time.

<https://www.forbes.com/sites/judeclemente/2016/03/30/ontarios-high-electricity-prices-crush-business/#48354abd4587>

The Ontario government's fatal decision to implement the Green Energy Act, and give first access to wind and solar developers to sell to the grid at deeply accelerated subsidized amounts, has literally crippled manufacturing.

"Ontario is probably the worst electricity market in the world," Pierre-Olivier Pineau, University of Montreal

Ontario's auditor general just reported that the province paid an extra \$37 billion for electricity from 2006-2014, likely the most ludicrous energy story that I've ever read ([here](#)). Ontario has gone from having some of the most affordable electricity in North America to having some of the most expensive. From 2013-2015 alone, industrial electricity rates **increased 16%**.

- The Green Energy Act (GEA) **"is costing Ontario over \$5 billion annually but yields negligible environmental benefits,"** and the plan has been 10 times more costly per year than an alternative coal retrofit plan examined in 2005.
- The GEA prioritizes wind, even though wind power generation is almost perfectly out-of-synch with consumption in Ontario, resulting in the dumping of surplus wind energy into outside markets. **"Electricity exports cost Ontario taxpayers \$200 million in June."**
- In 2003, the provincial government decided to phase-out coal-fired generation by 2007 (later extended to 2014), perhaps the most cost effective source of power.
- **This necessitated investment in new sources of electricity. For example, more expensive wind has provided less than 4% of Ontario's power but accounts for 20% of the cost of electricity.** In January, Ontario Power Generation unveiled plans for a \$13 billion refurbishment of four nuclear

reactors, which could crush ratepayers to recover the total costs.

- Per the **Ontario Chamber of Commerce**: "the addition of renewable energy resources under the Feed-in Tariff program has contributed to overall system costs and driven the **Global Adjustment** upward by guaranteeing long-term and above-market payouts to generators."
- Huge and pricey investments were made in electricity distribution, transmission, and generation in the 2000s to compensate for the previous lack of investment. Ratepayers in rural Ontario have incurred billions of dollars in extra costs to install "smart meters," only to see much of the project canceled ([here](#)).
- Rising fixed costs and declining demand continue to surge power rates. "**The Gas Plants Scandal**" from a few years ago, where two natural gas plants were cancelled, cost ratepayers at least \$1.3 billion.

High cost electricity is "unavoidably harmful" because electricity is indispensable: "electricity cannot not be used." Today, Ontario has had **"the highest industrial rates in North America,"** far higher than neighbors using low cost natural gas. With prices increased again in November, ratepayers are **"angry, confused."**

"How Ontario lost 300,000 manufacturing jobs (and why most aren't coming back)." "Ontario drives manufacturers away with overpriced electricity." These industry losses are particularly harmful: manufacturing supports high-paying jobs and has extensive "multiplier effects," that ripple benefits across the entire economy.

Devastating the auto sector in particular, **"the main reason for soaring costs — and plummeting employment — is the high cost of electricity as a result of the Green Energy Act."**

Thank you kindly,

Sherri

PS Mrs. Johnston comments are below. She lives on the North Shore of Lake Erie, and has experienced medical impacts from industrial wind to the extent that she cannot live in her home. ILFN (Infra and Low Frequency Noise), and

Audible noise, vibration and shadow flicker, are known impacts. ILFN is known now to travel 30 miles and beyond. We know that ILFN over water dissipates very slowly, and even bounces from the Jet Stream and the lake surface, and that impacts will be felt over extremely long distances, for sensitive persons. There appears to be abundant evidence that some Ohioans will be impacted.

Please note the letter from turbine expert Dr. Nina Pierpont, to Professor Elizabeth Wheatley. Please also note Dr. Pierpont's reference to the certain disastrous result for birds. We will send you further information, up to date information, on offshore impacts on birds, shortly.

<http://www.windturbinesyndrome.com/2010/wind-turbines-in-lake-michigan-pierpont/>

Professor Elizabeth Wheatley
Department of Sociology
Grand Valley State University
1 Campus Drive
Allendale, MI 49401-9401

June 14, 2010

Dear Professor Wheatley,

You wrote to me, inquiring about infrasound and low frequency noise (ILFN) impacts from a large array of wind turbines proposed for Lake Michigan. Impacts, that is, on people living on shore four miles away, and impacts on fish.

Your concerns are well-founded. First, a crash course on “noise.” Noise propagation models are based on the spherical movement of sound waves and the dispersion of their power. In these models, sound loses its power rapidly.

Sound waves over water, however, present a special case. The issue over water is that instead of having an absorptive surface, the way trees and vegetation and houses might absorb sound—you now have a reflective surface. Basically, you’re dealing with half of a sphere; the power of the sound is concentrated because the whole bottom of the sphere is reflected back into the top of the sphere.

The other thing that occurs over water is that there are different layers of air under different weather conditions (for instance, either cool & still over the water, or certain kinds of cloud cover). By “layered” I mean the air has different densities or temperatures or wind conditions. The boundary between air layers likewise acts as a reflective surface.

Hence, it is not uncommon to have the reflective surface of the water and a reflective surface of layered atmosphere above it (at the boundary of this layered atmosphere, such as cloud cover). The upshot being that both of these reflective surfaces (the water and the air layer boundary) will reflect the sound back into

the same layer where the sound travels.

This means that sound energy, instead of dispersing in a sphere, disperses in a flat layer, more like a two-dimensional circle—a pancake or, if you prefer, a frisbee. Bottom line, the sound energy is heavily concentrated and travels much farther.

When you understand that infrasound and low frequency noise travel farther than higher frequency noise, this “channeling” of noise—reflective surface of the water below, air layer boundary above—becomes pronounced and, in this wind turbine case, alarming.

In summary, you are correct to be alarmed about ILFN reaching land from these lake-based turbines.

Now consider what happens under water. Sound propagates even more efficiently through water than through air. And water is, of course, defined by boundary conditions: (a) the surface between water and air is a boundary that tends to reflect sound back into water, and (b) different layers of water (varying in temperature, density, and current)—the boundaries between these different layers of water also act as reflective surfaces. Hence, you can get channels through water where ILFN travels very far, because it's concentrated by these two reflective surfaces.

By the way, everything I have said about noise propagation above and within fresh water is true, as well, for oceans, with the added element of salt. In oceans, layers are also defined by salinity, which of course affects water density.

What about the fish in Lake Michigan (or Nantucket Sound, for that matter)? Fish, we know, are acutely sensitive to infrasound and respond to it with fear and avoidance. Hence, the turbines and the noise they make have the potential to change patterns of (a) fish movement, (b) fish migration, and (c) breeding behavior.

If breeding behavior is changed, fish populations can crash. (My PhD is in population biology/behavioral ecology, from Princeton University.)

A few more words about ocean environments. Crustaceans also avoid ILFN. Whales are known to beach and die in response to Navy sonar—which by definition is in the ILFN range. And there is information about seal rookery problems—rookery failure—in the UK.

Birds. Birds on Lake Michigan and over the ocean are at risk insofar as they are not used to encountering obstacles as they fly over water. Turbines in the Great Lakes could have a disastrous impact on bird migrations when turbines are located within the great migratory highways (flyways).

On the matter of water-borne ILFN, keep in mind that we're talking about vibrations coming off the supporting structures under the water, propagated directly into the water, in addition to ILFN traveling above water. In other words, ILFN skimming across the surface and below the surface.

Lastly, it has been demonstrated that large turbines produce more ILFN than smaller ones. The bigger they are, the bigger the ILFN load. If you're talking about 5 and 10 MW turbines in Lake Michigan, this

spells big trouble.

I hope this is helpful.

Sincerely,

Nina Pierpont, MD (Johns Hopkins), PhD (Princeton)
Fellow of the American Academy of Pediatrics

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Thank you!



Already suffering the adverse health effects from 84 Industrial Wind Turbines [IWTs] on the north shore of Lake Erie, I can barely compose this letter of protest and am simplifying the process by endorsing the document sent by Sherri Lange.

18 of the above IWTs are WITHIN a three [3] km radius of my house and have wreaked havoc in my life.

To have 1700 more IWTs in Lake Erie to the south of my house will surely spell the death knell. I expected to live as long as my grandmothers [i.e. 99 years] whose lives in eastern Europe were interrupted by two [2] World Wars as well as the harsh conditions experienced both before and after.

My death as well as that of other members of this community will be precipitated by this onslaught of off shore IWTs which you are so hell-bent to erect. Our blood will be on your hands.

Please reconsider and STOP this deadly project.

OFFSHORE BOAT LANDING AND INDUSTRIAL WIND

<http://www.altenergymag.com/news/2016/11/04/offshore-wind-turbines-imca-publishes-standardised-boat-landing-research-report-/25018/>

OFFSHORE WIND TURBINES: IMCA PUBLISHES STANDARDISED BOAT LANDING RESEARCH REPORT

Visit <http://www.imca-int.com> for further information

The subject of developing a document on a standardised boat landing was identified by the International Marine Contractors Association's (IMCA) Renewable Energy Workgroup as one of the areas where there could be benefits, both in terms of cost reduction and safety improvement, for marine operations for renewable energy. The resulting publication 'Standardised boat landing research report' (IMCA SEL 041/ M 232) has been released.

11/04/16, 05:15 AM | [Solar & Wind](#)

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Following this recommendation, IMCA's Renewable Energy Workgroup and the National Workboat Association (NWA) have been seeking a consensus on the optimum design and configuration of boat landings for accessing wind turbine foundations from crew transfer vessels (CTV). The resulting publication 'Standardised boat landing research report' (IMCA SEL 041/ M 232) has been released by IMCA

"In order to undertake this task, a questionnaire was issued to all the operators of European offshore wind farms to gather information on existing

boat landing geometries. At the same time, feedback was sought on the experience of CTV operators, fender manufacturers and structure designers," explains IMCA's Technical Director, Richard Benzie.

"A significant volume of data and feedback was gathered. On analysis of the data it has been possible to develop a recommended geometry for a standard boat landing that is consistent with the G+ Global Offshore Wind Health & Safety Organisation (formerly G9) guidelines.

"One critical area where data was lacking was on the design impact forces for the boat landing. This information was not as readily available as expected, with only two out of twenty-four projects originally being able to supply it. Looking in detail at how the design codes address impact loads, a number of areas of challenge and further research have been identified.

Based on the feedback, several other potential areas for research have been identified in our extensive document. It is now recommended that these are taken up by the relevant research bodies."

IMCA would particularly like to thank the following companies and groups for their support of this study and the information and feedback they have provided; Seaway Heavy Lifting and Subsea 7, and in particular Alan MacLeay, chairman of IMCA's Renewable Energy Workgroup.

The wide ranging document includes sections on crew transfer to offshore wind turbines; the questionnaire; data analysis; fender impact loading, safe clearances; as well as the executive summary, introduction, conclusion and recommendations.

IMCA's thanks

Industry associations and regulatory bodies: National Workboat Association, RenewableUK, WindEurope (formerly European Wind Energy Association); UK Health & Safety Executive; Carbon Trust; and G+ members, in particular Centrica Energy; DONG Energy; E.ON; SSE, Statoil, Statkraft, ScottishPower, RWE, Vattenfall and the Energy Institute.

Other offshore wind farm operators: ENBW, EWE, MindMW, Globaltechone, BARD, Belwind and Eneco; CTV operators: Windcat Workboats; Workshops; Van Oord, Turbine Transfers; Maritime Craft Services (Clyde) Ltd; and James Fisher.

Siemens as an OEM; designers Atkins, LIC and OWEC Tower; and fender system suppliers RG Seasight and Fendercare.

Further information on IMCA

Further information on IMCA and its work on behalf of around 1,000 member companies in over 60 countries is available from www.imca-int.com and imca@imca-int.com. The association has LinkedIn and Facebook groups and its Twitter handle is @IMCAint

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Summary: Public Comment electronically filed by Mr. Matt Butler on behalf of Lange, Sherri Ms.