

To

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Copy

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Mr. Brain Howe
President HGC Engineering
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April 15, 2013

Re: Open Letter: Audit request for full disclosure of funding and health risks of wind turbine research on humans

Dear Dr. Bigelow,

I understand that you are heading experimental research on Ontario residents who will be exposed to industrial wind turbines at their homes.

You should already be aware that Health Canada (2010)¹ and other references^{2,3,4,5,6} acknowledge noise induced annoyance to be a health effect.

In a June 30 2009 letter Honourable Rona Ambrose, states:

“Health Canada provides advice on the health effect of noise and low-frequency electric and magnetic fields from proposed wind turbine projects, particularly for environmental assessments done under the Canadian Environmental Assessment Act. To date, their examination of the scientific literature on wind turbine noise is that the only health effect conclusively demonstrated from exposure to wind turbine noise is an increase of self-reported general annoyance and complaints (i.e., headaches, nausea, tinnitus, vertigo).”⁷

These “conclusively demonstrated” health effects are proposed and expected by representatives of Health Canada. Dr. David Michaud and other members Health Canada’s Acoustics Division propose increasing the percentage of Canadians highly annoyed by wind turbine noise.^{8,9,10}

A 2009 panel report sponsored by the American Wind Energy Association and the Canadian Wind Energy Association determined “Wind Turbine Syndrome” symptoms such as headaches, nausea, tinnitus, vertigo “... are not new and have been published previously in the context of “annoyance”...” and are the “... well-known stress effects of exposure to noise ...” or in other words “...a subset of annoyance reactions...”¹¹

In December 2011 the Ontario Ministry of Environment released a report prepared by HGC Engineering and signed by Mr. Brian Howe.

HGC (2010) states in the conclusions:

“The audible sound from wind turbines, at the levels experienced at typical receptor distances in Ontario, is nonetheless expected to result in a non-trivial percentage of persons being highly annoyed. As with sounds from many sources, research has shown that annoyance associated with sound from wind turbines can be expected to contribute to stress related health impacts in some persons.”¹²

HGC (2010) also states:

“Stress symptoms associated with noise annoyance, and in particular low frequency annoyance include sleep interference, headaches, poor concentration, mood swings”¹³

On March 6, 2013 you sent an email in which you copied me, The Prime Minister of Canada, The Federal Minister of Health, The Ontario Ombudsman and others.¹⁴

Brett Horner

From: "Philip Bigelow" <pbigelow@uwaterloo.ca>
Date: March-06-13 4:19 PM

In your March 6, 2013 email (excerpt below) you reference Mr. Brian Howe's report. Your email states:¹⁵

Thanks for the quote from Brian Howe's report. I do agree that wind turbines will cause a non-trivial percentage of individuals living in areas around wind facilities to be highly annoyed. The question does remain about what are the actual percentages of those who are highly annoyed at varying distances from the wind turbines and the influence of the many other factors, such as size and operational characteristics of the turbines, that influence annoyance and other health outcomes.

In Ontario, residents cannot be exposed to industrial wind turbine noise at their homes without the approval of The Ministry of Environment. In Ontario it is the Ministry of Environment which:

1. developed the 2008 noise guidelines for wind turbine projects in Ontario.¹⁶
2. developed the 2009 setback requirements for wind turbine projects in Ontario.¹⁷
3. approves the development of wind turbine projects by issuing a Renewable Energy Approval thereby permitting wind energy developers to expose non consenting Ontario residents to wind turbines at their homes.

I have read the April 13 2013 media report *Too late for pre-turbine study: residents*¹⁸ and I am requesting clarification from you regarding information reported in the article.

Based on statements reportedly made by you¹⁹ it appears that your experiment intends to study Ontario residents “before” and “after” they are exposed to industrial wind turbines at their homes. These Ontario residents will likely include humans who do not consent to being exposed to wind turbine at their homes. The Ministry of Environment is the party that approves the exposure of Ontario residents to industrial wind turbines at their homes.

You reportedly stated that your research is “... a unique opportunity to look at the community before and after,”.²⁰ The “unique opportunity” you plan to use for your “before” and “after” experiment is a man made living laboratory where the existing living environment will be intentionally altered with the introduction of wind turbine exposures such as noise pollution and shadow flicker.

The man made living laboratory (“unique opportunity”) you intend to use for your “before” and “after” experiment cannot occur without the issuance of a Renewable Energy Approval by the Ministry of Environment which will enable the creation of your living laboratory.

The April 13 2013 (excerpt below) from *Too late for pre-turbine study: residents*²¹ reported that you publicly indicated base funding for your study comes from the Council of Ontario Universities.²²

Bigelow will continue to work with the local public health unit to determine if the community will be involved in the study. Base funding for the study comes from the Council of Ontario Universities, he said. That funding will cover the pilot work, while the rest of the funding, he said, has not yet been identified.

The following web site excerpts are from University of Waterloo²³ and were cited on January 15, 2011. The web site indicates funding for the Ontario Research Chair in Renewable Energy Technologies and Health is **being provided by the Ontario Ministry of the Environment**. (*Emphasis added*)



The screenshot shows the University of Waterloo website's News Release section. The header includes the University of Waterloo logo and navigation links for UW Home, CPA Home, Media Resources, Community & Events, and Daily Bulletin. The main content area features a news release dated 2010-02-24 10:17:27 with the headline "\$1.5-million awarded to new Ontario Research Chair at Waterloo". The text of the release states: "WATERLOO, Ont. (Wednesday, Feb. 24, 2010) - An electrical and computer engineering professor at the University of Waterloo will study the safety of renewable energy technologies and the effects on the health of people and the environment as one of three Ontario Research Chairs named by the Council of Ontario Universities." There are also links for "Previous Article", "Next Article", "Resources", and "Contacts".

Funding for this program is being provided by the Ontario Ministry of the Environment, which has allocated \$1.5 million over five years for the Chair in Renewable Energy Technologies and Health.

The following web site excerpts are from The Ontario Research Chair program in Renewable Energy Technologies and Health (ORC-RETH) at the University of Waterloo and were cited on April 14, 2013.

The first ORC-RETH excerpt²⁴ indicates **the 5-year ORC program, is funded with annual funding of \$300,000 from the Ontario Ministry of Environment and administered by the Council of Ontario Universities (COU)**. (*Emphasis added*)



The screenshot shows the website for the Ontario Research Chair in Renewable Energy Technologies and Health (ORC-RETH) at the University of Waterloo. The header includes the text "ONTARIO RESEARCH CHAIR IN Renewable Energy Technologies and Health AT UNIVERSITY OF WATERLOO" and navigation links for Home, Research, People, Facilities, H&S Links, Contact, and Reports. The main content area features a welcome message: "Welcome to ORC-RETH website! Welcome to the ORC-RETH website! The Ontario Research Chair program in Renewable Energy Technologies and Health (ORC-RETH) at the University of Waterloo addresses the technological, health, and safety aspects of renewable energy conversion. This program effectively establishes a multi-disciplinary platform to promote research and educational activities in renewable energy technologies (RETs) and their health and safety implications. While various approaches and technologies for renewable energy conversion are being researched, developed, and deployed worldwide, the health and safety aspects of the technologies become topics of great importance, in addition to the performance, reliability, and affordability of the RETs. This 5-year ORC program, which is funded with annual funding of \$300,000 from the Ontario Ministry of Environment and administered by the Council of Ontario Universities (COU), commenced at Waterloo in the summer of 2010 with Professor Silva Sivathaman as the Chair holder." There is a small portrait photo of Professor Silva Sivathaman. On the right side, there is a section titled "Participating Units" with a list of units: Faculty of Engineering (Electrical & Computer Engineering, Mechanical & Mechatronics Engineering), Faculty of Applied Health Sciences, and School of Public Health and Health.

The second ORC-RETH excerpt²⁵ identifies you (Professor Philip Bigelow) as a member of ORC-RETH.

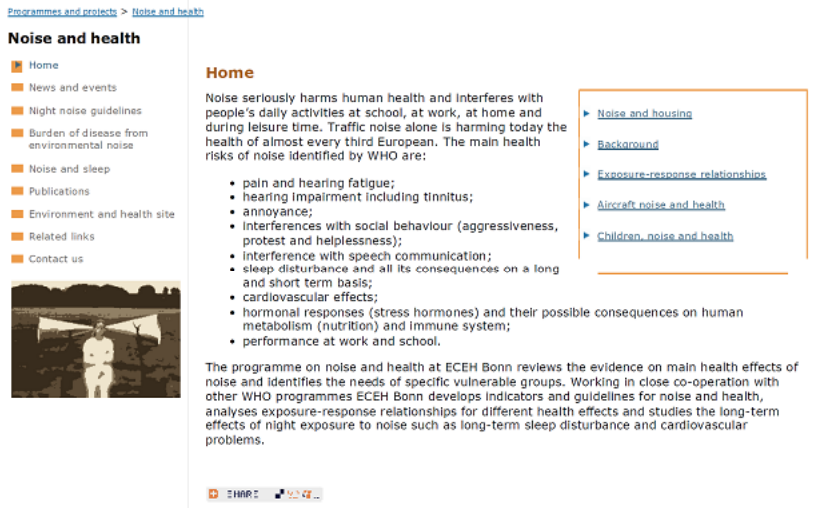


Audit request for full disclosure of funding and health risks

I am conducting an audit and request that you provide full, accurate and immediate disclosure of all funding sources of your existing and/or planned research on humans.

Before conducting research on the health effects of a potentially harmful exposure human participates must be fully advised of all risks to human health.

The World Health Organization web site (below) identifies annoyance and sleep disturbance to be main health risks of noise.



Risks to human health from wind turbine exposure include annoyance and/or sleep disturbance and/or stress related health impacts and/or reduced quality of life.^{26 27 28 29 30 31 32 33 34 35 36 37}

Please confirm if you intend to provide participants in your research with full disclosure of all health risks from human exposure to wind turbines. Please confirm if you intend to provide full disclosure

that you "...do agree that wind turbines will cause a non-trivial percentage of individuals living in areas around wind facilities to be highly annoyed." ³⁸

Please confirm if you have disclosed to the Ontario Ministry of Environment and/or the Government of Ontario and/or the Premier of Ontario and/or the Ontario Chief Medical Officer of Health, and/or the Ontario Minister of Health, and/or wind energy developers and/or the Canadian Wind Energy Association that you "...do agree that wind turbines will cause a non-trivial percentage of individuals living in areas around wind facilities to be highly annoyed." ³⁹

I look forward to your response to this request for audit disclosure regarding your existing and/or planned research on humans.

If you should have any questions or require copies of the references cited in this letter please do not hesitate to contact me.

Yours truly,

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References

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