

Senators,

Thank you for this opportunity to comment on the health, social and economic impacts of Rural Industrial Wind Generating Stations. I distinguish between locally appropriate, small scale distributed wind installations of less than 50kW and the Industrial Wind Generating Stations comprised of turbines with nameplate capacities in excess of 500kW.

From the comments already submitted to your committee it is obvious that the negative impact of Industrial Wind Turbines on human health has been attested to by many experts and researchers in the field. Human health and safety are rightly the first priority and responsibility of every government. The ever increasing evidence of negative impacts on human health from Industrial Wind Turbines requires that a diligent government apply the precautionary principle, if somewhat belatedly, and impose a moratorium on all further Industrial Wind Power development until such time as objective scientists have finished their investigation and research of these health effects. Currently the Wind Industry is behaving very much like the tobacco companies in the 1950's and 1960's which denied any correlation between tobacco and adverse human health effects while claiming that there was no scientific research to substantiate the dangers of tobacco. The Wind Industry is using the same tactics the tobacco companies did, paying for 'studies' and 'reports', in contravention of WHO rules, which purportedly 'prove' that Industrial Wind Turbines have no effect on human health. The most recent and infamous such report, by Dr. Arlene King, Ontario's Chief Medical Officer of Health, denied any connection between Industrial Wind Turbines and adverse human health effects. Dr. King, a career bureaucrat with no formal education or experience in epidemiology, didn't even bother to interview the people who claimed to be affected by these Turbines, and her review of the scientific literature was sadly incomplete.

This excellent critique "Response to the CMOH Report on Adverse Health Effects from Wind Turbine Operation" by John Harrison PhD specifically addresses the flaws in the Arlene King report:

[http://www.bayniche-conservancy.ca/john\\_harrison.pdf](http://www.bayniche-conservancy.ca/john_harrison.pdf)

And here an excellent "Critique of Wind Turbines and Health A Rapid Review of the Evidence Published by the Australian National Health and Medical Research Council" by Wayne Gulden, September 2010 addresses the serious flaws in the report by your own Australian NHMRC

<http://windfarmrealities.org/wfr-docs/gulden-nhmrc-critique.pdf>

This expert testimony by Carl V. Phillips, MPP PhD on "An Analysis of the Epidemiology and Related Evidence on the Health Effects of Wind Turbines on Local Residents" is an excellent commentary and criticism of the flaws in the reports and studies which have so far dismissed the health effects of Industrial Wind Turbines as non-existent:

[http://www.bayniche-conservancy.ca/phillips\\_report.pdf](http://www.bayniche-conservancy.ca/phillips_report.pdf)

There have been so many studies, from different countries, linking Industrial Wind Turbines to specific adverse human health effects that existence of these effects is undeniable and requires further study to determine how they are to be prevented,

and what safe setbacks from Wind Generating Stations might be. A sampling of these various studies follows:

From Australia:

"Noise Impact Assessment Report Waubra Wind Farm" by Dr. bob Thorne, NOISE MEASUREMENT SERVICES PTY LTD, July 2010 Rev.1

<http://www.wind-watch.org/documents/wp-content/uploads/Dean-Waubra-Noise-Impact-July-20101.pdf>

From Sweden:

"Wind turbine noise, annoyance and self-reported health and well-being in different living environments" by Pedersen E, Waye KP; OCCUPATIONAL AND ENVIRONMENTAL MEDICINE Volume: 64 Issue: 7 Pages: 480-486 Published: JUL 2007

<http://oem.bmj.com/content/64/7/480.abstract>

From Holland:

"Response to noise from modern wind farms in The Netherlands" by Eja Pedersena, Frits van den Berg, Roel Bakker, Jelte Bouma; Journal of the Acoustical Society of America. 2009 Aug;126(2):634-43.

<http://www.ncbi.nlm.nih.gov/pubmed/19640029>

From New Zealand:

"Impact of turbine noise on health and well-being" by Dr. Daniel Shepherd, September, 2010

<http://www.windaction.org/documents/31031>

From England:

"Wind Turbines, Noise and Health" by Dr. Amanda Harry, 2007

[http://www.flat-group.co.uk/pdf/wtnoise\\_health\\_2007\\_a\\_barry.pdf](http://www.flat-group.co.uk/pdf/wtnoise_health_2007_a_barry.pdf)

From North America:

"Wind Turbine Noise: What Audiologists should Know" by Jerry Punch, Richard James, And Dan Pabst; Audiology Today | JulAug2010

[http://www.windvigilance.com/low\\_freq\\_noise\\_ahe.aspx](http://www.windvigilance.com/low_freq_noise_ahe.aspx)

"Infrasound: Your ears "hear" it but they don't tell your brain" by Alec N. Salt, Ph.D. Department of Otolaryngology Department of Otolaryngology Washington University School of Medicine

<http://www.windturbinesyndrome.com/news/wp-content/uploads/2010/11/Salt-PowerPoint.pdf>

"SUMMARY OF RECENT RESEARCH ON ADVERSE HEALTH EFFECTS OF WIND TURBINES" by Keith Stelling, MA, MNIMH, Dip Phyt, MCPP (England), 20 October 2009

<http://www.wind-watch.org/documents/summary-of-recent-research-on-adverse-health-effects-of-wind-turbines/>

"Wind Turbine Syndrome & the Brain" by Nina Pierpont, MD, PhD November 15, 2010

<http://www.windturbinesyndrome.com/img/WTsbrain-color.pdf>

"Your Guide to Wind Turbine Syndrome ... a roadmap to this complicated subject" by Calvin Luther Martin, Ph.D. July 2010

<http://www.windturbinesyndrome.com/img/WTsguide.pdf>

The list could go on for pages...

At first glance Wind Power and Industrial Wind Stations are appealing as they seem to offer us "free" & "renewable" power. After all the wind is free is it not? It is as though someone offered us free gas for 20 years if we bought their vehicle, for let us face it, we, as citizens and ratepayers, whatever our nationality, are buying a technology which we pay for via subsidies, feed in tariffs, accelerated depreciation, tax rebates or refunds, Renewable Energy Certificates and other processes which transfer public monies to the Wind Industry. The reason given for these transfers is "to level the playing field" and "support a fledgling industry". While subsidies for fossil fuel exploration and extraction exist in many countries, direct subsidies similar to those above for electrical generation are very uncommon. Regardless, if established technologies and methods of production receive subsidies which are a barrier to a developing industry for which the public interest requires that it be supported, then surely the fiscally responsible solution is to eliminate the subsidies being paid to the established technologies, not divert yet more public money to private corporations. Two wrongs do not make a right. The Wind Industry has been producing Industrial Wind Turbines and Wind Stations for over 30 years and has annual global revenues in excess of 530 billion US dollars, one quarter the size of the global Petroleum Industry with annual revenues of 1.9 trillion Dollars. The Industrial Wind Industry is not a small fledgeling industry.

However notwithstanding the foregoing, there may be instances where the public interest might require subsidies to large established global industries. One presumes that such subsidies would be made only after a cost-benefit analysis to determine whether the return on investment justifies the expenditure. This is where Industrial Wind Power fails. Due to wind's unpredictability, variability and low Capacity Factor (the actual amount of power it produces as a percentage of the installed nameplate capacity), conventional electricity generation facilities are required to 'back up' Wind Power. This conventional capacity usually takes the form of natural-gas fired generating stations due to their ability to respond more quickly to fluctuations in demand than coal or nuclear powered generating stations. So in effect the public pays twice over for the same generating capacity, once for Wind Stations and then again for natural gas generation, except that the Wind Stations cost two to three times as much per kilowatt hour as the natural gas stations do.

To go back to my car analogy above, the car dealer sells us a car at two to three times the cost, but which costs us nothing in gas to drive for 20 years. However it only runs 30% of the time, at random and at constantly varying speed and in order to get around reliably we must purchase a conventional vehicle to drive the other 70% of the time. I can't imagine of any person that would think this a good investment or worth the 'free' gas...

Proponents of Industrial Wind Power claim it will help save us from Climate Change by reducing 'Anthropogenic CO2 emissions' and that therefore a sacrifice may perhaps be warranted for the greater good. Regardless of whether one subscribes to the theory that the climate is in fact changing and that anthropogenic CO2 emissions are the cause of this change, we can examine the claim that Industrial Wind Turbines will reduce CO2 emissions. This claim, without a shred of scientific evidence or empirical data to back it up, is the main and only selling point used to justify the massive subsidies to the Wind Industry. Here again Wind Power fails despite the rhetoric and spin from its proponents. In the 30+ years the world has been using Wind Power and with more than 100,000 Industrial Wind Turbines installed around the world, not one single coal-fired power plant has been closed and replaced by Industrial Wind Turbines. As a matter of fact, Germany and Denmark, both poster countries for the Wind Industry, have not reduced their CO2 emissions or closed any coal generating stations, in fact they are planning on building new ones <http://www.eia.doe.gov/oiaf/ieo/coal.html>.

Moreover integrating substantial amounts of electricity from Wind Power results in increased CO2 emissions from base load and Wind back up generation. This is a phenomenon that has been noted and studied in many different countries:

O. Liik \*, R. Oidram, M. Keel: "Estimation of real emissions reduction caused by wind generators"; International Energy Workshop 24-26 June 2003, IIASA, Laxenburg, Austria.

Donald Jones, P.Eng.: "IESO – Will Ontario's wind turbine power plants reduce greenhouse gas emissions?"; BULLETIN, the journal of the Canadian Nuclear Society, September 2010.

Peter Lang: "Cost and Quantity of Greenhouse Gas Emissions Avoided by Wind Generation"  
<http://www.windaction.org/documents/20052>

Bentek Enerfy "HOW LESS BECAME MORE... Wind, Power and Unintended Consequences in the Colorado Energy Market"  
<http://www.bentekenergy.com/WindCoalandGasStudy.aspx>

The social impacts of Rural Wind Power are much harder to document because, as with health effects, it is a newly discovered phenomenon that has even less research and study undertaken on it. I can say however that by making some rural inhabitants 'winners' through leases while their neighbours are left to suffer the health impacts, destruction of property values and loss of amenity brought about by Industrial Wind Turbines, the Wind Industry is dividing rural communities and pitting neighbour against neighbour and destroying the landscape and natural values which define rural communities. Furthermore there is ample evidence that Industrial Wind Turbines have serious adverse impacts on animal husbandry and will negatively impact rural and farm economies. Please see pages 15 to 17 of "SUMMARY OF RECENT RESEARCH ON ADVERSE HEALTH EFFECTS OF WIND TURBINES" by Keith Stelling, MA, MNIMH, Dip Phyt, MCPP (England), 20 October 2009

<http://www.wind-watch.org/documents/summary-of-recent-research-on-adverse-health-effects-of-wind-turbines/>

To summarize, Wind Power will not reduce our CO2 emissions, it will harm the health of some humans, will disrupt rural societies, will destroy property values, will seriously impact the economic viability of farms, will kill many thousands of birds and bats yearly and makes no sense from an economic viewpoint both as a social investment in energy and for the negative impact higher energy prices will have on the economy as a whole.

The only thing 'green' about Wind Power is the money it makes the Global Wind Industry, the only renewable thing the subsidies it keeps requiring.

Thank you for your time and consideration in accepting and reading my comments

Sincerely  
George Browne