

Critique of
Wind Turbines and Health
A Rapid Review of the Evidence

Published by the
Australian National Health and Medical Research Council
July 2010

by Wayne Gulden
wayne@windfarmrealities.org
September 2010

My Earlier Research

The NHMRC's *Wind Turbines and Health* follows in a long line of similar - certainly too similar to be coincidental – studies that purport to present the latest evidence regarding the effects of wind turbines on the health of nearby residents. This lineage includes the Chatham-Kent Public Health Unit's *Health Impact of Wind Turbines: A Review* (aka Colby, June 2008), AWEA/CanWEA's *Wind Turbine Sound and Health Effects: An Expert Panel Review* (aka Colby et al, December 2009), and the [Ontario] Chief Medical Officer of Health's *Potential Health Impact of Wind Turbines* (aka King, May 2010).

When you first read any of these reports, they certainly seem authoritative in claiming wind turbines present no health issues. But how did they get to that conclusion? A closer reading of these reports reveals that none of the authors has ever communicated with anyone claiming a health problem, or with any doctor who has treated any victim. Instead, they simply stayed in their cubicles and did research on the topic. And how did they go about finding appropriate studies?

If you take the time to read through all of them you find they all used, as a core, the same studies, plus a handful of articles from friendly parties. The names Pedersen, Waye, van den Berg and Leventhall figure prominently. They often reference other reviews (i.e. Jakobsen and Rogers) and of course the earlier studies in this series, all of which end up going back to the same core. The problem is, none of these core references were a health study. None of them were produced by a medical professional, let alone a real doctor who has experience with real victims. All of these reports take what is otherwise valid research and draw conclusions from it that are way beyond the original research supports. There is this patina of authority, but the reality is far different. It is so egregious that I have to conclude this misrepresentation is intentional.

While I am not qualified (as these authors are also not qualified) to pass medical judgment upon the issue from afar I can take the time and effort to chase back through

the references to see if their conclusions are supported by their “evidence”. So far I have produced the following critiques.

Critique of *Health Impact of Wind Turbines: A Review*, (Colby) at:
http://windfarmrealities.org/wfr-docs/c-k_health_and_wind_report_examination.pdf

Critique of *Wind Turbine Sound and Health Effects: An Expert Panel Review*, (Colby et al) at: <http://windfarmrealities.org/wfr-docs/canwea-awea-health-exam.pdf>

Critique of *Potential Health Impact of Wind Turbines*, (King) at:
<http://windfarmrealities.org/wfr-docs/king-journal-references.pdf>

If these critiques are Too Much Information, you can get a quicker summary by going to my <http://windfarmrealities.org/> web site and clicking on the “Health” tab at the top or the “Health” topic – they go to the same place. But even the summaries are not a quick read. I’d like to reduce my objections to these reports to some catchy and memorable sound bite, but the topic is too important to treat so lightly. People around the world are being harmed by wind turbines and these reports give our leaders cover so they can continue doing so while claiming not to know about it.

Introduction to the NHMRC Rapid Review

This critique is not the first time I’ve written regarding this Review. The NHMRC Review was published in two parts:

(1) Public Statement, available at:

(<http://windfarmrealities.org/wfr-docs/nhmrc-public-statement.pdf>) and

(2) the Rapid Review (aka the Evidence Review), available at:

(<http://windfarmrealities.org/wfr-docs/nhmrc-evidence-review.pdf>)

I posted my comments (<http://windfarmrealities.org/?p=551>) on the Public Statement shortly after these reports were published and at that time promised a more lengthy critique of the Rapid Review, which you are now reading. In between I posted other comments (<http://windfarmrealities.org/?p=556>) regarding “Croakey on Crikey”, which is an interesting side story.

In common with its predecessors, the authors of this report never went into the field, never communicated with any victims or with their doctors. In lieu of that the authors came up with 28 references, many of which were also used in the three earlier reports mentioned above. Since they never went into the field themselves, of necessity all of their information came from these sources. So the references become critical.

In the very first paragraph of the report, the stated goal is “to ascertain if the following statement can be supported by the evidence: *There are no direct pathological effects from wind farms and that any potential impact on humans can be minimized by following existing planning guidelines.*” [Italics theirs] Their very first reference is then used to claim that Colby et al [mentioned above] supports their statement. The line from Colby

et al that is most used by the industry is: “There is no evidence that the audible or sub-audible sounds emitted by wind turbines have any direct adverse physiological effects”. Note the similarity in the modifiers to the word “effects”, especially the word “direct”.

With this first paragraph the NHMRC provides us all we need to know about their intent. Notice their goal is not to, for example, “Use the best available evidence to determine if wind turbines cause health problems”. Instead, their goal is to see if their dismissive statement can be “supported by the evidence”. I have no doubt that if you are selective enough, almost any statement can be “supported by the evidence”. The use of the word “direct” is also like a get-out-of-jail-free card. If you parse it closely enough, even atomic weapons don’t directly cause death - the radiation or the blast or the heat does. This middle-school parsing game would be fun, except that real people are suffering real harm, and this type of report encourages this harm to continue.

They get as far as the third paragraph before they again show their intent. They mention that there are “two opposing viewpoints regarding wind turbines” and go on to say “these views are frequently presented by groups or people with vested interests”. Both of these are just flat wrong. There are a lot more than two opposing viewpoints, and trying to pigeon-hole everyone into an “us” versus “them” is not helpful, nor instructive. As for vested interests, it is easy enough to figure out the interests of proponents. But what, pray tell, are the interests of the opponents? The only one I can even plausibly come up with is coal-related, and I doubt any but a vanishing minority of opponents are heavily into coal. This attempt to draw an equivalence between a profit-motivated highly-subsidized industry and ordinary citizens worried about their homes is despicable.

The entire report comes to not quite 7 pages. In an example of how difficult it is being careful with the truth compared to the alternative, this critique runs longer than that. I’ve collected and linked the 28 references and in the next section will comment briefly on each of them, to be followed by details about those that are used in a misleading manner. It will probably be easiest to get a copy of the Review (either printed or displayed alongside) so you can follow both it and my comments at the same time.

<http://windfarmrealities.org/wfr-docs/nhmrc-evidence-review.pdf>

Their References

I’ve numbered their references from 1 to 28 and listed them below, along with links to them, in the same alphabetical order that the report uses. A compulsive counter would note that there are really 29 references, but #13 and #14 (HGC and Howe) are the same, so #14 becomes Jakobsen. I’ve also added some brief comments about each reference, but if you don’t accept my comments you can easily look at the original and make up your own mind. In the details section I’ll go into how they’ve been misused.

#1 - AusWEA, at (1.2MB):

[http://windfarmrealities.org/wfr-docs/Noise associated with turbines in Australia.pdf](http://windfarmrealities.org/wfr-docs/Noise%20associated%20with%20turbines%20in%20Australia.pdf)

The important part of this industry-written paper starts on page 49, where they describe, without providing any references, how quiet turbines are. Actual measurements

(<http://windfarmrealities.org/?p=153>) indicate almost all of their descriptions are untrue, and you can guess in which direction.

#2 – AusWEA, at:

<http://windfarmrealities.org/wfr-docs/CFS10Electromagnetic.pdf>

Another industry-written report with no supporting references at all. By the way, before taking AusWEA seriously, take a look at their web site, at <http://auswea.com.au>.

#3 – AusWEA, at:

<http://windfarmrealities.org/wfr-docs/CFS6Noise.pdf>

Yet another industry-written report with no supporting references at all.

#4 – Berglund, at:

<http://windfarmrealities.org/wfr-docs/berglund-community-noise.pdf>

Berglund is a Swedish medical researcher, and this paper is from 1995, before wind turbines, with their particularly disturbing noise, were deployed.

#5 – CanWEA, at:

<http://windfarmrealities.org/wfr-docs/CanWEA-Addressing-concerns.pdf>

And yet another industry-written report. At least this one has eight references, many of them reused in this report. At about the same time as CanWEA produced this, they also placed a very similar “myths” page on their web site. For a thorough analysis of it you can go to Wind Concerns Ontario, at:

<http://windconcernsontario.wordpress.com/2009/05/22/deconstructing-canwea-health-claims/>

#6 – Chapman, at:

<http://windfarmrealities.org/wfr-docs/croakey.pdf>

Chapman is a public health professor. Croakey - are they serious? Using a very dismissive blog entry, one that relies almost entirely on Colby et al, and dismisses complaints as due to the nocebo effect? I am not aware of any attending doctor who is suggesting nocebo.

#7 – Chapman, at:

<http://www.psandman.com/articles/chapman1.htm>.

More on how to blame the victim. Gives suggestions on how to get the neighbors to accept the noise, without having to bother fixing the noise problem itself. Their reference was a “personal communication” (which is conveniently unavailable), and my link points to a Chapman article that mentions Covello and is probably representative.

#8 – Chatham (aka Colby), at:

http://windfarmrealities.org/wfr-docs/c-k_health_and_wind_report.pdf

Colby is a public health doctor, but has never (to my knowledge) attended to a victim. This was not a health study, merely a literature review, and a biased one at that. For details read my critique, at:

http://windfarmrealities.org/wfr-docs/c-k_health_and_wind_report_examination.pdf

During the report the authors didn't communicate with any alleged victims, or with their doctors.

#9 – Colby et al, at:

<http://windfarmrealities.org/wfr-docs/canwea-health-dec-2009.pdf>

This was not a health study, merely another literature review, and still deficient. For details read my critique, at:

<http://windfarmrealities.org/wfr-docs/canwea-awea-health-exam.pdf>

The authors didn't communicate with any alleged victims or with their doctors.

#10 – DTI, at (it's 4mb):

<http://windfarmrealities.org/wfr-docs/dti-measurements-low-freq-three-farms.pdf>

This report did involve real measurements at several complaint-ridden projects in the UK. It generally concluded the infrasound was too low to cause a problem, but it did reveal that audible noise could be an annoyance/health concern. It was an annoyance study, not a health study, and made only broad and unsupported assertions about health issues.

#11 – EPHC, at (2mb):

<http://windfarmrealities.org/wfr-docs/ephc-development-guidelines.pdf>

These guidelines discuss health briefly in section 1.5, pointing back to the NHMRC as their reference. Oops! They also hide behind the "direct" criterion, but do admit annoyance is possible and health problems could result from that. The Report used the 2009 version of these guidelines, while this is the more recent 2010 version.

#12 – Harding, at:

<http://windfarmrealities.org/wfr-docs/harding-flicker.pdf>

Harding is a medical researcher with an interest in photosensitive epilepsy. This study reported how flashing from turbines could cause epileptic seizures, but only if the flash rate was above 3/second. Large wind turbines never flash at that high a rate unless something is terribly wrong.

#13 – HGC/Howe, at:

<http://windfarmrealities.org/wfr-docs/hgc-best-practices.pdf>

This paper was published by CanWEA. HGC (the H=Howe) is an acoustic consulting company. This paper contains suggestions on how to avoid noise problems when developing wind projects. It mentions health issues only in passing, and contains no supporting references.

#14 – Jakobsen, at:

<http://windfarmrealities.org/wfr-docs/jakobsen-low-freq-noise.pdf>

Jakobsen is a Danish acoustician, and this report is a survey of previous literature on infrasound from wind turbines. It mentions health issues only in passing, and contains no supporting references. I've discussed it in more detail in my King critique, at:

<http://windfarmrealities.org/wfr-docs/king-journal-references.pdf>

#15 – Kalveram, at:

<http://windfarmrealities.org/wfr-docs/Kalveram-acoustical-noise.pdf>

Kalveram is a psychology professor in Germany. To get the full flavor you'll have to read at least the abstract for yourself. Kalveram is trying to prove out his theory that annoyance is merely a Darwinian reaction to anything that threatens to interfere with our activities. There's nothing about health in it.

#16 – Leventhall, at:

<http://windfarmrealities.org/wfr-docs/leventhall-canacoustics.pdf>

Leventhall is a British acoustician. This article is used by just about every proponent, and the NHMRC has continued the tradition. It mentions health only in passing, and contains no supporting references. I've discussed it in more detail in my King critique, <http://windfarmrealities.org/wfr-docs/king-journal-references.pdf>.

For a nice summary of this article's deficiencies, go to

<http://www.algonquinadventures.com/waywardwind/misreps.htm>

#17 – Macintosh, at:

<http://windfarmrealities.org/wfr-docs/macintosh-wind-farms-facts-fallacies.pdf>

Macintosh is an environmental lawyer with political ties. In this report he pretty much repeats all the industry talking points, so full of demonstrable errors that I can't possibly list them all. His section on greenhouse gas emissions is especially laughable. He doesn't mention health issues at all.

#18 – Markandya, at:

http://windfarmrealities.org/wfr-docs/markandya_lancet.pdf

Markandya is a professor of economics in England. This paper compared the health effects of different renewable technologies with fossil fuels. The unstated assumption was that wind, for example, actually saved on emissions, and thus was on balance a healthier alternative. This assumption is almost certainly wrong. In any event, nothing specific was said about health issues relating to wind turbines.

#19 – MOE (aka Ramakrishnan), at (1.2MB):

http://windfarmrealities.org/wfr-docs/ramakrishnan_report.pdf

Ramakrishnan is a Canadian acoustician. This paper tries to discredit van den Berg's research, not very convincingly, as detailed by John Harrison, at:

http://windfarmrealities.org/wfr-docs/ramakrishnan_report_harrison_response.pdf

It contains nothing about health.

#20 – Minnesota, at (900KB):

<http://windfarmrealities.org/wfr-docs/mn-public-health-impacts-of-wind-turbines.pdf>

While this report was not a health study per se, it is a well-written and comprehensive review of health research. It was cherry-picked by the NHMRC to support a couple of trivial statements, ignoring the far more important points that were inconvenient.

#21 – NRC, at:

http://windfarmrealities.org/wfr-docs/NRC_wind_energy_final.pdf

In this brief the NRC proposes a framework to help regulatory agencies evaluate tradeoffs in environmental impacts. It makes no statements about health issues at all.

#22 – Pedersen, van den Berg, at:

<http://windfarmrealities.org/wfr-docs/pedersen-response-netherlands-2009.pdf>

Pedersen is a medical researcher in Sweden. My link is to a preliminary version of this report, which was all I could find on the 'net. It discusses the results of a Dutch study on annoyance, not health. I discuss this report in more detail in my King critique, <http://windfarmrealities.org/wfr-docs/king-journal-references.pdf>

#23 – Pedersen, Wayne, at:

<http://windfarmrealities.org/wfr-docs/pedersen-waye-2003.pdf>

This report discusses the results of a Swedish study on annoyance, not health. I discuss this report in more detail in my King critique, at: <http://windfarmrealities.org/wfr-docs/king-journal-references.pdf> .

#24 – Rogers, at (800KB):

http://windfarmrealities.org/wfr-docs/rogers_nrel_paper.pdf

Rogers is a mechanical engineer who works for the RERL. This paper is a good primer on wind turbine noise. It mentions nothing about health issues.

#25 – SDC, at (1.5MB):

<http://windfarmrealities.org/wfr-docs/sdc-wind-energy-nov05.pdf>

This report was written by a pro-renewable energy commission. Just read the gushing Forward on page 3. The number of points there that have turned out to be just flat wrong is mind-boggling. In any event, this report had only the most general comments about health.

#26 – SEA Victoria, at:

<http://windfarmrealities.org/wfr-docs/victoria-planning-guidelines-2009.pdf>

This set of guidelines provides policies for the development of wind energy in Victoria. It doesn't discuss health issues at all.

#27 – Windrush, at:

<http://windfarmrealities.org/wfr-docs/windrush-magnetic-field-report.pdf>

Windrush is a wind energy developer who measured EMF at the CNE turbine in Canada. This report provides the results of those measurements. Health issues are not discussed at all.

#28 – WHO, at (800KB):

<http://windfarmrealities.org/wfr-docs/who-4th-conference-2004.pdf>

The report reviewed recent trends in energy availability and the effects of electric generation on health. The section on wind was less than a page long, had no supporting references, and made only general comments, including noting that local health effects could not be evaluated.

So there you have it - 28 references, not one of which was written by a doctor who might be aware of what was actually occurring out in the field. Of all these authors only Colby has an MD and he has been warned by the Ontario College of Physicians and Surgeons “of the importance of fully disclosing the extent of his qualifications in a field in which he has been retained as an ‘expert’” specifically due to his work on wind turbine noise.

Please notice what is missing – those reports from doctors who have written up their case studies about the health effects of turbines: reports from Nissenbaum, Pierpont, Harry and so on. They would probably say that is because they haven’t been published in a peer-reviewed journal. Never mind that Pierpont’s entire book was peer-reviewed. And never mind that the NHMRC, when it suits them, doesn’t hesitate to use non peer-reviewed materials. Out of the 28 references, only eight were peer-reviewed. Seven of their references came directly from self-serving industry marketing materials! (Most of the rest came from government publications.)

This list of references demonstrates how easy it is to not find something if you are determined to not find it.

The Details

I thank you for hanging in here, still interested enough to continue reading. If the previous sections haven’t put you to sleep this one certainly will. But I think it is important to get on record just how shabby this “research” was.

The body of the Rapid Review has nine sections, as follows:

- 1) Context
- 2) Sound and Noise from Wind Turbines
- 3) Effects of Noise from Wind Turbines on Human Health
- 4) Shadow Flicker and Blade Glint
- 5) Effects of Shadow Flicker and Blade Glint on Human Health
- 6) Electromagnetic Radiation and Interference
- 7) Effects of Electromagnetic Radiation and Interference on Human Health
- 8) Measures to Mitigate Potential Impacts of Wind Turbines
- 9) Conclusions

I’ve already made comments about the context and don’t feel the need to make any more. Roughly half the Review is taken up by sections 2 and 3. This makes sense, as the vast majority of health complaints relate to noise and vibration. So far I haven’t heard of any health issues, mainly epileptic seizures, from shadow flicker and glint, although they certainly could become a quality of life issue and thus a stressor – with the “indirect” health effects that follow. Nor have I heard of any but a smattering of EMF-related issues. Some of the admittedly anecdotal EMF stories are disturbing, but until more study is done the stories remain just that – anecdotal. My comments will thus be restricted to the noise sections along with the conclusions. I’ll go through sections 2 and 3 paragraph by paragraph, pointing out just the major problems. There are too many

minor problems; we'd be here all day. In the section below anything that is italicized is quoted from the Review.

So we start with **section 2 - Noise from Wind Turbines**. Before I get started on specifics, I have to mention that the writing style in the Review is surprisingly poor. As an example, start reading the paragraph on page 2 that begins "*Sound is composed...*" If you were relying upon this section for an explanation of noise from wind turbines, what on earth would you learn? There's no train of thought, no logical progression of ideas, no attempt at context; just a random insertion of disjointed and mostly unimportant snippets.

Towards the bottom of page 2, the first paragraph in section 2, "*Sound is composed...*" has nothing major worth commenting upon.

The second paragraph, "*Noise can be defined...*" brings up, right out of nowhere, the nocebo effect. *If people have been preconditioned to hold negative opinions about a noise source, they are more likely to be affected by it (AusWEA, 2004)*. So instead of blaming the noise itself for the problem, they blame the victims. Never mind that many victims were all in favor of wind turbines (i.e. Vinalhaven) until they were turned on and the noise was unbearable. And what do they use as a reference for this attempt to shift the blame? AusWEA! That is pretty cheeky. Especially when the AusWEA reference doesn't discuss nocebo anywhere, and only makes passing unsupported comments about attitude. As I mentioned earlier, I am unaware of any doctor anywhere in the world who has treated victims and has opined that their problems are due to the nocebo effect. This was simply invented by the industry in an attempt to explain away inconvenient facts.

The next two paragraphs (top of page 3) are unremarkable.

Table 1 purports to show different sound levels. Note the wind farm at 350m is 35-45dBA. Where did this number come from? The SDC, my reference #25. Sure enough, on page 78, there's a slightly larger Table 11 that is consistent with the Review's Table 1. Next, where did the SDC get their numbers? Their reference #52 points to PAN 45, from Scotland, which can be found at:

<http://www.scotland.gov.uk/Publications/2002/02/pan45/pan-45>

Their Figure 6 in section 65 is labeled "Indicative Noise Levels" and contains numbers consistent with both the Review and the SDC. Finally, where did Scotland get their numbers? And here's where the trail ends, with no reference at all. No mention of whether these numbers were measured, calculated, modeled or made up. The word "indicative" tells me they are not real numbers at all. If you were serious about noise levels created by wind turbines, wouldn't you think you'd find some real numbers?

Like these: <http://windfarmrealities.org/wfr-docs/ashbee-measurements.pdf>

Or these: <http://windfarmrealities.org/?p=615>

Especially when the very next sentence in the Review is: *Macintosh and Downie (2006) conclude that based on these figures "noise pollution generated by wind turbines is negligible"*. Notice the disclaimer in there? But if "these figures" are NOT correct (and they're not), what then?

The last paragraph in section 2, “*One of the most...*”, rambles on about how wind turbines don’t produce very much infrasound. I won’t go through the references individually. Keep in mind that most of these references were authored by acousticians; none by a medical professional. What they consider acoustically insignificant may not be medically insignificant. (<http://windfarmrealities.org/?p=400>) They are simply not qualified to opine on such things.

On we go to **section 3, Effects of Noise from Wind Turbines on Human Health**; we’re now at the very bottom of page 3.

The first paragraph, “*The health and well-being...*” is unremarkable.

The second paragraph, “*Various studies...*” is remarkable only in the sense that it is quite a mess. Are they trying to say annoyance is not a health issue? When the WHO says it is? Especially if the annoyance goes on for days at a time? And leads to stress and sleep disturbance? All of which has been well documented by hundreds of reports from all around the world. And what in the world is the point of introducing Kalveram at this point? The only answer I can reasonably come up with is it must be something to distract the easily distracted, or maybe impress the easily impressed.

The third paragraph, “*It has been suggested...*”, brings up the immediate question, “By whom?” I guess the “whom” is Croakey, er, Simon Chapman, on his blog, reference #6. I don’t know about anybody else, but to me this is not impressive.

The fourth paragraph, “*One study...*”, introduces us to Pedersen et al. As background, Eja Pedersen is a Swedish medical researcher who led two Swedish annoyance studies and was co-author (with van den Berg) of a third study in the Netherlands. These studies looked for annoyance from wind turbines and found a lot of it. What they had trouble reconciling was the theoretically low level of turbine noise and the high level of complaints that this generated – much higher than similar levels of road or other noise. Their voluntary questionnaire had some general questions about health on it, but Pedersen and van den Berg are, by their own admission, not qualified to make medical judgments and they have never done so. The wind industry, on the other hand, has shown no reluctance in using their work to try to demonstrate there’s no health effects. I’ve written more about them in my King critique, at: <http://windfarmrealities.org/wfr-docs/king-journal-references.pdf>

Enough background. Returning to the Review, let’s try to dissect this sentence: “*The authors concluded that reported sleep difficulties, as well as feelings of uneasiness, associated with noise annoyance could be an effect of the exposure to noise, although it could just as well be that respondents with sleeping difficulties more easily appraised the noise as annoying (Pedersen & Persson Waye, 2007).*” The first part of the sentence tries to play down the role of turbine noise in causing sleep disturbances, while the second part tries to put the blame on the victims. Never mind that Pedersen herself never speculated the way the NHMRC does. She is much more direct, i.e.: “16% (n=20, 95%CI: 11%–20%) of the 128 respondents living at sound exposure above 35.0 dBA stated that they were disturbed in their sleep by wind turbine noise.” And remember that

this study was spread over 5 projects with a total of 16 turbines with a combined capacity of about 8MW. By Australian standards, this is laughably small. And consider that Pedersen never actually measured the sound levels, which experience shows could have been higher than she assumed. In short, these three studies are indicative of a problem with wind turbines that needs more study, no matter how the industry tries to portray them.

This distortion of the Pedersen/van den Berg studies continues in the fifth paragraph, “*Many factors can...*”. Take this sentence: “*The study also concluded that people who benefit economically from wind turbines were less likely to report noise annoyance, despite exposure to similar sound levels as those people who were not economically benefiting (Pedersen et al, 2009).*” What the NHMRC left out was a critical piece of information – some/many/all of the participants could turn the turbines off when they got too loud. This tidbit was buried in the full report on page 56: “Respondents that benefit will more usually have control: most or all of them have taken part in the decision to put up the turbines and they can stop them if they want. One respondent remarked that if a turbine close by caused too much noise for him or his neighbour, he stopped the turbine.”

The sixth paragraph, at the very bottom of page 4, “*In addition to...*” reiterates that infrasound is “*minimal and of no consequence*”. This is Leventhall and Jakobsen yet again, having their original acoustician statements being stretched to include human health. No need to discuss this further.

Starting on page 5, the Review lists eight selected quotes from their references. I’ll take them one by one. The numbers in the parentheses are my reference numbers from above.

#1 (Bergland, #4) – The NHMRC had to go back 15 years to find a statement like hers. More recently researchers like Alec Salt have come to new and different conclusions, per: <http://windfarmrealities.org/?p=400> .

#2 (DTI, #10) – this quote was the first of three “principle study findings”. The NHMRC omitted this part of the third finding: “However once awoken, this noise can result in difficulties in returning to sleep.” I can cherry-pick too.

#3 (CanWEA, #5) – Straight from an industry lobbyist. Are they serious?

#4 (Colby et al, #9) – This study is fatally compromised, as discussed in my critique, at: <http://windfarmrealities.org/wfr-docs/canwea-awea-health-exam.pdf> .

#5 (Colby, #8) – This study is even more compromised than Colby et al, as discussed in another of my critiques, at: http://windfarmrealities.org/wfr-docs/c-k_health_and_wind_report_examination.pdf

#6 (WHO, #28) – The NHMRC omitted to include this quote, from the same report: “health effects from wind energy are negligible, however issues such as sleep

disturbance, school absenteeism, eventually resulting from noise in vicinity, could not be evaluated.”

#7 (EPHC, #11) – The NHMRC quote has been removed from their 2009 version of these guidelines. In its place, let me suggest this quote, from the 2010 version: “Excessive noise may cause annoyance, disturbance of activities such as watching TV, or sleep disturbance when received at a noise-sensitive location such as a dwelling. At higher levels, environmental noise has been linked to long term health issues such as raised blood pressure and cardiovascular disease.” Ouch.

#8 (HGC, #13) – their quote, that there is “no verifiable evidence for infrasound production” is just flat wrong. Just look at figure 5 on page 13 of the Rogers report, #24.

Why did I go to the trouble of listing all eight items? Two of the most consistent behaviours of wind proponents are (1) their propensity to selectively pick quotes that support their agenda - regardless of the context, qualifications or intent of the original author; and (2) quote extensively from friendly yet compromised sources. We certainly see both behaviours here. Performing an honest appraisal of the evidence is the furthest thing from most proponents’ minds, as it apparently is for the NHMRC as well.

At last (thank goodness!) we come to the final paragraph of section 3, “*The opposing view...*” at the bottom of page 5. In this paragraph the NHMRC attacks Dr. Pierpont, who wrote the book about Wind Turbine Syndrome. They dismiss it because it hasn’t appeared in a peer-reviewed journal. This, from an organization that quotes Croakey on Crikey, not to mention every wind lobbyist around. She is also easier to dismiss because she is presenting a new syndrome (WTS is in addition to the ordinary annoyance and sleep disturbance issues) that has, by Pierpont’s own admission, yet to be proven. They mention that her book has been heavily criticized by acoustic specialists (largely Leventhall), but what they forgot to mention is that it has not been criticized by many medical practitioners. The HNMRC also forgot to mention the research of other doctors, like Nissenbaum, who are not proposing a new syndrome, and who powerfully document the number of victims, in his case around Mars Hill, Maine, per: <http://windfarmrealities.org/wfr-docs/nissenbaum-mars-hill.pdf>

Thankfully we will now skip over the 4 short sections on shadow, glint and EMF, coming to **Measures to Mitigate Potential Impacts of Wind Turbines** on page 7. The summation of their mitigation strategy is: “*Therefore, if planning guidelines are followed and communities are consulted with in a meaningful way, resistance to wind farms is likely to be reduced and annoyance and related health effects avoided.*” Does anyone else see the disconnect here? The proponents have convinced themselves that the noise etc from wind turbines isn’t that bad, and thus are certain the neighbors are working themselves into an unnecessary angst, in part because people like me are saying bad things about their product. And if they can just talk the right way, the angst will be eliminated and everybody will be a happy camper even after the turbines get going. The proponents have apparently never even considered that maybe, just maybe, their product is a nasty piece of work. That maybe it is much louder and more intrusive than they can

imagine. That maybe living with it for weeks at a time, with little respite, eventually causes problems that send you and your family to the doctor. Health problems, in fact. Or perhaps the proponents know full well how nasty their product is, but are denying and delaying as much as they can, hoping to retire before it hits the fan (so to speak).

Finally we come to the **Conclusion**, on page 8. The cynicism they demonstrate with their last sentence is striking. Here it is, in its entirety.

“This review of the available evidence, including journal articles, surveys, literature reviews and government reports, supports the statement that: *There are no direct pathological effects from wind farms and that any potential impact on humans can be minimised by following existing planning guidelines.*”

In a curious way, I have to agree with it. This review met its goal; it did show support for their statement. Of course, it did so by omitting inconvenient facts, misrepresenting well-intentioned reports and making things up out of thin air. While it is sometimes fun to take a bad position and try to find a way to make it sound good (debate teams have raised this to an art form) this effort by the NHMRC is sadly not just an academic exercise. It is creating real harm among rural Australians who are unlucky enough to live close to a project. For one example of the kind of harm I’m talking about, just skim through the Noise Impact Assessment Report – Waubra Wind Farm, at: <http://windfarmrealities.org/wfr-docs/dean-waubra-report.pdf>

I’m not the only one who has issues with the Rapid Review. The Society for Wind Vigilance (<http://www.windvigilance.com/>), a group of professionals that includes real doctors, has prepared a lengthy critique, at:

http://www.windvigilance.com/downloads/nhmrc_analysis.pdf. Now, these are professionals, so you’d think they would be more circumspect in their critique than a plebe like myself. You’d be wrong. Here’s a typical paragraph: *The vetting and quality of material cited in the “Rapid Review” is at best suspect and at times ridiculous. The “Rapid Review” embraces the ranting opinions contained on “Croakey the Crikey health blog” while enigmatically challenging the World Health Organization authoritative position that annoyance is an adverse health effect – astounding.*

I couldn’t have said it better.

Parting Thoughts

In our western democratic tradition, governments exist to serve the interests of their citizens. In the case of wind turbines and health, I would think it self-evident that the citizen’s interests would best be served by an honest and rigorous examination of all the evidence that relates to the issue. Instead, in the Rapid Review, we have a government report that explicitly tries to support a statement that dismisses these health concerns out-of-hand.

It seems obvious to me that the Rapid Review was never intended to be an honest study of the issue. Rather, it seems designed to be part of a campaign to confuse the legal and legislative bodies, buying time for more projects to get installed. Unfortunately, those legal and legislative bodies are ill-suited to detect this type of gaming, and I expect the Rapid Review will have some success in accomplishing its purpose. Also unfortunately, real people living in real houses will suffer real damage as a result.

You have to ask: exactly what agenda are they pushing here? Have they decided that wind turbines represent a greater good, and the locals are thus expendable? Are the bureaucrats serving the interests of their political masters, who are trying to appear as green as possible? Or do they just want to stretch out the turbine building frenzy as long as possible to make as much money as they can for themselves and their friends?

Whatever the agenda is, it certainly does not serve the interests of Australia's citizens.