

**SUBMISSION TO THE SENATE COMMUNITY AFFAIRS COMMITTEE INQUIRY
INTO THE SOCIAL AND ECONOMIC IMPACTS OF RURAL WIND FARMS**

PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA

Submission: **Friends of Collector Inc.**, an incorporated association formed by members of the community to oppose the establishment of a proposed wind farm at and around Collector (NSW) consisting of between 60 and 80 turbines of up to 150m in height.

Contact: Mr Tony Hodgson
Inaugural President
Friends of Collector Inc.

1. Friends of Collector Inc.

- 1.1 Friends of Collector Inc. (**FOC**) was incorporated by 5 concerned members of the Collector community on 31 January 2011 in response to a proposal by Transfield Services (Australia) Pty Ltd (a subsidiary of the multi-national Transfield Services Limited) to establish a wind farm at and around Collector. On 23 January 2011, at the first community meeting organised by the FOC, unanimous support was expressed for the FOC's opposition to the establishment of the proposed wind farm and 50 people applied for membership of the then soon to be incorporated FOC. Currently, the FOC's financial membership is 60.
- 1.2 Collector is located approximately 50km south-west of Goulburn, between Goulburn and Canberra. The town's population is approximately 150. The community consists primarily of farmers and residents, some of whom work in Canberra and others of

whom have simply opted for a quiet rural lifestyle. The drought has been very hard on Collector but, as has always been the case in the Australian bush, the community has pulled together to endure and survive. Collector was previously a small, quiet, typical Australian country town.

2. Overview of Submission

2.1 The FOC proposes as matters of critical importance:

Precautionary Moratorium

- (a) that there should be a moratorium on the approval and construction of new wind farms for an initial period of 12 months to facilitate the investigations set out at 2.1(b), with a review at the conclusion of the initial period to determine the appropriate legislative and regulatory settings for the future governance of the industry;

Investigation

- (b) that Australian Governments should, either collaboratively or separately, immediately undertake or commission detailed, independently reviewed and (as appropriate) scientifically valid investigations of:
 - (i) the health impacts of wind farms in Australia;
 - (ii) the impacts of wind farms on surrounding property values;
 - (iii) the social impacts of wind farms on rural communities; and
 - (iv) the commercial practices of the wind farm industry;

and should subsequently review the legislative and regulatory framework governing the development and operation of wind farms taking into account the findings of the those investigations and the submissions of interested parties (as proposed at 2.1(a), above)

Transparency not Secrecy

- (c) that there should be established a searchable, national (or, alternatively, state specific) public register of agreements for the accommodation of wind turbines (including option agreements) with all agreements to be registered by host landowners within 3 months of their coming into existence;
- (d) there should be established a reporting requirement whereby retailers of electricity are required to inform their customers (ie. the public) of the percentage and/or dollar amount of their account which is attributable to the systematic preferencing of certain energy sources imposed by the government's current policy settings;

Equity – Local Community

- (e) that the quantum of community compensation payable by wind farm operators should be established at 1:1 (ie. the same amount per turbine as is to be paid to the relevant host landowner) and that these funds should be delivered to the community through Community Trusts established in specific affected areas;
- (f) that in addition to the payment of community compensation, wind farm developers should be compelled to fund ameliorative works on residences within 10km of wind turbines in order to reduce the effect of noise emissions and other adverse impacts (10km being the presently observed boundary of adverse health effects);

provision should be made for a non-associated landowner with a residence within a radius of 10km of an existing wind farm to be entitled to require that the wind farm operator purchase the landowners' property at market value (or, in the case of a landowner whose ownership pre-dated the announcement of the relevant wind farm, at a value adjusted to exclude the effect of the wind farm on the property's value) and pay the landowners' ancillary costs in the event that a previously healthy non-associated landowner or non-associated landowner's dependent family member is medically certified as suffering (without other identifiable cause) from any one or more of the symptoms linked to exposure to industrial wind turbines such as, but not limited to:

- (i) **severe chronic sleep deprivation** (from audible turbine noise, from waking up anxious and hyperalert, and from otherwise disturbed sleep including markedly increased nocturnal urination)
- (ii) **severe headaches**, including exacerbation of migraines
- (iii) **tinnitus** (buzzing/ringing in one or both ears, both new onset and exacerbation of previous condition)
- (iv) **ear pressure** sensations (in one or both ears, uncomfortable and sometimes painful, especially if previous tympanic membrane surgery & scarring)
- (v) **hyperacusis** (extreme noise sensitivity to 'normal' sounds)
- (vi) **nausea** (sometimes severe)
- (vii) **motion sickness, vertigo, and balance problems**
- (viii) **visual blurring**, which occurs with turbine operation
- (ix) **irritability, extreme anger, and other mood disturbances**
- (x) **memory and cognitive deficits**, which increase with prolonged exposure, and do not always completely resolve – children are showing impaired learning

- (xi) **depression, sometimes severe, with suicidal ideation**
- (xii) **anxiety**, with episodes of extreme panic, sometimes waking them up at night (children are waking with night terrors, and bed wetting, never previously experienced)
- (xiii) **high blood pressure** (hypertension) which can be a new problem, or an exacerbation of a previous condition, and which is sometimes dangerously high (acute hypertensive crisis)
- (xiv) **tachycardia**, coinciding with turbine operation

Assurance

- (g) that wind farm developers should be required to provide an up front cash bond of \$2 million per turbine (indexed for CPI) to assure removal and remediation;

Accountability

- (h) the *Trade Practices Act 1974 (Cth)* should be amended (or some other mechanism created) to provide for developers to be liable to injunction and in damages where they engage in misleading and deceptive conduct in connection with a development application (in particular, in connection with the process of community consultation), notwithstanding that there is no commercial relationship between the developer and the person(s) toward whom the developer acts in a misleading and deceptive manner;
- (i) statutory provision should be made to implement the precautionary principle as the legal standard of civil liability for persons and corporations engaging in activities reasonably suspected of being hazardous to the health of members of the general public, including the establishment of industrial wind facilities, by establishing a shifting onus of proof where grounds for reasonable suspicion of hazard exist;

- (j) further to 2.1(j), statutory provision should be made for directors whose companies fail to apply the precautionary principle to be jointly personally liable in respect of any resulting damage and to be exposed to civil penalty;

3. Precautionary Moratorium

- 3.1 It is submitted that the weight of anecdotal evidence supportive of the conclusion that wind farms have adverse health effects upon humans¹ is now so great that it warrants a national moratorium upon their approval and construction in order to permit a detailed and determined investigation of the issue. The Australian wind industry's talismanic recitation of the entirely ambivalent fact that "there is no peer reviewed scientific evidence that wind turbines have an adverse effect on human health"² is disingenuous, dissembling and worthy of the strongest condemnation once it is understood that the industry is maintaining a calculated ignorance. The identification of the disease never precedes the identification of the symptoms - nor does "peer reviewed scientific evidence" of cause precede the undertaking of appropriate research. The National Health and Medical Research Council's "rapid review" of published literature³ has done a great disservice to affected communities by lending their imprimatur to the efforts of vested interests to avoid appropriate investigation.
- 3.2 In point of principle, the Australian wind industry should already have commissioned this research. In the face of substantial anecdotal evidence that wind turbines may have adverse health effects, the only ethical course for a promoter and/or operator of wind farms is to commission an appropriate study to assess the risk of harm to the public from its activities. The industry, however, has not followed this course – preferring to maintain a studied ignorance in the knowledge that the affected communities are not centres of power or money and are unlikely to be able to fund research or other sustained action themselves.
- 3.3 The power imbalance between developers and small rural communities is obvious and significant, and it must be the business of the peoples' government to right. However, far from seeking to ensure the interests of rural communities are protected, the present state government of NSW has provided succour to the wind prospectors by taking planning powers away from regional councils and centralising them in the

¹ See 4.1, below.

² "Addressing Concerns with Wind Turbines and Human Health", Canadian Wind Energy Association (2009).

³ "Wind Turbines and Health: A Rapid Review of the Evidence", NHRMC (July 2010)

Minister. In NSW, rural communities are being bullied by a powerful alliance of multi-nationals, metro-centric ministers and metro-crats. The NSW Government has taken the step from mere neglect to negligence and exploitation, and it may be putting rural residents' health at risk.

3.4 Other countries and polities are now becoming sensible to the dangers and questionable benefits of wind farms:

- (a) in 2010, in response to health concerns, Japan commenced a 4 year study of the effects of the countries' wind turbines on human health. The study will conduct research in connection with each of the countries' more than 1500 turbines;
- (b) Denmark, the home of wind turbines, has announced that binding limits will be legislated on all wind-turbine infrasound and the state-owned electricity company Dong Energy has announced that it is abandoning the development of on-shore wind turbines as a result of concerns about noise and human health;
- (c) in Connecticut (USA), the state legislature is considering a 1 year moratorium to permit the development of evidence-based regulations for the siting of wind farms; and
- (d) in both Canada and the United Kingdom there is presently litigation in superior courts in which it is alleged that particular wind farms caused injury to neighbouring landowners.

4. Investigation, Assurance, Accountability and Equity

The health impacts of wind farms in Australia

4.1 A copy of a recent summary paper prepared by Dr Sarah Laurie, Medical Director of the Waubra Foundation, is attached and marked "A". It outlines the symptoms and suspected mechanisms of the illness that appears to be related to exposure to wind turbines. The FOC adopts Dr Laurie's summary and submits that there is a compelling case for the detailed, scientific investigation of the apparent adverse

health effects of wind turbines. It appears that wind turbines are making members of the rural community ill.

- 4.2 In fact, one of the most notable aspects of Dr Laurie's work as director of the Waubra Foundation (and as a rural GP prior to the establishment of that organisation) in recording reports of illness and suffering is that the subjects of those reports are members of the Australian rural community. These people are not whingers. And yet, the Australian wind industry rejects out of hand the evidence of their illness and suffering. If the people of the bush are telling you there is something wrong with their health, there is something very wrong.

The impacts of wind farms on surrounding property values

- 4.3 Proponents of wind farms maintain that industrial wind facilities have no adverse effect upon property values – as if visual and aural amenity were not core components of the value of property generally, and particularly of rural property. Sadly, they are once again aided by an approach on the part of the NSW government that is lethargic and apathetic at best, and calculated and complicit at worst. The result of the “Preliminary Assessment of the Impacts of Wind Farms on Surrounding Land Values” prepared for the NSW Valuer-General and published in August 2009 was, according to the report itself, inconclusive (see p.2) – nevertheless, it has been relied upon by wind farm proponents (including Transfield, the proponent of the Collector wind farm) in community consultation and by the NSW Department of Planning itself as a basis on which to refrain from requiring proponents to assess the likely impact of their proposal on neighbouring property values - regardless of the fact that there are no plans for further NSW government investigation of this subject.
- 4.4 Industrial scale wind farms must and do have an adverse effect upon surrounding property values. We note, for example, the 2007 study of affected lands in South Texas⁴ (USA) which showed a substantial diminution of value (in the order of 27% - 35%). We note also the opinion of Shane McIntyre, an expert from the Elders property group, that the loss of value resulting from proximity to a wind farm is in the range of 30% - 50%. A copy of Mr McIntyre's (informally expressed) opinion is annexed and marked “B”.

⁴ Gardner, Derry T., *Impact of Wind Turbines on Market Value of Rural Land* (2009)

- 4.5 Given the emerging evidence of illness associated with wind turbines, it seems highly likely the turbines will come to be regarded by the property buying public in much the same way as high voltage overhead power lines (**HVOPL**) – except that wind turbines have constantly observable and tangible effects **in addition to** carrying the stigma and threat of damage to those regularly exposed to them.
- 4.6 Ultimately, however, the simplest test would seem to be the opinion of members of the rural community – people who have chosen to make their life in the country or to come to the country because of their attraction to it. Overwhelmingly, members of the rural community regard wind turbines as a blight on the countryside and take the view that, given the choice, they would not allow their installation and certainly would not buy property in proximity to them. In a recent survey of the Collector community, approximately 80% were opposed to the proposed Collector wind farm.
- 4.7 Inevitably, particular planning decisions will have effects for neighbouring properties and communities. The task of a modern planning regime is to balance the interests of the various stakeholders. In order to achieve that task, the principles and parameters of the regime must be formulated with detailed, accurate and current information. Accordingly, the further investigation and continued monitoring of the impacts of wind farms on property prices is necessary in order to properly formulate and maintain any wind farm policy as depreciation is a key marker of the impact on the community. This is even more important in the case of industrial wind farms because the introduction of industrial facilities to rural communities is itself a matter of significant impact.

The Social Impacts of Wind Farms on Rural Communities

- 4.8 The bush survives by its community. Through community, hardship is lessened, disaster is managed, loss is consoled and (in recent years, increasingly rare) victories and good fortune are magnified. The wind farm issue, however, is tearing rural communities apart. Host landowners believe their neighbours are jealous of their ‘windfall’ and, in opposing the proposals, are trying to deprive them of much needed financial relief. Non-participating landowners, on the other hand, believe that participating landowners have deceived them and sold out the interests of their neighbours and community for a few fast, dirty dollars.

- 4.9 Industrial wind turbines affect the entire community, regardless of the fact that they are accommodated on private property. Modern turbines are up to in excess of 150m tall. The proposed Collector Wind Farm, for example, is intended to consist of between 60 and 80 turbines of up to 150m in height. A 150m turbine is taller than each of the Opera House, the Statue of Liberty and the Harbour Bridge. A depiction of the relative sizes of those objects is annexed and marked “C”.
- 4.10 It is because wind farms affect the entire community that the FOC has proposed that the “community compensation” paid by developers should be on *at least* a 1:1 basis – that is, the same amount per turbine ought to be paid to the community as is paid to the host landowner (see 2.1(e), above). However, whilst this measure is appropriate it by no means adequately atones for the injury done to affected non-participating landowners. Accordingly, the FOC also submits that a wind farm developer should take the further step of funding all reasonable (including state-of-the-art) works to reduce the impact of wind farms upon residences within a 10km radius of turbines (see 2.1(f), above).
- 4.11 In truth, the divisive effect of the wind farm issue upon rural communities may be second only to the risk of damage to residents’ health as a matter of serious concern. Strategies for ameliorating this injury to rural communities urgently need to be developed and adopted.

The Commercial Practices of the Wind Industry

- 4.12 It has already been pointed out that the Australian wind industry has failed in its ethical duty to adopt and implement the precautionary principle by properly investigating the apparent effects of its activities now that there are grounds for reasonable suspicion that they cause injury to human health (see 2.1(j) & 3.2, above). In preference, it has trumpeted limited, conditional and ambivalent findings as if they were conclusive and wagered that the isolated, disempowered and atomised rural communities it exploits will be unable to summon the muscle to force a proper investigation of the serious issues attending the industry’s commercial practices and activities.
- 4.13 Additionally, however, the wind industrialists have sought to undermine and subvert what little obligation they still have to undertake community consultation. Anecdotal

evidence suggests that this conduct is endemic. We attach 2 further documents prepared by consultant surveyors which compare:

- (a) the photomontage released by Transfield purporting to show the likely visual impact of the proposed wind farm upon Collector township (utilising 125m turbines) with;
- (b) in the first instance, a certified survey accurate photomontage from the same position and from a position 20m to the north (also utilising 125m turbines); and
- (c) in the second instance, a certified survey accurate photomontage showing the likely visual impact at the same positions but utilising 150m turbines (the maximum turbine height proposed by the proponent).

The images, we think, speak for themselves.

4.14 Notwithstanding that Transfield released this information into the community in connection with a commercial enterprise, it appears that they would not be liable to injunction or to pay damages under the *Trade Practices Act 1974 (Cth)* because there was no commercial relationship between the people of the Collector community and the company: see *Street & 7 Ors v Luna Park Sydney Pty Limited & 3 Ors* [2009] NSWSC 1; cf. *Village Building v Canberra International Airport* [2004] FCAFC 240. Neither is there any mechanism for the invalidation of any planning decision which follows a process of community consultation which has been successfully subverted by such tactics. Accordingly, the FOC proposes that the *Trade Practices Act* be amended to permit a proponent of a development project to be enjoined from proceeding where it has subverted or otherwise failed to comply with requirements for community consultation – or that such a liability be otherwise established in law (see 2.1(i), above). The FOC further proposes that a failure of community consultation should constitute grounds for the invalidation of any subsequent planning decision reached prior to rectification of the failure. These are key measures to ensure accountability (see further below).

4.15 The wind industry's questionable practices are not, however, confined to the period after the announcement of the proposal. The entire industry operates (revealingly) from the premise that 'the less said, the better'. Projects are developed in secret, host landowners are bound to confidentiality agreements gagging them from discussing

the existence of the proposal with their neighbours (who will be as significantly affected by the proposal as the participating landowners themselves - and without the financial recompense) and the community is kept entirely in the dark until a project application is filed. In effect, the wind industry's practice is a repeated attempt to present small rural communities with a fait accompli.

- 4.16 Rural communities like ours, in which truth remains a core value, are deeply affected by this conduct. Particularly acutely affected, however, are purchasers of property who are unable to protect themselves against the losses that result from purchasing land affected by a wind farm proposal without knowledge of the existence of that proposal. Accordingly, as a core measure to ensure transparency, the FOC proposes that a searchable, national register of wind turbine agreements be established and a mandatory reporting requirement be imposed whereby all agreements must be registered within 3 months.
- 4.17 In furtherance of the institution of real assurance and accountability on the part of wind farm developers and operators, it is proposed that:
- (a) statutory provision should be made to implement the precautionary principle as the legal standard of civil liability for persons and corporations engaging in activities potentially hazardous to the health of members of the general public, including the establishment of industrial wind facilities, by establishing a shifting onus of proof where there are grounds to reasonably suspect the existence of hazard;
 - (b) further to 4.17(a), statutory provision should be made for directors whose companies fail to apply the precautionary principle to be jointly personally liable in respect of any resulting damage and to be exposed to civil penalty; and
 - (c) up front cash bonds of \$2 million per turbine should be required to assure removal of turbines and remediation of land. Interest from the sums held on deposit should be split between the developer /operator and environmental projects designed to ameliorate the ongoing adverse environmental effects of the turbines (such as destruction of migratory birds, etc).
- 4.18 As to (a), the precautionary principle is already enshrined in environmental legislation as the standard by which protection of the environment is to be considered

in appropriate circumstances. Why would activities apparently hazardous to human health not be assessed within the same framework? The value of human health must surely warrant such protection. Moreover, the institution of this principle would go far toward righting the power imbalance between multi-national developers and small, rural communities. By casting the onus upon the persons seeking to engage in, and profit by, the activities which are reasonably suspected to cause adverse health effects, the person who stands to profit bears the cost of establishing that the activities are legitimate. This seems like simple fairness.

- 4.19 As to (b), there are now approximately a total of 700 statutes nationally that impose personal liability on directors in particular circumstances. The rationale for that imposition varies, but it is submitted that a corporate failure to act consistently with the precautionary principle in connection with activities reasonably suspected of being injurious to human health presents a clear example of circumstances in which directors should be rendered personally liable for resulting damage.

5. Economic Risks

- 5.1 It is universally acknowledged that the wind industry survives on a diet of subsidy and artificial demand driven by the preferencing of wind power as a matter of policy. The economic bubble of an industry dependent upon government's policy preferences is obvious. As occurred in Spain, the wind industry's bubble may well burst⁵. In Australia, however, the pinprick is likely to come from other renewable technologies of lesser social impact when they very shortly achieve price parity with wind energy. We note that solar farms appear to carry none of the hazards associated with wind farms and are close to achieving price parity. Australian Governments' unreflective support for the wind industry would therefore seem likely to be both creating an unnecessary economic bubble and to be close to obsolescence.

6. Summary / Conclusion

- 6.1 We submit that the proposed course of action set out above is dictated by simple fairness. The introduction of industrial wind turbines seems to be making members of the rural community sick and leaving them without options and, in some cases, deeply afflicted by a legitimate sense of hopelessness. The industry has refused to do

⁵ Russell, Kathy - "The Great Renewable Energy Rort" (July/August 2010 Volume LIV Number 7-8 Quadrant online).

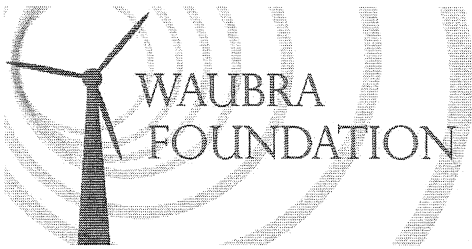
the right thing. Affected communities like Collector will make their voice heard but after years of drought, floods and legislative disempowerment it will ultimately be up to the Government to see that justice is done. Apart from anything else, it is Australian Governments' unreflective support for the wind industry that allows the 'windustrialists' to flourish.

6.2 Our community feels strongly:

- (a) that it has been deprived of a real say in a vital matter that fundamentally affects our lives by the proponent's secrecy and by the State government's disempowerment of the local community;
- (b) that the concern about the potential adverse health effects upon ourselves and our children has been brushed aside, showing little regard for our well being;
- (c) that the proposed wind farm is going to cause all of us, except the host landowners, significant loss; and
- (d) that for too long, the rights and interests of country people have been simply disregarded by governments dancing to the tune dictated by the cities and by companies who know that rural communities have been abandoned and left unprotected by their governments.

Submitted for your consideration.

Tony Hodgson
Inaugural President
Friends of Collector Inc.
8 February 2011



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ADVERSE HEALTH EFFECTS OF WIND TURBINES & recent developments

There have been an increasing number of reports globally, particularly in the last 10 years, of people adjacent to wind developments developing a range of symptoms not previously described in the medical literature. At the same time turbine towers are getting taller, their blades longer, both factors increasing their power output but also their noise emissions, and they are being built closer to larger rural populations, in order to be close to transmission lines.

The first Medical Practitioner to describe the new illness in a formal study was a UK GP (Dr Amanda Harry), followed by an Australian GP Dr David Iser (Toora, Victoria) and most recently Dr Robert McMurtry, who also used Dr Amanda Harry's survey as a basis for the Canadian self reporting survey. All found exactly the same range of symptoms being reported.

Dr Nina Pierpont (an American Paediatrician) progressed the research with her landmark peer reviewed case series crossover study, which examined the individual case histories of the members of 10 families from around the world, who had lived adjacent to wind developments. She meticulously recorded details of their health prior to, during, and after exposure to the turbines. They left their homes because of severe ill health in one or more family members. What Dr Pierpont described was a pattern of symptoms which developed or were exacerbated by the operation of the turbines, and which disappeared when the subjects left their homes, only to return again when they returned back to their homes. She called the constellation of symptoms "Wind Turbine Syndrome". **Her study, together with the raw data / case histories, has been published in a book with the same name**, available from **windturbinesyndrome.com**.

Other Medical Practitioners who have subsequently become concerned and involved in the international research effort include Dr Robert McMurtry (Canada), Dr Michael Nissenbaum (USA), Dr Christopher Hanning (UK), and Dr Noel Kerin (Canada). Some of the Acousticians with extensive experience in this field of work who are independent of the wind industry and very concerned about what is going on include Dr Bob Thorne (Australia & NZ), Mr. Rick James (USA), Mr. George Kamperman (USA), and Dr Daniel Shepherd (New Zealand). There are other Acousticians, similarly independent of the wind industries, who are also very concerned.

Two organisations have been set up by concerned professionals specifically to advocate for affected residents, to collect further information and to ensure that independent research into the described adverse health effects of wind turbines is carried out as soon as possible. They are the Society for Wind Vigilance (**windvigilance.com**) in Canada, and the Waubra Foundation in Australia.

The symptoms and health problems include but are not limited to the following:

- **severe chronic sleep deprivation** (from audible turbine noise, from waking up anxious and hyperalert, and from otherwise disturbed sleep including markedly increased nocturnal urination)
- **severe headaches**, including exacerbation of migraines
- **tinnitus** (buzzing/ringing in one or both ears, both new onset and exacerbation of previous condition)
- **ear pressure** sensations (in one or both ears, uncomfortable and sometimes painful, especially if previous tympanic membrane surgery & scarring)
- **hyperacusis** (extreme noise sensitivity to 'normal' sounds)
- **nausea** (sometimes severe)
- **motion sickness, vertigo, and balance problems**
- **visual blurring**, which occurs with turbine operation
- **irritability, extreme anger, and other mood disturbances**
- **memory and cognitive deficits**, which increase with prolonged exposure, and do not always completely resolve – children are showing impaired learning
- **depression, sometimes severe, with suicidal ideation**
- **anxiety**, with episodes of extreme panic, sometimes waking them up at night (children are waking with night terrors, and bed wetting, never previously experienced)
- **high blood pressure** (hypertension) which can be a new problem, or an exacerbation of a previous condition, and which is sometimes dangerously high (acute hypertensive crisis)
- **tachycardia**, coinciding with turbine operation

RECENT DEVELOPMENTS

Most recently in Australia I have heard descriptions of angina, chest tightness, heart attacks and acute episodes of extremely high blood pressure (known as acute hypertensive crises) which are occurring when the turbines are operating. Most concerning is the apparent concurrence of heart attacks and strokes with turbine operation. These have occurred at a number of different wind developments, in all three states, and require urgent further analysis. I am hearing from my Canadian colleagues that the same reports are emerging there.

At Waubra particularly, a number of affected residents have started measuring their blood pressures at multiple times during the day and overnight, if they wake up, and some are finding that both their blood pressures and their heart rates are elevated when the turbines are operating, but decrease when either they are away from home, or when the turbines are turned off for any length of time (days).

Further independent research is urgently required, as some of these clinical effects are occurring at greater distances than previously described (especially some of the body vibrations). **Specifically, hypertension in conjunction with turbine operation has been reported up to 5km away, and body vibrations and nocturnal waking in a panicked state up to 10km.**

Acousticians independent of the wind industry have confirmed that with these large modern turbines, sound waves (audible and infrasound) they generate could certainly travel that distance in certain weather conditions, particularly when the turbines are placed on top of ridges and hills. Most recently Mr. Rick James has confirmed he has measured pulsatile infrasound 1500 ft from a turbine in Ontario at 90 dB SPL, much higher than previously measured.

There are published peer reviewed scientific studies which confirm that the effects of exposure to infrasound are cumulative (Perrson & Wayne), can affect cognition & memory (ibid), can affect mood & work performance (ibid), can affect the inner ear (Salt, A) and can affect blood pressure, heart rate, and mood (Qibai & Shi).

AREAS identified REQUIRING FURTHER INDEPENDENT RESEARCH

1. Pulsatile infrasound and low frequency noise measurement concurrent with symptoms being experienced by affected residents in their homes (Dr Bob Thorne et al's proposed research)
2. In situ sleep studies, correlated with turbine operation, and concurrent measurement of audible sound and infrasound
3. Concurrent continuous ambulatory blood pressure monitoring with turbine operation and infrasound measurement
4. The effect of long term chronic infrasound exposure on adults
5. The effect of chronic infrasound exposure on children & unborn babies, (particularly their growth, development, cognitive development, & learning)

ALL REFERENCES ARE AVAILABLE ON REQUEST

Dr Sarah Laurie, Medical Director, Waubra Foundation, 6th February, 2011

"13"

Sent: Tuesday, January 18, 2011 11:39 AM
Subject: RE: Wind farm affect on land values

Dear Bryan,

I have been a Licensed Estate Agent for 30 years, specialising in the sale of Rural property, essentially all over Australia, with an emphasis on Victoria and the Riverina. I have held senior Management positions with the largest Rural real estate Companies in Australia. In recent years the growth of activity and the actuality of wind towers throughout the Victorian rural landscape has been significant.

Challicum Hills, Coddington, and Mt Mitchell have all emerged as large scale wind farms, located on the tops of the low hill country, interrupting the landscape for many kilometres.

Of significant importance, is the negative effect on the value of adjoining lands where wind towers have been erected. Visually, the towers are seen by the majority of the market as repulsive. Audibly, the towers effect the stillness a property enjoys, in particular the resonating tones in the night, invading serenity of the adjoining lands.

A proliferation of wind towers adjacent to a property has the same effect as high voltage power lines, rubbish tips, piggeries, hatcheries, and sewerage treatment plants, in that, if buyers are given a choice, they choose not to be near any of these impediments to value.

The ultimate effect is that the number of buyers willing to endure these structures is significantly less than if the structures were not there. This logically has a detrimental effect on the final price of the adjoining lands.

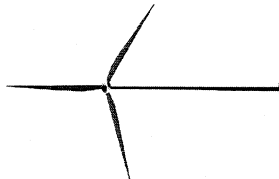
Experts assess the loss of value to be in excess of 30%, and sometimes up to half.

My personal experience is that when an enquiry (potential buyer) becomes aware of the presence of wind towers, or the possibility of wind towers in the immediate district of a property advertised for sale, the "fall out" of buyers is major. Very few go on to inspect the property, and even fewer consider a purchase. On the remote chance they wish to purchase, they seek a significant reduction in the price.

There is absolutely no doubt, that the value of lands adjacent to wind towers falls significantly in value. The ambience of a rural property is important, and oftentimes, the sole reason why a purchaser selects a particular area or district. The imposition of wind towers, destroys this ambience forever.

HEIGHT COMPARISON

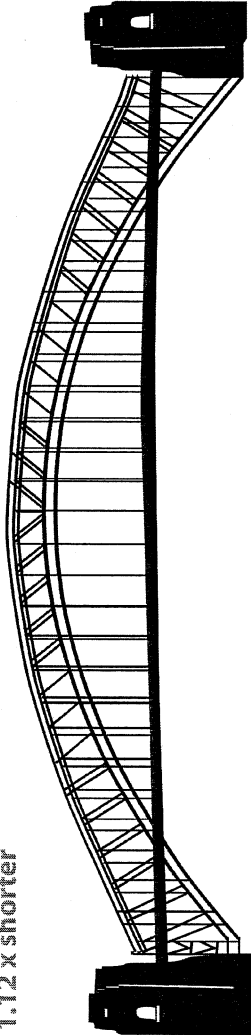
Fourth Example with 150m wind turbine



Wind turbine

Height: 150 m (492 ft)

1.12 x shorter



Harbour Bridge

Height: 134 m (432 ft)

1.61 x shorter



Statue of Liberty

Height: 93 m (305 ft)

2.23 x shorter



Sydney Opera House

Height: 67.4 m (221 ft)

