

Part 6:
Recommendations for setbacks of homes, from turbines

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Introduction

In this part of my submission I'd like to look at the experiences globally of recommended setbacks from turbines, to avoid the health issues from turbines that are driving country people off their properties, and disenfranchising a whole section of our Australian community.

From initially having virtually no controls on where turbines can be put, the problem of resulting health problems, land devaluations, and people forced off their land, has forced all countries to instigate more controls regarding distances – at least those countries where there is still some semblance of democracy, although looking at the 'carte blanche' that has been given to the industrialisation of whole countrysides, some of them the most beautiful usually reserved for wildlife, one wonders.

Experts say that the noise travelling from turbine blades can be heard from as far away as ten kilometres. The Waubra Foundation recommends a distance of three kilometres from the nearest turbine, for serious health effects to be avoided.

Others recommend a 2 km setback from turbines. Health professionals who have studied

this issue say it should be at least 2 km. But even then, that is no guarantee.

Donald Thomas at Waubra is experiencing similar side effects from the noise as the others at Waubra. He lives three and a half kilometres away, and his parents are also experiencing health problems. He just wants to be able to run his farm.

I have heard Donald speak at council meetings a number of times, and he stresses the point that he had nothing against the turbines in the first place. This fact stands out quite clearly from all the people at Waubra who are suffering health problems from turbine noise; they were not against them originally. Trish Godfrey was told she'd only see very few, but ended up surrounded by 65 turbines. The lack of honesty, and subterfuge clearly evident in wind companies' 'modus operandi' is staggering.

The question of distances from turbines is compounded by the fact the shape of the terrain influences how far the noise travels. Sub-audible noise can invade your home and resonate inside the walls. The problem of serious negative health effects from living near turbines is finally coming to the attention of the public and of governments.

The Danes: not so happy

The wind industry likes to use the Danes as happy examples of people living with wind power.

But no longer:

'Protests from more and more Danish neighbours of wind turbines on land have stopped wind power projects and made local politicians reluctant to approve licences... Several places around the country see acrimonious conflicts between the authorities and neighbours of wind turbines, writes Jyllandsposten [a Danish newspaper].

' "People are thoroughly fed up having their property devalued and their sleep disturbed by big wind turbines 130 and up to 200 meters high", says the chairperson of a new Danish national association to Jyllandsposten... The association was started about a year ago [2009]. 40 Danish protest groups have already joined, and more are on their way.'¹

¹ Jyllandsposten, July 24, 2010, Peter Skeel Hjorth, 'Neighbours on the barricades against wind turbines in Denmark'

One of the problems is: how close is too close

From research emerging from the Ontario symposium (October 29, 2010) into negative health effects from turbines, attended by experts in acousticians, doctors, and lawyers, one of the problems discussed is the sub-audible sound emitted by the turning blades.

This is the sound that wind companies do not test for, and that needs different technology for testing – I mentioned this in the section on Health Issues from turbines. But other problems emerge, like disturbing shadow flicker over houses further away. Major problems are sleep disturbance, nausea, heart palpitation, depression, headaches, and vertigo.

In this section, I'd like to have a closer look at the distance of houses from turbines as recommended elsewhere in the current debate, as well as record again some of the problems people are having.

Case studies

Wall Street Journal, March 1, 2010, by Robert Bryce
'The Brewing Tempest over Wind Power'

[I have put into **bold**, any mention of distances from turbines]

'In 2007, a phalanx of wind turbines were built around Charlie Porter's property in rural northern Missouri. Soon, Mr. Porter began to have trouble sleeping. So did his wife and daughter. The noise, he told me, made sleeping almost impossible. "We tried everything—earplugs, leaving the TV station on all night." Nothing worked. Late last year he moved his family off their 20-acre farm.

'Mr. Porter's story is no isolated event. Rural residents in Texas, Maine, Pennsylvania, Oregon, New York, Minnesota, Wisconsin, Canada, New Zealand, Australia, France and England have been complaining about the noise from wind turbines, particularly about sleep deprivation.

'Lawsuits that focus on noise pollution are now pending in Maine, Pennsylvania and New

Zealand. In New Zealand, more than 750 complaints have been lodged against a large wind project near Makara since it began operating last April [2009].

‘...state legislators in Vermont recently introduced a bill that will require wind turbines be located no closer than 1.25 miles [2.0125 km] from any residence.’²

In the same article, Robert Bryce makes the point that the wind lobby rejects negative health effects from turbines.

‘In December [2009], the American Wind Energy Association...with the Canadian Wind Energy Association, issued a report... [that] declared: “There is no evidence that the audible or sub-audible sounds emitted by wind turbines have any adverse physiological effects.” It also suggested that some of the symptoms being attributed to wind turbine noise were likely psychosomatic and asserted that the vibrations from the turbines are “too weak to be detected by, or to affect, humans.”’³

In *The Courier* of December 2, 2010, the Clean Energy Council of Australia ‘...representing 400 companies with clean-energy interests – released a report last month indicating that there was no evidence that noise levels as allowed under planning guidelines have an adverse effect on health.’⁴

The above statements by the wind energy associations do not stand up to scrutiny. It is ludicrous to suggest that all over the world, the people suffering a range of health effects from living near turbines have all suddenly developed psychosomatic illnesses.

- In my chapter on health effects, I have shown that people all over the world have been driven off their land due to noise and health effects from turbines. In the case of Jane and Julian Davis in Lincolnshire, England, her council reduced her rates, and acknowledged that the noise was ‘Nuisance real, not imagined.’⁵ The Davises had to rent a “sleeping house” in the village for £600 a month.
- In Waubra in Victoria, seven properties have been bought out by Acciona, the Spanish wind company that owns the site. Here and overseas, landowners sign ‘gag’ agreements that stop them from broadcasting their concerns, once they have been bought out by the wind companies.
- At Waubra, _____ have had to move with their family to Ballarat, to get away from the turbines in order to be able to sleep (as did the Dean family there). I spoke to _____ recently (January 7, 2011) and asked him what health effects they

2 Wall Street Journal, March 1, 2010, Robert Bryce, 'The Brewing Tempest Over Wind Power'

3 *ibid.*

4 The Courier, December 2, 2010, Brendan Gullifer, 'Wind-farm health fears grow'

5 <http://windbyte.co.uk/noise.html#deeping> see BBC TV News Piece: 'Wind farm blights farmhouse' accessed 17 12 2010

suffered from. He said they had a diverse range, like nausea, headaches, and sleep disturbance. Since they are in Ballarat, those symptoms have gone. He said that his wife, _____, health took longer to recover.

The nearest turbine to the property was 900 metres away.

- An important point about the Waubra residents is that the people who have been driven off their properties by the noise were not against the wind concern initially. It was the noise that made them sick once the turbines were operational that have devastated members of this community.
- At the Toora wind farm in 2006, Les Osbourne's house was bought out by the Queensland wind company, Stanwell. He had previously signed petitions *wanting* the turbines in the area. No reason in this case to suspect him of having a psychosomatic illness. His house was **600 metres away** from the nearest turbine. The company bulldozed it.
- In South Australia, 'Andy Thomas says low humming from the Hallet Two turbines **just over a kilometre from his house** disrupts his sleep and causes headaches.'⁶

In the same article from South Australia, the Australian Medical Association there made the point that ‘...some overseas studies indicate that low range sounds from wind farms may result in health issues such as dizziness and headaches.

‘But the president, Andrew Lavendar, said that: ‘...there is limited information about the impact of wind farms on people’s health.’⁷

If the Australian Medical Association acknowledges that there is limited information on this issue, where do the wind companies get their information from for their wide-sweeping comments of ‘there are no health problems from turbines.’

In January this year (Herald Sun, January 17, 2011), Dr Sarah Laurie, who has been researching health effects from turbines and advising other Australian doctors and hospitals on the issue, in particular the danger of heart palpitations from the turbine noise, was quoted:

‘People who live close to wind farms at Cape Bridgewater and Cape Nelson may need to begin monitoring their blood pressure, according to South Australian doctor Sarah Laurie.

‘Dr Laurie said there was a link between early morning high blood pressure, heart attacks and the turbines at wind farms.

‘She said anyone who lived **within 5km of a wind farm** should consider buying their own blood pressure monitoring equipment and see a doctor if they had a reading above 140/80.

6 ABC North and West SA, November 16, 2009, 'Govt urged to regulate wind turbine locations'

7 ABC North and West SA, November 16, 2009, 'Govt urged to regulate wind turbine locations'

‘General manager of local wind farm operator Pacific Hydro, Lane Crockett, said facts gathered suggested wind farms were safe and there was no need for alarm.’⁸

Where are Lane Crockett’s ‘facts’ coming from, and if they are, indeed, ‘facts,’ why do they only ‘suggest’ wind farms were safe? If people bought out by wind companies sign ‘gag’ agreements, how can reports of his ‘facts’ be accurate?

World-wide, there are case studies of people ill, and driven off their land, away from turbine noise, to try to get better. There are distraught country people in England, America, New Zealand, Canada and Australia describing the same range of symptoms.

There is a lot of information out there. It’s just that governments are taking the wind companies’ word for it that there’s no problem - like asking a used car salesman what’s wrong with the ten-year old car he’s selling. He’s going to hedge his bets, like Lane Crockett above.

Considering that unreliable and intermittent energy from wind farms only operates due to tax subsidies (“Windmills turn on subsidies,” said Danish Prime Minister Mark Rutte in 2010),⁹ and to government-decreed compulsory purchase of renewable energy by electricity companies, they *have* to deny the problem.

If there was widely publicized information on this issue in the media, wind companies would have to be far more accountable, as would the government. But comments like the above mentioned, from a doctor who has crossed the globe to inform herself on the health problems arising from turbines, is relegated in the newspaper to a small comment on page 21.

People driven off their land by government policy on wind farms deserve better than this.

A tsunami of despair is sweeping the globe, and no one wants to know.

Governments and associations are not listening to world-wide problems on this issue – it’s a closed-shop policy where the people affected are dispossessed and ignored, labelled ‘jealous’ [not getting money from turbines] and ‘neurotic’ [psychosomatic illnesses].

The Australian Medical Association quoted earlier says that problems only arose where ‘...people [were] living very, very close to wind farms...actually living in houses within 50 metres or 100 metres of a wind farm,’¹⁰ [Andrew Lavendar] said.

The quotes above from the Medical Association reflect the confusion of their stance, and their lack of knowledge of the problem:

On the one hand they agree that there may a problem; on the other hand they state that

⁸ Herald Sun, January 17, 2011, ‘Portland – Wind farm, heart attack link’

⁹ www.europeanenergyreview.eu, ‘The Dutch Lose Faith in Windmills,’ accessed 20.01.2011

¹⁰ ABC North and West SA, November 16, 2009, ‘Govt urged to regulate wind turbine locations’

there's only a problem if you're 'very very' close.

The latter point of only having a problem if you're 'very very close' is incorrect: the people I've mentioned in this chapter and in the one on health problems, did not live as close as that.

The in Victoria lived **900 metres away** from a turbine; Andy Thomas (SA) lives **over a kilometre away**; Donald Thomas at Waubra lives **three and a half kilometres away** from the turbines, and reports similar health problems as the others; Mr Porter at Missouri had turbines **550 metres away**; Les Osbourne at Toora lived **600 metres** away.

Mark Taplin, from Truro, Cornwall, testifies: “‘It has been a miserable, horrible experience. **They are 440 metres away** but if I step outside and they are not generating I know immediately because I can hear the silence. They grind you down – you can't get away from them. They make you very depressed – the chomp and swoosh of the blades creates a noise that beggars belief.’”¹¹

The same article quotes Dr. Stephen Briggs, an archeologist from Llangwryfron, West Wales: “‘...**the developers assured us** that the windmills would cause hardly any

disturbance, but once they began operation I couldn't work in my garden any more – the noise was unbearable. It was as if someone was mixing cement in the sky.’”

‘After four years of daily torture and lack of success in having the turbines moved, the Briggs family ended up leaving their home of 17 years.’¹²

The above case studies make a mockery of the American Wind Energy Association's claim that there is no problem with people living near wind turbines, and it is all 'psychosomatic.'

Recent medical reports from concerned doctors and experts:

A number of doctors have expressed their concern over the increasing reports of health problems. I have recorded a few here, but the Ontario Symposium into Health Effects from turbines (October 29, 2010) includes more, such as Dr. Michael A. Nissenbaum, Dr. Carl V. Phillips, Dr. Nina Pierpont, Dr. Arline Bronzaft and Dr. Alec Salt.

Dr Amanda Harry in Britain studied the health effects of 16 turbines at Padstow, Cornwall.

‘The research showed that 13 residents living nearby “had experienced increased numbers of headaches, and 10 said that they had problems sleeping and suffered from anxiety.’”

¹¹ http://www.xomba.com/wind_turbines_make_people_sick_with_noise_and_strobe_effect, February 15, 2008

¹² http://www.xomba.com/wind_turbines_make_people_sick_with_noise_and_strobe_effect, Feb 15, 2008

She said: ““People demonstrated a range of symptoms from headaches, migraines, nausea, dizziness, palpitations and tinnitus [ringing in the ear] to sleep disturbance, stress, anxiety and depression. These symptoms had a knock-on effect in their daily lives, causing poor concentration, irritability and an inability to cope.””¹³

‘The grinding sound that could be heard from miles away was half the problem.

‘The inaudible low-frequency tremor below 500 Hz that the blades sent through the ground also effected people subliminally.

‘Such low-frequency noise waves have been shown to disturb rest and sleep, induce headaches and anxiety attacks.’¹⁴

Dr.Bridget Osborne, in Moel Maelogan, North Wales, looked at the impact of three turbines erected in 2002.

In her paper presented to the Royal College of Practitioners, she said that the wind turbines have caused ““a marked increase in depression among local people,” and that

wind farm developers do not measure the infrasound: ““...the low frequency noise that causes vibrations that you can feel through your feet and chest.””¹⁵

Dr. Oguz A. Soysal, Frostburg State University, Maryland, measured sound levels **over half a mile away** from a 20-turbine wind farm in Meyersdale, Pasadena.

‘He found that average audible decibel levels were in the 50-60 range, and audible plus low-frequency decibels were in the 65-70 range.

‘Such low frequency sounds “can actually be felt by particular people rather than being heard, manifesting itself as a low-frequency vibration that is more a sensation than a noise,” the report said.’¹⁶

In New Zealand, it is interesting to note that wind turbines are permitted to emit a higher level of noise at night than other sources of noise - which disadvantages country residents.

The law ‘NTS68001:1991 limits sound from all activity **except** wind turbines to 35 dBA from 8 PM to 7:00 AM.

‘NTS6808 limits sound from wind turbines to 40dBA or 5dBA over background noise.

¹³ *ibid.*,

¹⁴ *ibid.*

¹⁵ http://www.xomba.com/wind_turbines_make_people_sick_with_noise_and_strobe_effect, Feb 15, 2008

¹⁶ *ibid.*,

Sounds with a “special audible characteristic” (clearly audible tones, impulses, or modulation of sound level) shall have a 5 dBA penalty.’¹⁷

The decibels here refer to audible noise, and the NZ **allowable** level of 40 dBA from turbines at night, is much lower than the noise measured by Dr O.A. Soysal mentioned above (50–60 range) in his measurements from the wind farm at Meyersdale, Pasadena. When he measured audible **and** low-frequency decibels, his readings were even higher (65–70 range).

It is sleep deprivation, and its resulting effects on concentration, that is one of the health problems from turbines driving country people from their homes.

The effect of noise on work performance

‘The effect of noise on work performance, even sub-audible noise, on general work performance’ was the issue researched in 1997 by Waye, Rylander, Benton and Leventhall in their paper ‘Effects on Performance and Work Quality Due To Low Frequency Ventilation Noise.’

Their conclusion was: ‘The results showed that the low frequency noise was estimated to interfere more strongly with performance. The results also gave some indications that cognitive demands were less well coped with under the low frequency condition. This effect was especially pronounced in the last parts of the tests, which indicates that the effects appear over time. The relation between the reduced activity and response time... may also indicate that increased fatigue was of importance for the results.’¹⁸

The low-frequency sound in the above study is the noise from turbines that is usually not measured by wind companies.

My point is this:

If the effects of noise on people are serious in an office situation, what increased risks to their safety will it produce on people like farmers that work with machinery every day, or on anyone that suffers debilitating illnesses every day from turbines noise, but needs to be alert for their jobs? What of the increased irritability with family and children?

Two km setback: Dr Nina Pierpont

Before I present recommendations for setbacks of turbines from homes, I’d like to quote from a letter, dated May 7, 2010, that **Dr Nina Pierpont**, a well-known pioneer of studies into health effects from wind farms, sent to Mike Crawley, President of International Power Canada Inc.

¹⁷ <http://www.wind-watch.org/documents/changes-in-wind-turbine-setbacks/> William Palmer, March 24, 2009, ‘Changes in Wind Turbine Setbacks’ accessed 24.01.2011

¹⁸ Journal of Sound and Vibration (1997) 205(4), 467-474, K.P. Waye, R. Rylander, S. Benton, H.G. Leventhall, 1997 ‘EFFECTS ON PERFORMANCE AND WORK QUALITY DUE TO LOW FREQUENCY VENTILATION NOISE’, 1997, Academic Press Limited

The subject of the letter was to alert the wind company mentioned of the **health effects of turbines situated at distances of less than two kilometres from homes.**

Dr. Nina Pierpont was writing on behalf of people that had: ‘nine (9) 1.65 MW V2 Vestas wind turbines within 2 km of her home. Three of these are within 1km. Indeed, all 24 turbines (for this project) are within 5 km.’¹⁹

She states some of the illnesses that people living near this wind farm already have, such as ear infections, autism, tinnitus, and epileptic seizures, and she goes on to say:

‘...To build these turbines next to these people is a reckless and violent act.

‘The evidence for turbines producing substantial low frequency noise and, worse, infrasound, is no longer in dispute. I quote from one of numerous studies demonstrating this: “Wind turbines and wind farms generate strong infrasonic noise which is characterized by their blade passing harmonics (monochromatic signals)” (Ceranna et al., p.23)²⁰ In this instance, the authors are referring to a single 200 kW Vestas V47 at 200 meters-a peashooter compared to the turbines adjacent to Mrs. X’s home.

‘Second, the clinical evidence is unambiguous that low frequency noise and infrasound profoundly disturb the body’s organ of balance, motion, and position sense (called ‘vestibular organs’).²¹

‘Third, the case studies performed by me and other medical scientists have demonstrated unequivocally that many people (especially 50 years old and older) living within 2 km of turbines are made seriously ill, often abandoning their homes.’²²

‘Fourth, there is no doubt among otolaryngologists and neuro-otologists who have studied the evidence that wind turbine low frequency noise and infrasound seriously disrupt the body’s vestibular organs, resulting in the constellation of illnesses that I have called Wind Turbine Syndrome.

‘The ‘cure’ for Wind Turbine Syndrome is simple: Move away from the turbines or shut them off. The ‘prevention’ of Wind Turbine Syndrome is even simpler: Don’t build these low frequency/infrasound-generating machines within 2 km of people’s homes.

‘Governments and corporations who violate this principle are guilty of gross clinical harm. Such governments and corporations should be taken before whatever level of court is necessary to stop this outrage.’

¹⁹ <http://windconcernsontario.files.wordpress.com/2009/11/mikecrawley.jpg>

²⁰ Lars Ceranna, Gernot Hartmann, and Manfred Henger, ‘The Inaudible Noise of Wind Turbines,’ presented at the Infrasound Workshop, November 28-December 02, Tahiti. Download PDF copy here: <http://www.kselected.com/?p=7589>

²¹ Nina Pierpont, ‘Report for Clinicians,’ in ‘Wind Turbine Syndrome: A Report on a Natural Experiment’ (Santa Fe, NM: K-Selected Books, 2009), pp.26-125

²² Pierpont 2009, pp.31-33, 127-192

‘These are strong words. They are carefully chosen. They are strong because governments and the wind industry stubbornly-I would add, criminally-refuse to acknowledge that they are deliberately and aggressively harming people. This must stop. The evidence is overwhelming.’²³

Recommendations:

What are some of the recommendations about distance setbacks from homes elsewhere

A) England A bill put to the House of Lords, England, July 27, 2010, recommended distances from homes, which varied according to the height of the proposed turbines.

The only way that those distance recommendations could be ignored was if all people living within the minimum distance requirement agreed in writing to the turbines, and:

‘It is the duty of a relevant authority to ensure that no written agreement is elicited by unlawful means and that all necessary written agreements have been received before planning permission is granted.’²⁴

Other recommendations in the above bill include:

If the height of the generator is greater than 50m, but does not exceed 100m, the minimum distance requirement is 1500m;

If the height of the generator is greater than 100m, but does not exceed 150m, the minimum distance requirement is 2000m

If the height of the generator is greater than 150m, the minimum distance is 3000m.²⁵

Recently proposed turbines [*The Australian*, January 22, 2011] for a wind farm at Collector in NSW would be 150 metres high. They are currently being vehemently opposed by neighbours.

B) NSW

The NSW inquiry into wind farms recommended ‘implementing a minimum setback of two kilometres’²⁶ of turbines from residential and other buildings.

C) France

²³ <http://windconcernsontario.files.wordpress.com/2009/11/mikecrawley.jpg>>

²⁴ <http://www.publications.parliament.uk/pa/ld201011/ldbills/017/11017.1-i.html>

²⁵ <http://www.publications.parliament.uk/pa/ld201011/ldbills/017/11017.1-i.html>

²⁶

[http://www.parliament.nsw.gov.au/Prod/parlment/committee.nsf/0/ea247659081d31fdca25768e001a2e2a/\\$FILE/091216%20Report%20-%20Rural%20wind%20farms.pdf](http://www.parliament.nsw.gov.au/Prod/parlment/committee.nsf/0/ea247659081d31fdca25768e001a2e2a/$FILE/091216%20Report%20-%20Rural%20wind%20farms.pdf)

‘The French Academy of Medicine and UK (United Kingdom) Noise Association recommends a 1.24 mile [1.996 km] distance between commercial wind turbines and private residences.

D) Canada

‘In Manitoba, Canada, a 1.24 mile wide buffer zone is recommended between to separate the wind turbines from the nearest property lines.

E) USA

‘In the Appalachian region, a 1.5 mile [2.4 km] setback is recommended.’²⁷

F) Victoria

‘Municipal Councils of Victoria has requested a setback of two kilometres for turbines from homes, as has the NSW government standing committee.’²⁸

‘Some experts, however, maintain that health effects of both the audible and the inaudible low-frequency sounds generated by the wind turbines will continue to create health problems for people living within a 3 mile area.’²⁹

The terrain can influence the distribution of sound waves. Donald Thomas’s family at Waubra experiences health problems three and a half kilometres away from the turbines. He has spoken at many council meetings on this issue.

For this reason the Waubra Foundation, has recommended a setback of three kilometres.

G) Waubra Foundation

‘The Waubra Foundation, created as a result of the wind farm development in the Wimmera region, has requested a setback of three kilometres.’³⁰

Conclusion

Overseas countries and legislative bodies in Australia, like the Municipal Councils of Victoria, are increasingly researching the situation in rural communities caused by the effects of large scale wind energy facilities industrializing the land, and looking at ‘safe’ distances of houses from turbines, to prevent people in the country getting sick, and unable to work on their land, let alone sleep in their homes.

For example, at Chepstowe, 400 houses exist within 5 kms of the recently proposed turbines by Future Energy there.

²⁷ http://www.xomba.com/wind_turbines_make_people_sick_with_noise_and_strobe_effect, Feb 15, 2008

²⁸ The Spectator, March 25, 2010, Natalie McGregor, ‘Macarthur woman warns of wind farm health impacts’ www.spec.com

²⁹ http://www.xomba.com/wind_turbines_make_people_sick_with_noise_and_strobe_effect, Feb 15, 2008

³⁰ The Spectator, March 25, 2010, Natalie McGregor, ‘Macarthur woman warns of wind farm health impacts’ www.spec.com

It seems inappropriate to endorse an industrial facility that could drive 400 people from their homes, or make their lives a permanent misery,

Concrete evidence from overseas and within Australia demonstrates that country residents are being driven from their homes to live further away, and have to drive long distances to their farms in order to work them. Some, like Noel Dean at Waubra, cannot work on his farm without suffering severe migraines afterwards. It can take him a week to recover. This is a health and safety problem of enormous proportion, yet no one is addressing the issue.

Affected residents have to drive to and fro from a 'sleeping house,' if they can afford it, or they have to accept being bought out by the wind companies, even though they had specifically designed their house for their business, like Trish Godfrey at Waubra, who was running her catering business from home – and have to sign 'confidentiality' agreements that 'gag' them.

Or they have to suffer from Wind Turbine Syndrome, and find they can't sell their house to move.

A number of options are being offered for recommended setbacks of houses from turbines. The minimum suggested by doctors who have researched this issue, is two kilometres, but the noise can travel much further. For example, this would not solve Donald Thomas's problem.

A safer option would be to look at three kilometre setbacks.

I personally think that it is ridiculous, while other technology becomes smaller and smaller as it becomes more advanced and more efficient, we are still making enormous wind towers. And destroying more land and wildlife into the bargain. It seems to me along the lines of Easter Island, where they cut down the last tree, thereby killing off the civilisation there. We do not seem to have come very far.

Dr Sarah Laurie made the point that it is a sobering trip to go to Toora, where Les Osbourne's house close to the windfarm was bulldozed, and where one property after another is for sale.

All this for a source of energy that has to have **another** power station running and ready to take over all energy needs at the drop of a hat, which means the building of more gas-fired generators that can boost up more quickly than coal-fired ones.

This is looking more and more like a 'lose-lose' situation, and country people are paying the price. Ultimately all taxpayers, and energy consumers will also foot the bill, unknowingly.

