

The Social and Economic Impact of Rural Wind Farms



Submission to Senate Enquiry

Sue Warren and Gary Simmonds

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Rural Wind Farm – Submission

Why are we making a submission?

We are living in a home directly impacted by the Waubra Wind Farm built and managed by Acciona Energy. Our close proximity to turbines has had an adverse affect on our lifestyle and our enjoyment of this property. It has also left us feeling locked in as the prospect of selling this home is now minimal.

We are taking the time to make a submission in the hope that this enquiry will ensure others living in rural areas of Australian will not be significantly impacted by future wind farms. In particular we would like to see the introduction of an appropriate set back distance between homes and turbines. We do not believe a proposed 2 kilometre set-back will satisfactorily insulate residents from the noise and shadow created by turbines.

When the Waubra wind farm was being planned we had an opportunity to put in a submission to the Department of Sustainability and Environment in October 2004. We spoke to the panel in January 2005. This submission was a joint submission with our immediate neighbours.

While initially trying to be philosophical about the proposed turbines to our east and south east, we made a submission when Wind Power amended the original plan to add turbines between Mt Ercildoune and Mt Misery to our west.

As a result of the hearing some concessions were made in the panel findings of March 2005. These included:

- removing two turbines from the saddle between Mt Ercildoune and Mt Misery
- reposition the two remaining turbines in that saddle
- taking an alternative turbine site off the plan as it would have towered over our both homes
- agreeing to tree planting at both properties

While we were original concerned with the visual impact of the turbines to the west, **the close proximity of the turbines on our east and south east are now our major concern.** The impact of these has prompted us to make this submission.

The **constant noise**, the **shadow flicker** through December and January, and **the visual impact** are our main concerns. The large number of **flashing red lights** we see at night are also an irritant. And now with the close proximity of turbines - and adverse news coverage specifically related to the Waubra project – we are concerned about the impact on the **property value** of our home.

If the turbines had been positioned further away from our home the impact of noise and shadow flicker may not have been a concern. Or with an appropriate set back any impact would have been minimal in comparison to the current situation.

We are significantly impacted as the closest turbine, we believe, is less than 600 metres from our home. There are other turbines also located within one kilometre.

On the original Wind Power Pty Ltd plan the closest turbine was to be at a distance of 713 metres, however we believe some adjustments were made at the building stage resulting in the first turbines being positioned closer to the house.

Where are we?

Our home is _____ (previously Waubra) –
The house appears as House 76 on Wind Power's plans and Acciona Energy's maps.

Wind turbines are located on three sides of our home:

- To our immediate west on the plateau between Mt Ercildoune and Mt Misery and on the edge of Lake Ercildoune.
- East and South on Tolbar Hill, Cardinal Hill and Sister Hills
- North on Foran Hills

Gary and I have used this home as a weekend escape since we purchased it 15 years ago. While the home at Waubra is a simple timber farmhouse, we both felt this second home provided us a little rural oasis and a higher quality of life. We felt that particularly as the house is at the end of a dirt road, with no through traffic, and no urban "white noise". This house allowed us to switch off from a busy working week and suburban existence.

While the house has been used as our weekender, we have spent longer holidays at this home and have used it as the hub to catch up with friends and family. It has also been lent to friends looking for a relaxing holiday.

Our concerns

This submission is to address four aspects of the project that we feel have adversely affected our enjoyment of our home. Our hope is by raising awareness of these issues others living in rural Australia will not be impacted, as we have been, by having wind farms positioned in close proximity to their homes. Our concerns are:

- **Noise Impact**

We are constantly aware of the sounds of the wind turbines. The sound we hear can be like an airplane approaching. It can often be a more constant thrashing noise as the blades move through the air. We also hear mechanical sounds, particularly when the turbines are shutting down or starting. The wind direction does alter the volume to some extent. Strangely when the wind blows away from us the turbines can sound louder.

The sound in the house is more obvious on the south east wall. Our kitchen and dining area are a little more insulated from the noise on the west side of the house.

We now love those times when the turbines aren't turning. The silence is very noticeable and we take the time to go outside and really enjoy those periods of quiet. It reminds us of a more pleasant time pre-turbines.

We have had background noise monitors at our home before and after the turbines were commissioned. This was a requirement as pre-construction *The Marshall Day Acoustics Report* rated our house as having "Provisional Compliance" only.

We have only recently been sent a copy of the *Waubra Wind Farm Post Construction Noise Compliance Assessment* for our house by Acciona Energy. Pyrenees Council sent a full copy of the report to us when requested. The final report from Marshall Day Acoustics states that we are compliant. I have included a graph on page 9 which shows how close we are to the upper limit.

Like a lot of the other homes which were monitored, the increase in noise never exceeded the 5 decibels permitted under *New Zealand Standard NZ6808*. In fact at most wind speeds it sat at exactly 5 decibels above the original readings.

A 5 decibel increase may sound insignificant until you consider decibels are not measured on a linear scale, they are measured on a logarithmic scale.

While a 5 decibel increase is deemed acceptable by the *New Zealand Standard NZ6808* remember that an increase of on a decibel scale is not like increases on a temperature scale. An increase of 10 decibels means that a sound is 10 times more intense, or powerful. A change of 10 decibels is considered to be twice as loud, while a 5 decibel change is described as a "Clearly Noticeable Change". Therefore the acceptable 5 decibel increase is quite significant to residents impacted by it.

Consider that 45 decibels is similar to the constant hum of a refrigerator motor. While we accept that our refrigerator has to run occasionally we don't expect to, or want to, hear that noise 24/7. The turbines can be heard 24/7, particularly when outside and in warmer months inside when windows are open.

On decibel scales 40 decibels is the level you'd hear listening to a quiet conversation. 50 decibels is listening to a loud conversation. You'll note on the graph on page 9 we do now have noise readings of 50 decibels and even 55 decibels.

- **Visual Impact**

The wind turbines positioned on three sides of our home have significantly detracted from our visual enjoyment of this property. The turbines have destroyed the natural skyline and landscape we once enjoyed. While we once escaped the city to a rural environment we now feel we are living in what could now be described as a light industrial area.

We would never have opted to buy a property surrounded by high tension power lines because of the visual impact. Nor would we have bought a property close to a highway because of the noise. Now, through no choice of our own, we find ourselves in a similar situation having had a wind farm built around us.

Even at night we are still reminded of their close proximity by the constant red flashing lights. I appreciate the red lights were forced upon the project by CASA however they still have an impact

Acciona Energy has worked with the Lexton Landcare Group to plant trees on our property – as required in the permit process. The trees have had challenges because of the long drought in this district and locusts in January 2009 and 2010 so have had to be replanted.

The Landscape and Visual Assessment Study prepared by John Cleary, documented that turbines within one kilometre are in our close foreground. The study showed that therefore they are more dominant than other landscape elements while turbine elements and movement can be clearly recognised.

We agree that the turbines are far more dominant than other landscape elements and we feel that we fall into the category of the small number of local residents who are affected to a high degree.

At the end of the submission I have included photos including a photo taken down our driveway pre-turbines and then a photo of the current view. You may appreciate looking at these photos why we feel that these turbines are completely dominating our view.

▪ Shadow Flicker

Initial computer mapping indicated that House 76 (our house) was expected to have shadow flicker for just 3 hours per year. This has proven to be far from accurate as we have shadow flicker on and in our home for approximately 7 weeks through December and January. The shadow impacts us at sunrise for 35 minutes each morning – slightly less by mid January.

For anyone who hasn't been impacted by an enormous shadow crossing their home around 50 times per minute, this may seem trivial. I can assure you when you are woken at 6.00am with a shadow flicking in your house it is far from trivial. The first time I encountered it in December 2009, half asleep with eyes closed, I actually had a few moments when I thought I was having a stroke or seizure.

We have been in discussion with Acciona Energy in regard to the shadow flicker since March 2010. Acciona have offered to pay for internal or external blinds. While we are really reluctant to have to close ourselves off from the view with curtains or blinds, we now accept we will have to do this.

We are currently getting quotes to have 100% blackout blinds installed on internal tracks. Anything less than 100% blackout fabric fitted tightly within the window frame would not stop the shadow impacting us in the house. And having the blinds installed internally we can quickly close them early morning as required then reopen them when the shadow has moved.

▪ Property Values

An article in the Weekly Times on 8 February 2011 included this:

THERE is "no doubt" wind farms have a negative effect on the value of adjoining properties, a senior real estate agent says.

Elders Rural Services national sales manager Shane McIntyre said the towers were seen by most of the market as "repulsive" and could lead to a 30 to 50 per cent drop in the value of the land.

In an email to a member of the anti-windfarm group, the Landscape Guardians, seen by *The Weekly Times*, Mr McIntyre said a proliferation of wind towers adjacent to a property had the same effect as high-voltage power lines, rubbish tips, piggeries, hatcheries and sewage treatment plants, "in that, if buyers are given a choice, they choose not to be near any of these impediments to value".

In the email, Mr McIntyre said when a potential buyer became 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" was "major".

"Very few go on to inspect the property and even fewer consider a purchase," he said.

"On the remote chance they wish to purchase, they seek a significant reduction in the price."

He said there was "absolutely no doubt," the value of lands adjacent to wind towers fell 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," he said.

"The imposition of wind towers destroys this ambience forever."

The article is at: http://www.weeklytimesnow.com.au/article/2011/02/08/289761_national-news.html

Mr McIntyre also said the email was for the personal use of the recipient and forwarded without his consent, and it did not represent Elders' view on wind farms or land use.

While Mr McIntyre added the disclaimer his original email is certainly expressing a strong view on land values based on his personal experience as an agent.

The statement that having a proliferation of wind towers adjacent to a property had the same effect as high-voltage power lines, rubbish tips, piggeries, hatcheries and sewage treatment plants rings true. A modern passive treatment wetland sewage system would actually be easier to live with than wind turbines.

We have no doubt that Mr McIntyre's comments that "*Very few go on to inspect the property and even fewer consider a purchase,*" and "*On the remote chance they wish to purchase, they seek a significant reduction in the price.*" will impact us financially if we ever try to sell our home.

And his comments on ambience sum up why we purchased the house initially, and why we now no longer feel the same about this home. The loss of ambience post wind turbines also focuses on a reason that nobody would want to purchase the house now.

Waubra also has the added stigma of now being associated with the medical condition "Waubra Disease". Even those who argue there is no such disease surely can't debate that the term (and the adverse news coverage of this phenomena) is now associated with the Waubra wind farm, to the detriment of residents, and to the detriment of property values.

If we had known in 1996, when purchasing our home in Waubra, that in 10 years we would have a wind farm on three sides we would have continued searching for a property elsewhere. We now feel locked in as it would be almost impossible to sell - at any price.

We now feel trapped, living in a house that we no longer get the same level of enjoyment from - a house we really resent having to be at now on occasions. These negative feelings are as a result of the turbines which have been located in close proximity to our house.

In Conclusion

We have taken the time to send a submission because we feel we have been significantly impacted by having turbines placed too close to our home. We feel better planning could have avoided this situation.

We do have some empathy with Acciona Energy who built the wind farm at Waubra. Acciona took over the project after the planning permit stage, which had been managed by Wind Power Pty Ltd. We suspect the outcome may have been a little better if Acciona had been involved earlier. Although even Acciona would not have included a set back large enough for effected residents to live comfortably with turbines.

Only Government intervention will ensure an adequate minimum set back on future projects to minimise the impact of wind turbines on rural residents.

We sincerely hope as a result of the Senate Enquiry common sense will prevail so that wind turbines built in the future will have a far greater minimum set back from homes. Ideally a set back closer to 5 kilometres than the 2 kilometre set back which has been proposed.

Contact Details

Please contact us if you have any questions or need any additional information regarding anything contained in this submission. All our contact details are provided separately.

Sue Warren

Gary Lee Simmonds

Marshall Day Acoustics findings

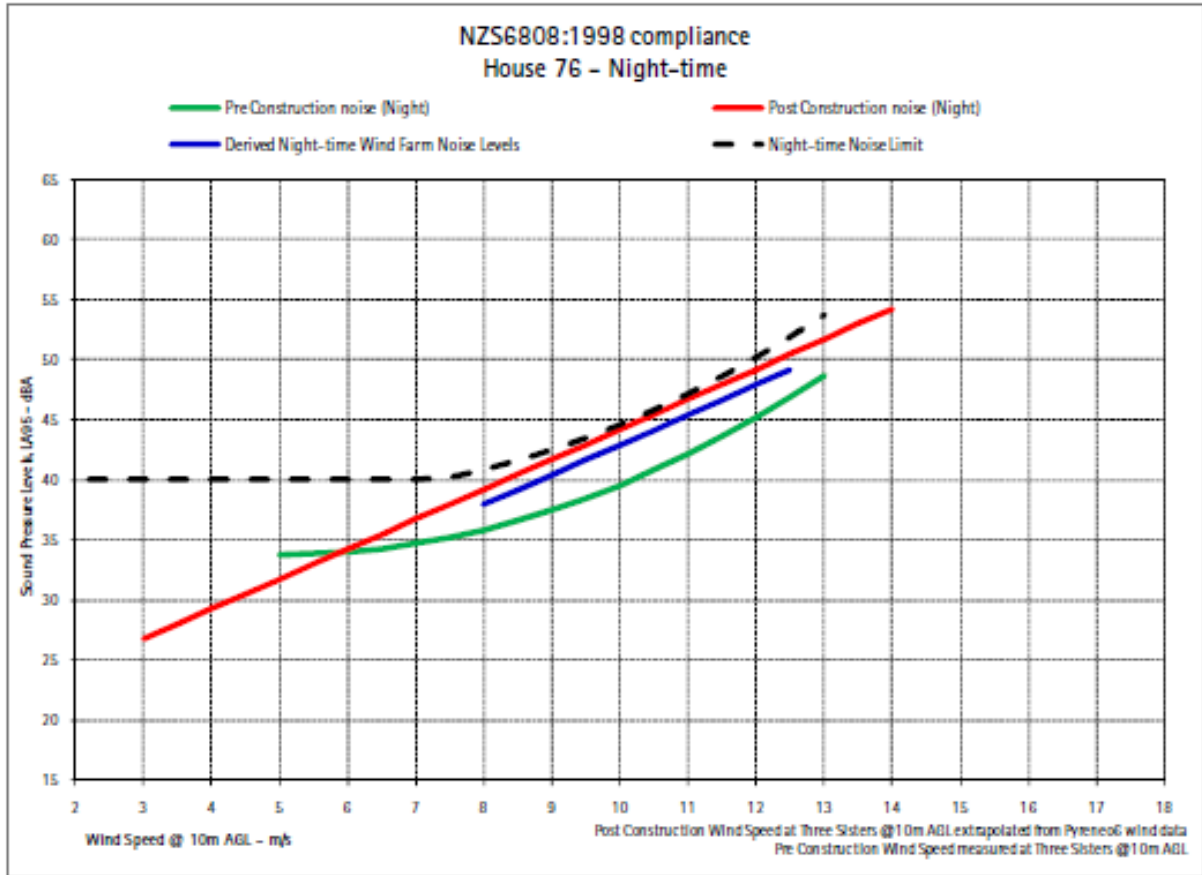


Figure 61: Post-construction noise levels vs. wind speed at House 76 – night-time

This is one of the graphs provided which shows the comparison between pre and post construction noise levels. The post construction noise level at night is only just below the noise level.

I would like to understand how several properties had less noise reported at low wind speeds after the turbines were constructed. There may be a logical explanation however it doesn't come to mind. Perhaps the turbines are turned off at low wind speeds – however why are the reading lower even in this situation?

Photographs

The view towards Mt Ercildoune and Mt Misery. Our house is on the left. The blades of two turbines – and one flashing red light - can now be seen between these mountains. This photo was taken prior to the turbines.



The view down our driveway before the turbines



The view down our driveway after turbines



To the east of the house. In the paddock to the left you may see one of the most recent trees planted by Acciona Energy. They are slow growing English elms, which we don't expect to see benefit from in our lifetimes.



The view to the south east from our house driveway





The view to the south east from our house gateway.

In the foreground are trees planted by Acciona to hide the turbines. This has been replanted and to date the wattles are the only plants making any progress. Wattles will never provide the height required to block the visual impact of the turbines.

The recently planted river gums could give us some height in 5-10 years, if they can get established. So a long wait for us to reap any benefit.



A photo taken by Marshall Day Acoustics of their sound logger. This was placed at the rear of our house - the north side of the house away from the turbines to the south and south east. The noise reader was always chained to a tree approximately 4-5 metres further to the west of this photographed location.