

**Submission to the Senate Inquiry about the
Social & Economic Impact of Rural Wind Farms**

Submitter: Janet Jackson

SUBMISSION

It is my submission that in respect to the impact of rural wind farms

1. The proponents misrepresent the facts in relation to their planned wind farm in their favour
2. There is inadequate consultation prior to and during the planning phase
3. Peoples health is not considered adequately by the proponents of wind farms.

INTRODUCTION

I live with my husband, David and 3 children Patrick, Andrew & Ellen adjacent to the proposed Stockyard Hill Wind Farm. This site is between Beaufort and Skipton in south-western Victoria. The proposed wind farm was to comprise of 242 turbines. A hearing before a panel was held in April 2010. The panel report was released in November 2010 recommending the wind farm go ahead but with many less turbines.

We live and work on the farm which my grandparents bought in 1950. My parents then farmed here & I grew up here. It is a beautiful farm with a lake and many swamps. Our farm is located in a stunning area, with a spreading volcanic cone opposite and rolling hills to the north.

We have been awarded many Landcare grants over the years & have been members of the Land for Wildlife Scheme for over 20 years.

In my submission I will refer to my experience during the planning phase of the Stockyard Hill Wind Farm. I found this to be frustrating, emotionally draining and at time very upsetting. It was also very time consuming and as a result my family and farm duties suffered.

1. The proponent misrepresent the facts in relation to their planned wind farm

The proposal for the Stockyard Hill Wind Farm was flawed. The Planning Permit Application in my opinion was incomplete, biased and dishonest.

The Flora & Fauna assessment had many errors and omissions. The Noise assessment was not based on the 2010 noise standard. It did not include any prediction of infrasound. Their site plan was based on a 2MW turbine and the noise modelling was based on this sized turbine. However Origin

could change the turbine size via secondary consent. Any change to the turbines renders the noise assessment as totally irrelevant. This is a major problem with the planning process.

Energy companies in the past have also added turbine lighting via secondary consent. As this is done after the planning process the community is not given an opportunity to comment on changes that occur via secondary consent. I believe this is very unfair to the community.

Also in the Planning Permit Application was a Landscape & Visual Assessment. This section contained many untruths & contradictions.

I will highlight a few from their conclusion;

1. Level of visual change of the existing landscape

The proponent said that the landscape of the proposed Stockyard Hill Wind Farm had been extensively modified since European habitation, but this is not true as the mountains, hills, lakes, swamps & creeks are still largely intact. There are no large buildings or skyscrapers, big bridges, airports, freeway interchanges, massive road cuttings, etc. in this area. The roads here are 1 or 2 lanes, & wind around these natural features.

The author of this Landscape & Visual Assessment also argued that the landscape value of the vegetation in the area had drastically changed. This was also incorrect. The Stockyard Hill Wind Farm site at the time of European habitation had forest on the most northern hills and then grassland over much of the rest. The vegetation structure of this site has basically stayed the same.

The author also argued that the ground flora had largely changed to pasture species. Yes it has in some places. Yet how could he say that this is a significant landscape change due to this when he wouldn't even recognize large features such as mountains within the area in the landscape visual assessment. His arguments did not hold.

Even if I had agreed with the author and said that changes in grassland species is a major landscape change, he did not acknowledge that there are still many large areas of indigenous vegetation remaining both within & adjacent to the site.

2. Perception studies

The perceptions studies carried out by the proponent did not relate to the proposed wind farm.

They mainly cited the "Ararat study". The proponent suggested that this was most relevant study as the wind farm near Ararat was the closest wind farm to the Stockyard Hill Wind Farm site. Yet the only wind farm close to Ararat is the Challicum Hills wind farm which is much, much smaller than the proposed wind farm. The Challicum Hills Wind Farm is comprised of 35 turbines, all sited in distant hills away from roads, and the turbines are approximately 90 m tall.

The Waubra Wind Farm is also located near the Stockyard Hill Wind Farm Site yet the proponent did not give results of a perception study from this area. Presumably because there has been so much trouble there with the wind farm affecting the residents.

The perception studies carried out by the proponent did not at any time ask about features which were relevant to the proposed wind farm such as

- wind farms of 242 turbines?
- of turbines 132 m tall?
- of turbines with blades more than half the length of the mast?
- of turbines with blades which have a sweep area of 8500 m²?
- of row upon row of turbines spaced 400m apart?
- of wind farms more than 100 flashing red lights?

The local residents of the Stockyard Hill Wind Farm site and surrounds were not surveyed and asked these questions?

3. Visual impact on the surrounding road network

The Landscape & Visual Assessment stated of the Stockyard Hill Wind Farm that "There is minimal visibility from major roads ... due to the ... limited viewing opportunities constrained by topography & vegetation."

This was not correct - the proposed wind farm would be in clear view for many kms from major roads such as the Glenelg Highway west of Skipton.

Secondly, the people travelling on the roads within & around the site were not considered? Despite this proposed wind farm being so big and the fact that people would see huge numbers of wind turbines, even if only half of the wind farm was in view.

The author also stated that "this landscape can absorb further change". Presumably because the landscape hadn't been changed much. Yet this contradicts what he said earlier with his statements that there were high levels of visual change in the site.

4. Visual impact on nearby residential dwellings

The proponent stated "There are 73 non-participatory residences within 3km of the wind farm, the zone of greatest potential visual impact."

Our house was one of these. However The View Point done for our house (VP10) totally misrepresented our view in two ways. Firstly, it was not done from our house, or our front gate, or even from our road. It was done further north of us, and on the adjacent road. Presumably this was this to make the mountain opposite (Mt Monmot) look smaller and/or to deceive the viewer that there are no turbines behind the mountain.

The proponent also stated in relation to the 73 non-participatory residences "However many of these existing residences have screening in the form of windbreaks."

The failed to say that in this area most of the windbreaks around residences are trying to grow on a stony rise. These trees are not tall enough & never will be tall enough to block out the view of wind turbines 132m tall.

The photo of our trees, Figure 11.32 in the LVA, was also misrepresentative. It was taken from a low point along our road to make the trees appear taller. This was clear deception yet again.

5. Night time lighting Impact

The proponent in the 1st paragraph stated – “the visual impact would be low. ... the night time environment of the area ... already contains multiple existing light sources.”

This was blatantly untrue. At night time in this district, light sources are rare. We are frequently asked to host Japanese tourists, as are other families in this area. One reason is that the night sky here has virtually no night time light pollution. The tour operator for the Japanese visitors specifically requests that our overseas visitors are shown the spectacular night sky.

In the 2nd paragraph of this section the author states – “if there are no lights in a locality then the number of views is also low and if there are many potential viewers then the number of existing lights is usually high.”

This statement implies that there is no effect from night time lighting at any location, ie. in the country or in the city! It is another example of the proponent presenting convoluted and senseless arguments to support their proposal.

In any case the proponent did not consider the people who live in the area. Either within the site or adjacent to it, nor whether they be stakeholders or non-stakeholders.

2. INADEQUATE CONSULTATION

The proponents consultation was incomplete & biased towards stakeholders. It may have fulfilled their legal obligations but it did not fulfil their responsibility to the local community.

The local township, Skipton

There was never any public meeting or information session held by the proponent in Skipton in regard to the Stockyard Hill Wind Farm.

The proponent may have justified this by saying that the town was too far from the site, yet much of this enormous wind farm would be clearly visible and audible to the town's residents. Skipton is 3km from the wind farm.

As a result of this lack of consultation, numerous Skipton residents were too late to write and object and subsequently appear at the hearing. I am aware of this as whilst the hearing was on a number of people asked me how to object to the wind farm proposal.

Public meetings

The one and only public meeting in regard to the Stockyard Hill Wind Farm development ever held was in Beaufort. It was run by the local shire, and was held only 8 days before the due date for submissions, in January 2010.

Despite this public meeting being held at the busiest time of year for the local farmers who were harvesting, and an inconvenient time for families, who were trying to take their children on a holiday for a few days between harvest & the resumption of school, the room was overflowing with people.

Many wanted to ask questions, such as myself. Most people did not get a chance to ask even one question or make one comment. I put up my hand six times, and didn't get to ask a question.

This lack of a public meeting in the area was not adequate for such a large scale development.

A few months earlier there were a couple of information days held by the proponent. However neither of these were held in a convenient location for either Beaufort or Skipton residents. They were held at the Lake Goldsmith Steam Rally site and the Lake Goldsmith Community Hall. Many Skipton & Beaufort residents wouldn't have even know where these locations were.

Another major problem in relation to these information days was that they were both held prior to the full plan of the Stockyard Hill wind farm being released, as another 50 turbines were added on later.

There was no later information day, illustrating the full plan, or showing what one of these turbines will look like.

I believe that the proponent did not adequately inform the local community about their proposal.

Inappropriate timing

The six week viewing time of the planning application for this proposed wind farm was over December & January. Only a very small proportion of residents would have known this as our local newspaper, The Skipton Community News, was not published during this time, as it only comes out during school terms.

Submissions were due in late January. This was all an extremely inconvenient time for anyone, with end of year commitments, Christmas, New Year & school holidays.

It was also the busiest time of the farming year too, due to harvest.

Our experience

My father jointly owns our farm.

The proponent, Origin, knew this, as indicated on the map - Landowners within 3km of site boundary.

However he was never notified by Origin in any way – no phone call, no visit, no Summary Guide. Despite that a 242 turbine wind farm was proposed next door and that the power line would run for 2km along his eastern boundary.

This demonstrates that the proponent had a total disregard for neighbouring land holders to the wind farm.

The proponents one –on-one visits

We were first visited in our home by the proponent late in 2008. This was the first time we were told about the wind farm. We asked many questions. The most important question was "How close were the turbines going to be to our house?" The gentleman showed us on his laptop. We asked to

have a map, but this was refused. We asked him to come back to see us soon as we needed to know more.

He visited us again early in 2009. We told him of our concerns about the wind farm and explained that our youngest child was disabled, that she had Prader-Willi Syndrome, and that we were very worried about the effect of the close turbines on her.

I showed the man a photo of our children. He did not seem interested or concerned. Despite the photo showing that my daughter has poor muscle tone, as shown by her droopy eyes, or the stressed look on her face, due to her being taken out of the normal classroom situation for a photo?

After about half an hour with us the man had to go to another appointment. We asked him to come back to see us again soon. We wanted to speak to him further. He didn't return. My husband phoned him in term 2, 2009 and asked him to come back to see us. It didn't happen. In term 3, again my husband phoned him and again asked him to come back to see us. It didn't happen.

In November 2009 2 men from Origin came to see us. Again we explained that our daughter had Prader-Willi Syndrome. Again they were not interested. After half an hour they were ready to leave. My husband's last question was "We are not happy about this wind farm being so close to us. What can we do?" The reply was – "Follow the official process". And the man from Origin explained ,i.e. write a submission and ask to be heard at the hearing if that's what you want.

I was further frustrated when after our submission was lodged, they rang us a couple of days later while we were at the beach for a few days with the children. Origin suddenly seemed to want to know more about our daughter! We told them we were on holidays.

Two weeks later on Friday 12th February, 2010, they rang us again, this time whilst we were driving to the Royal Childrens' Hospital for our daughters 3 monthly appointments. Origin wanted to see us on the following Monday to find out more about her which I reluctantly agreed to.

Monday came – David (school council president) had meetings at the school that morning. He came home and was busy on the phone with school matters. We had farm work that needed to be done too. I knew that Origin were going to the school that day to speak to the principal and were not just coming up to see us, so I rang Origin and cancelled the appointment. They asked if could they come and see us another time. I declined this and explained that we were following the official process which is what they had told us to do.

We felt very frustrated. They had had years to come and see us and find out our concerns and didn't bother to.

Yet we know that over this same time period when we were asking to see them, that they had time to meet with stakeholders over and over again.

We know that they would alter the wind farm plan to keep the stake holders happy, such as move the power line away from our neighbour's house. Origin tried to move the power line onto the eastern side of the Skipton-Beaufort Rd. However a vegetation survey found that there was good quality native grassland there so the power line could not go there. (By the way this was an

interesting contradiction with the proponents Flora & Fauna assessment conclusion that this site, Site 39 in the Memorandum, had been cropped and they said that its future value for fauna & flora was "None"). So the power line was rerouted to go past out front gate. We were we not consulted on the placement of the power line yet the stakeholder was.

3. PEOPLES HEALTH IS NOT ADEQUATELY CONSIDERED BY THE PROPONENT OF WIND FARMS

My husband and I were very concerned about the large number of proposed turbines close to our house (16 within 3.5 km or 26 within 5km) and the effect that these would have on our family's health. Yet our concerns were not recognized by the proponent. I will explain our families health issues in relation to wind farms. I will start by citing just a few key references.

There are countless articles on the detrimental health effects of wind turbines close to houses. Many explain that infrasound & audible sound affects residents up to many km from turbines.

I will not cite the masses of articles here, just a couple.

An Australian example - Toora

When the Toora Wind Farm in Gippsland became operational, the local doctor, Dr Iser, found that health problems resulted (Appendix B).

He reported that 8 out of 20 people who lived within 2km of wind turbines at Toora had associated health problems, "mainly related to sleep disturbance & stress".

He said that 3 of the 8 affected people had major problems and required medication.

Dr Christopher Hanning

I would like to provide you with six quotes from a report titled Sleep disturbance and wind turbine noise by Dr Christopher Hanning (2009). He is an Honorary Consultant in Sleep Disorders Medicine to the University Hospitals of Leicester.

1. "The major purpose of sleep seems to be the proper laying down and storage of memories, hence the need for adequate sleep in children to facilitate learning and the poor memory and cognitive function in adults with impaired sleep from whatever cause."
2. "Inadequate sleep has been associated not just with fatigue, sleepiness and cognitive impairment but also with an increased risk of obesity, impaired glucose tolerance (risk of diabetes), high blood pressure, heart disease, cancer and depression"
3. "The swishing or thumping impulsive noise associated with wind turbines seems to be particularly annoying as the frequency and loudness varies with changes in wind speed and local atmospheric conditions."
4. "Noise insufficient to cause awakening may cause arousal. ... Arousals may be caused by sound events as low as 32dBA & awakenings with events of 42dBA." David has explained to you that Origin predicts we will have noise up to 37dB + or - 3dB.

5. "Excessive noise disturbs sleep sufficiently to impair its restorative properties"

6. "It is often claimed that continual exposure to a noise results in habituation. i.e. one get used to the noise. There is little research to confirm this ... a recent small study (Pirrera et al 2009) looking at the effects of traffic noise on sleep efficiency suggests that habituation does not occur."

We were concerned about the effect of the many turbines close to our home and workplace. The proposed wind farm was so large and located in a number of sections, that it would be like having multiple wind farms close by. These sections of the Stockyard Hill Wind Farm are in different directions from our farm, so depending on the weather conditions we would experience effects for a greater proportion of time, rather than if just one section of the wind farm was in the one direction from us. Of course this effect of such a large wind farm doesn't apply to just us, but to all local residents near this proposed wind farm.

Motion sensitivity

Nina Pierpont states that people who suffer from motion sickness are very likely to be affected by wind turbine syndrome.

Both of our boys, Patrick and Andrew, suffer from motion sickness whilst travelling in the car. Patrick is particularly sensitive. Patrick is also continuously sick if flying in light aircraft. In February 2010 he went on a flight and was air sick for the duration of the flight (1 hour).

Ellen

Our eight year old daughter has Prader-Willi Syndrome.

This is due to a chromosome disorder and gives rise to a complex condition with a wide range of medical, psychiatric and behavioural disorders (Human Services, 1998). She attends various appointments at the Royal Children's Hospital at least every three months. She will require ongoing medical support for her entire life.

One of the main symptoms of this condition, which our child exhibits, is sleep disturbance.

Our child is already wakeful at night and subsequently tired during the day. She does not sleep deeply and is very easily disturbed at any time during the night. Any further night time disturbance would have devastating consequences for her and our whole family.

Increased sleep disturbance for Ellen will result in increased stress, increased irritability and reduced concentration. This would not be desirable in any child let alone one with Prader-Willi Syndrome.

Nina Pierpont has recorded childrens' behaviour as being negatively affected by close wind turbines. She states that they become irritable and their school performance diminishes. Ellen already has increased irritability, is easily stressed & struggles at school.

When Ellen is stressed and her behaviour deteriorates further, she also has an increased incidence and intensity of tantrums. Tantrums can involve verbal and physical abuse.

Tantrums can also result in elopement. On one of the few days when I have worked away from home since having Ellen, I was working as an electoral official in Skipton, she ran away and

attempted to walk into Skipton to find me. Luckily when she got up onto the main road she was picked up by a caring passerby who brought her home. This was not the first time that she had run away.

Increased stress also triggers Ellen to self-harm through skin-picking. This is dangerous both due to the potential of infections, and because with Prader-willi syndrome skin-picking can become as deep as the bone.

Another problem with Ellen's wakefulness at night is that she soils & wets her bed every night. We are trying to modify this behaviour with advice from doctors at the Royal Children's Hospital but have had little success to date. Disturbance through the night will exacerbate this problem.

Another major problem with Prader-willi Syndrome, which is exacerbated by disturbed sleep is food foraging. This is due to people with Prader-Willi Syndrome having an insatiable appetite and an obsession with food. This is a great concern in relation to increased night time disturbance as Ellen will get up more often during the night and look for food. Due to this problem we have our main food cupboard locked. We have also often had our fridge locked for periods of time over the past few years, but Ellen always ends up breaking these locks with her persistence. Ellen regularly sees a dietician at the RCH who has prescribed Ellen's calorie intake. It is important that Ellen does not exceed this as she puts on weight very easily due to her low metabolic rate. Controlling the food intake of those with Prader-Willi Syndrome is very difficult. However if their diet is not controlled satisfactorily the person becomes obese and has a dramatically reduced life expectancy, generally in their early 20s. Dr Hanning refers to an increased risk of obesity due to inadequate sleep, and this is without the extra burden of Prader-Willi Syndrome.

Another symptom of Prader-willi Syndrome is autism type behaviours such as obsessiveness, high anxiety & heightened sensory awareness. This is another great concern for us in relation to wind turbines. This is supported by Annex C – an article about the rejection of a wind farm in England due to local autistic children. The parents of the autistic boys who were greatly disturbed by a wind farm, said the following about the effect on the boys "it's unbelievable the effect, really worse than we could have ever imagined." They go on to say that one boy had become so obsessed that they had been forced to move his bedroom. All our bedrooms are on the east (facing the turbines), so we do not have the option of moving her bedroom.

In Prader-willi Syndrome the risk of diabetes is very high, due to both obesity and hormone imbalances. Ellen has regular blood tests to monitor this and various other hormone levels. Diabetes is a medical condition which is often mentioned as being effected by sleep disturbance (Hanning, 2009).

Due to Ellen's disorder I have to inject her every evening with Growth Hormone. This helps to improve her muscle tone, her energy levels & her metabolic rate, though it does not restore them to a normal state unfortunately.

To inject Ellen I need to take her away from anything which may distract or startle her, away from the TV, the telephone, her brothers, etc.

I take her to her bedroom, which is quiet & peaceful. I draw the curtains and get her to lie on the bed. When she is quite still I ask her if she is ready. All going well she will let me inject her.

She needs to be relaxed and lying still, otherwise she will bruise, or even worse, the needle could break. (This is why I am not allowed to inject her when she is asleep).

If Ellen is stressed she won't let me inject her. This can easily occur such as the first day that I attended the hearing. It was a change in routine. I was home later than normal. Bath time & tea time weren't sufficiently relaxed.

How will I be able to inject Ellen if we have noise (audible and inaudible) coming into our house?

What about the shadow-flicker and the flashing lights too!

All of this on the east of our house where our bedrooms are, is another major health problem for us.

I hope that this short overview of some of Ellen's health problems explains why we were so concerned and so disappointed that the proponent didn't consider this. As you know the NSW Parliamentary Inquiry recommended a 2 km set back from houses, and this was based on problems relating to smaller turbines than what will be installed at SYHWF. I know the proponent would dispute that larger turbines create more disturbance, but not everyone agrees with Origin! Tangler (2000) states that infra-sound noise is associated with large turbines and that this problem cannot be addressed by blade design. Many noise experts suggest that turbines should not be within 3.5 km of houses.

In light of Ellen's heightened sensitivity and numerous, subsequent health problems we thought that it was only reasonable that there were no turbines within 5 km of our house. Otherwise Ellen's quality of life was in jeopardy. Despite this there were still many proposed turbines close to our home.

At the conclusion of the hearing Origin replied to submitters. In reference to my submission they made light of my daughter's disability, saying that "anybody could get a doctors certificate". This was another example of their lack of respect, understanding and compassion towards those who objected to their proposal.

After the hearing some turbines were deleted but we still had them as close as 2.5km to our home and there are 7 proposed turbines within 5km of our home.

Power Lines

Not only would my family have to put up with wind turbines in close proximity to our home and farm, but we now also have proposed power lines at our front gate. Andrew, Ellen and a neighbouring child catch the school bus every morning at our front gate and are dropped off there every night. Every day they will be waiting near this power line.

Patrick, who now goes to secondary school, waits at the southern end of the Stockyard Hill Rd every morning to get a ride into Skipton to catch the bus. He will be standing underneath power lines.

The proponent is placing my whole family at risk with these power lines.

It is well known that electromagnetic radiation causes various cancers, and that even low levels emitted from power lines can have this affect.

My family already has a high incidence of cancer. My mother has had breast cancer, my father has had colon cancer (which is very common in his side of the family) and my brother died in his thirties from melanoma.

Ellen, due to Prader-Willi Syndrome, has a further heightened risk of cancer.

Firstly, children with Prader-Willi Syndrome have an elevated incidence of Myeloid Leukemia. (Myeloid leukemia in Prader-Willi Syndrome, The Journal of Pediatrics Vol 142, Feb 2003).

Secondly, as already explained, Ellen has a daily injection of Human Growth Hormone. HGH induces growth promotion and an increased production of Growth Factor-1. There are numerous publications in prestigious peer reviewed scientific journals showing that elevated IGF-1 levels are strongly associated with major excess risks of colon, breast and prostate cancers. Even minor elevations are associated with up to a 7-fold increased risk of breast cancer, a risk almost as high as in those women carrying genes (BRCA 1 and BRCA2) with the strongest hereditary predisposition (Samuel S. Epstein, M.D., University of Illinois).

My husband & I do not want our children exposed to electromagnetic radiation from the proposed powerlines, both above ground and below ground.

Once again the proponent did not consider my family's health in their proposal, or consult with us.

CONCLUSION

My experience of the planning process for a rural wind farm was a very negative one. It has caused much distress to myself and my family. I am grateful of this senate inquiry.

References

Hanning, Dr Christopher, 2009, Sleep disturbance and wind turbine noise

Human Services (1998) Guidelines for the Management of Prader-Willi Syndrome

General Purpose Standing Committee No. 5 (2009). Rural Wind Farms. Legislative Council, N.S.W.
Sydney.

Tanger James,L. (2000) The Evolution of Rotor Blade Design. National Renewable Energy Laboratory,
Colarado.