

# **Submission to the Senate Community Affairs Committee**

## **Inquiry into The Social and Economic Impact of Rural Wind Farms**

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**6 February 2011**

## Introduction

We write this submission from our first hand experience having been involved in the planning process in relation to an industrial wind turbine development in our area. This includes the process of a wind turbine site being proposed for our area, the consultation process by the wind energy company, the submission of the development application by the wind energy company to Council, the development of a submission to Council showing where the development application was in breach of the Development Plan and appearing before the Development Assessment Panel.

Our experience has prompted us to research many aspects of wind energy development. We have done this through internet research, reading and analysing journal articles and books, talking to people in our local area and in other areas affected by wind turbine development, attending the Environmental and Resources Court, public meetings locally and further afield and meeting with Council.

We live in the Mid North of South Australia, an area that has been targeted for turbine development. There are 16 wind farms with over 800 turbines that are either proposed, approved, under construction or operating in our area alone. Most of these are within a 55 kilometre radius of our home.

It is indeed misleading to call these developments wind farms. They are in fact huge industrial electrical generating complexes. The wind turbine development that we have been associated with covers an area of some 5,016 hectares and consists of seventy, 2.5 MW generators sitting atop 90 metre towers. These generators are turned by 96 metre diameter blades, so big in fact that a Boeing 747 aircraft can easily rotate within the area of these turbine blades. These towers will rise to a total height of some 138 metres. They are linked by 46 kilometres of formed tracks and underground cables. There will be seventy 40 metres x 40 metres hardstands, huge foundation excavations for the towers, parking, settlement ponds, a substation and power lines to take the generated power to the grid many kilometres away.

This development will be sited high on a ridge (as are the rest of the wind generators in this part of the world) in an area that is mostly flat, punctuated by these ridges in an agricultural area that is reasonably denuded of trees. The siting of this development means that its red flashing lights will be seen for probably 60 – 80 kilometres around. This is certainly true for the other wind generators in this area. The development will be sited a mere 1400 metres from some houses and there are 18 dwellings that have up to 19 turbines within 2.5 kilometres. The nearest town is a mere 4.5 kilometres away and a larger town which will view 55 turbines across the plains only 6 kilometres away.

This description illustrates how wind turbine developments directly and indirectly affect many, many people throughout the whole area not only those who live within close proximity. In this submission we will detail the effects that these massive developments have on the environment, on people and communities.

## **1.0 Adverse Health Effects for people living in close proximity to wind farms**

The adverse health effects of wind turbine development from the noise and vibration from the wind towers is well documented and is discussed below in Section 2.0.

The other adverse health effect that also needs to be considered is the emotional wellbeing of community members. The stress of having an industrial development foisted upon people cannot be underestimated and causes great anxiety. We have spoken to people who have not pursued their rights under appeal processes because they find the process too stressful. We have also spoken to people who are so concerned about relationships with their neighbors that they have decided against "making a fuss".

Others feel totally disenfranchised by the whole planning process which seems heavily weighted towards the developers, those with wealth and those with experience in planning matters. To pursue an Appeal against a development decision is very costly and is not within the realms of feasibility for most people. Even opposing a development application is a monumental task and beyond most communities and individuals. Furthermore, wind turbine developments tend to be in rural areas and, in our experience in small farming communities that have been suffering from drought for several years. Already financially burdened, there is little hope of being able to afford to pursue an Appeal. This aspect is discussed further in Section 4.0.

In addition to this, there is the health of affected communities as a whole. There have been many reports of disagreements and divisions within local communities. At one public meeting we heard the experiences of a church community that was once a cohesive and closely knit group. This group is now divided and some members of the congregation no longer even talk to each other. Recent reports of this type of community division have been recorded in *The Sydney Morning Herald*, 2 April 2010, *The Spectator*, 19 August 2010 and *The Age*, 22 May 2010. Living in a small rural community we are well aware that, for a small community to grow and thrive and even survive it relies on the community working together as a whole. If people withdraw from community life as a result of the division that comes with wind farm development, the wellbeing and viability of small communities is diminished.

## **2.0 Concerns over the excessive noise and vibrations emitted by wind farms, which are in close proximity to people's homes**

We have had first hand experience with the noise that comes from wind turbines. Yesterday, we visited friends at Brady Creek, their house is approximately 10 kilometres 'as the crow flies' away from the Waterloo wind farm and is located behind two high ridges, so that one can't even see these turbines from their house and yet, one could clearly hear the thump and swish of these turbines. It was like the noise of a large truck in the distance that never, ever arrives.

Despite what Government agencies set as limits and what the wind turbine developers say about noise, there is ample evidence to show that there is a major problem with noise up to several kilometres around wind turbine sites. The noise both audible and inaudible (including that in the low frequency range) from wind turbines is not just an annoyance, it can affect the health of people. One just has to search the internet to see the hundreds of reports from people world wide and in Australia who live near wind turbines and have suffered health problems.

The scientific and medical communities have enough evidence at hand to understand that there are health effects and that this requires further investigation and study. This is evident through the work of researchers and doctors such as:

- Keith et al 2008
- Hanning 2009
- Pierpont 2006
- Harry 2007
- Nissenbaum 2009

While acousticians working with the wind energy industry conclude audible and low frequency noise from wind farms is unlikely to cause health effects, it is important to note the experts who approach this issue from a medical perspective have arrived at the opposite conclusion.

In addition to this, a number of cautions have also been issued by eminent medical authorities including:

- The National Institute of Health in the US Dept of Health and Human Services 2008
- French National Academy of Medicine 2006
- Maine (US) Medical Association 2009
- Minnesota (US) Dept Health 2009
- UK National Health Service 2009

Although the wind companies deny any health problems from wind turbines, these health concerns have been taken seriously in some quarters with some Governments and councils implementing set back distances. This goes some way to alleviating the problems but the noise from turbines changes with the terrain and the direction of the wind and therefore the distance the sound travels. It is important also to note that the Danish Government, which has been very active in the development of wind energy has recently made the decision to not build any further wind generators on land due to the complaints about the noise.

The Japanese Government have also taken the concerns seriously enough to commission a study into the influence of wind turbines on health.

There is enough evidence around to urge a number of researchers to call for a distance of between 1.6 kilometres and 2.5 kilometres between wind turbines and residences. Here in South Australia, Dr Sarah Laurie has grave concerns about the health effects of wind turbines

after working with people in South Australia and Victoria who live near wind turbines. She and many others are calling for independent scientific studies into the health effects of living near wind turbines

Alarming, in the development proposal we have experience with, there are 15 residences that are situated within 2.5 kilometres of the turbines and some even closer than 1.6 kilometres. As previously stated, some of these residents have up to 18 turbines within 2.5 kilometres of their homes.

Carmodies Hill Wind Farm distances from dwellings

No. of dwellings	No. of turbines within 2.5 km of the dwelling
1	1
2	2
3	3
1	4
1	5
1	6
2	7
1	8
2	11
2	13
1	14
1	15
1	18

During the recent hearing in the Environmental and Resources Court in South Australia concerning AGL's proposed Hallett Stage 3, Professor Colin Hansen, professor in Acoustics at Adelaide University, gave evidence that a significant proportion of residents within 3.5 kilometres of Suzlon S88 turbines are likely to experience annoyance from turbine noise and that this will include sleep disturbance. Professor Hansen's opinion was based on data collected from Hallett Stage 2, his observations at one of the residences close to turbines at Hallett Stage 2 and his many years of specialist experience. His opinion is also supported by evidence given by 12 residents who live within 4 kilometres of the turbines at Hallett Stage 2.

We are also concerned about the number of people with other symptoms associated with the wind turbines, which wind industry acoustic consultant Dr Geoffrey Leventhall has admitted have been known to him for some time. They include symptoms such as sleep disturbance, headache, tinnitus, ear pressure, dizziness, vertigo, nausea, visual blurring, tachycardia, irritability, problems with concentration and memory and panic attack episodes associated with internal pulsation or quivering when awake and asleep. These symptoms have been described at some length by Dr Nina Pierpont and others, and have been found in many other countries which have large industrial wind turbine developments placed close to people's homes. In Victoria, this is known as the Waubra disease, and overseas it is known as Wind Turbine Syndrome.

Mr Peter Jorgensen, the Danish wind industry spokesman was in South Australia last year for a public forum, and gave an interview the day before on ABC radio. In response to a question from interviewer Carol Whitelock about people's concerns about noise and adverse health effects, Mr Jorgensen said that in Denmark, turbines are being built out at sea because of the noise and adverse health effects (interview with Carol Whitelock, AM 891, on the afternoon of 12th August, 2010).

We ask then, why are wind turbines being built so close to people's homes in Australia? We think it is because of the drive to meet renewable energy targets which is laudable. However, because the scientific homework (acoustic and epidemiological) has not been done, the result is ill informed and therefore there are inadequate planning regulations. The end result is making many of those people who are living too close to the turbines suffer from severe chronic sleep deprivation and other symptoms.

One can look at this in black and white and say that noise modeling is within Environmental Protection Authority guidelines. Or one can look at the bigger picture and the concerns raised around the world by people living close to wind turbines and by researchers and doctors.

Our question is: If governments were about to make a decision to build wind turbines so close to people's homes, wouldn't they want to be absolutely sure that their basic human rights are not violated and that they will not incur health problems as a result of the development?

From discussing the noise issue with affected community members, it seems apparent that when people who have problems with turbines do complain, the wind turbine developers are very reluctant to take these complaints seriously and are often very unwilling to take any action to rectify problems. We have also heard at a number of the public meetings we have attended, that wind turbine developers promised residents that they would attend to problems and then did nothing.

**We are very worried, not just for ourselves, but for all other residents of Australia who live or work close to the site of a proposed industrial wind turbine development. Given the likely effect on so many homes and people we recommend the following:**

- 1. Adequate funding for urgent thorough independent research into the acoustic characteristics of wind turbine noise at residences and workplaces within a 5 kilometre radius of sites of existing turbines, so that appropriate setback distances of turbines from residences and workplaces can be determined, rather than the current situation where there is little accurate knowledge of the sound measurements.**
- 2. Funding for urgent epidemiological studies performed by independent epidemiologists to determine the symptoms which people living close to wind turbines are experiencing, and to quantify them**
- 3. An immediate temporary halt in further construction and approval of Industrial wind farm Developments, until this basic scientific research is completed.**
- 4. Improved guidelines for planning authorities which is firmly based on the above independent scientific research and which make it impossible to build Industrial wind farms too close to residential areas.**
- 5. Adequate resourcing of Environmental Protection Authorities, so that they can carry out adequate pre construction and post construction noise monitoring, to ensure compliance with the Environmental Protection Authorities wind farm guidelines.**
- 6. Annual updating of the Environmental Protection Authorities Wind farm Guidelines, to take account of the latest developments in Independent Acoustic Research, with provision for more frequent updating if necessary.**

### **3.0 The impact of rural farms on property values, employment opportunities and farm income**

There is enough evidence available to show that property values can be negatively affected in the vicinity of wind turbines. Wind turbine sites have been prevalent in the United States, Europe and United Kingdom for many years and over a period of time, a number of problems associated with them have been identified. Property values are one such issue. In 2004, the Royal Institute of Chartered Accountants carried out a survey to examine the impact of wind turbine development on agricultural and residential property values. Although the findings suggested minimal impact on agricultural land values, there were negative influences on the value of residential properties. Nowhere in the study was it found that wind turbine sites positively affect residential property values.

The Australian experience with wind power is less mature but there are already indications that property values are affected by wind turbine development. A number of Real Estate experts in Gippsland, Victoria have reported adverse impacts on property values in areas where wind turbine sites have been located.

One of the selling points for country properties is the value of the rural vista and this should not be underestimated. If the rural vista is compromised it seems likely that property values will be reduced. As with noise and health issues there needs to be robust studies to look at this.

Lower property values not only pose a risk to residents who may find their properties difficult or impossible to sell but also to Councils who will receive less rates for lower value properties. This, in turn affects the morale and the economy of small towns.

The towns most affected by the development we have experienced already have dwindling populations and are socio-economically disadvantaged. The incomes for people in this area are less than half of the median average for the whole of SA. This surely indicates that residents in these areas are among those least able to afford a reduction in property values, or to go to the law to protect their interests. Even if residents went to the law, in South Australia the courts say that property values alone are not a relevant planning consideration (Kunoth vs Myer).

It is very interesting to note that only yesterday we had cause to drive through the small rural community of Waterloo in South Australia. There is a huge industrial wind turbine site on the hills just behind the township. The township itself is clearly in decline with dwellings and town building run down and in a state of disrepair. One would think that if there was any economic benefits to a town from having a wind farm on its doorstep that this little township would not be in such a state.

To help overcome these problems a town in the USA has drawn up a contract to try to get the wind turbine developer to compensate any loss through reduction in property values.

#### **We recommend that:**

- 1. There be an investigation into the effects of wind turbine developments on property values. This should include individual assessments, not just a blanket average, as some houses are located 1400 metres and less from turbines and have 180 degree views of turbines which can be seen and heard from most rooms in the house**

- 2. That it be necessary that wind turbine developers enter into contracts with local people to ensure that they are compensated for any loss associated with decreasing property values caused by these developments**



#### **4.0 The interface between Commonwealth, State and Local Planning Laws as they pertain to wind farms**

In South Australia approval for wind turbine development is given by Development Assessment Panels within Council boundaries. This means that when Development Assessment Panels approve these developments they do not give consideration to developments in other neighboring Councils. The result of this is that no one body is monitoring the number of wind turbine developments in an area. For example, in our area there are at least six different Councils considering wind turbine developments for their individual Council area. Each making decisions independently of the other. The result is that there are 16 wind farms with over 800 turbines that are either proposed, approved, under construction or operating in our area alone. Most of these are within a 55 kilometre radius of our home. From our bedroom window, we can see one development to the west 30 kilometres away with its red flashing lights dominating the western horizon. From just up the road we can see another development 20 kilometres the east and another development has recently been approved which we will easily see on the range just 10 kilometres to the north. This cumulative effect has a huge impact on the local country side and no one is monitoring it.

**We recommend that:**

**There be a National or State regulator who can override local Councils and State governments and who can regulate the amount of wind turbine developments within a given area. This body could advise and be responsible for the cumulative affect of wind turbines**

It is our experience, that because it is Government Policy and Strategic Direction (Federal and State) to promote wind turbine projects, the renewable energy section of the Local Government Development Plans, which were written in by the State Government over-ride all other considerations in the Plans. This means that Government Agencies are under pressure to comply with these various wind development proposals and we believe are 'gagged' from speaking out against such proposals. These agencies like Health, Environment Protection, Emergency Services etc are supposed to be there to also protect people and the environment etc, from poorly sited developments and speak out against false claims by the wind industry. However, there is a distinct silence coming from anywhere in Government.

For example, when we approached the Environmental Defenders Office regarding our problems with the Development decision, and whether we had any chance to make an appeal, they quietly looked over our appeal chances, and told us to go ahead but because they are supported by public sources. (eg SA Department of Environment & Heritage) they would not be able to take the matter up for us because it would be in conflict with the SA Government Renewable Energy Policy and Strategic Direction.

## 5.0 Any other relevant matters

### 5.1 The people living near these developments are at a severe disadvantage

In South Australia, industrial wind turbine developments are located in country areas. The people who live in the areas affected are generally farmers or in associated industries. These people are at a severe disadvantage compared to those living in the cities. Most are located many miles from their council offices, libraries etc. Many do not have broadband, mobile phone coverage or even have access to a computer. This makes documents and information very difficult to access. These people have very little experience with planning matters or have never had experience with development proposals of any kind. Most people living in the area of these developments have probably never even seen the Council's Development Plan.

To even look at a huge development application from a wind turbine developer or to try to understand it is an incredibly daunting task. To be able to sit down and show where the development doesn't fit in with the Council's Development Plan is almost impossible! In fact of all the 27 submissions made against the proposal with our local Council, only 1 actually made a proper assessment as to where the development was at odds with the Council Plan, most just listed the points as to how the proposed development would affect them.

As we have said a wind farm development proposal is a huge and complicated document. Luckily our Council arranged for a copy of the application to be made available in our town, but normally community members only get 14 days to read the submission, make comments and get the submission into the Council.

#### **We recommend that:**

**This time limit be expanded to a more realistic time, say 28 days, and many more copies of the development application be made available to the towns affected by these developments**

It is our experience that wind turbine development companies are ruthless. The wind turbine development we have experienced was advertised in the local paper and submissions had to be in at the Council office by 18 December. Most people are extremely busy at this time of the year near Christmas. This is even more so for people in rural communities. They are also right in the middle of harvesting and carting their crops to the silos. This means that many people just would not have had the time to read the development application or the local development plan let alone make a submission to the Council.

Submitting and notifying the public of development proposals at the busiest time of the year is not uncommon. We are aware that there have also been other applications for wind farm developments in South Australia that have been presented and have had to be submitted just prior to Christmas. It would appear that this is a deliberate ploy by wind turbine developers/Councils to make it difficult for people to get information and keep any opposition to their intended projects to a minimum.

Furthermore, it is interesting to note that, although this particular wind turbine developer had a whole year to answer our objections and then re-present their application to the local Development Assessment Panel, the panel had to meet on December 8, the following year, so that those making presentations to that panel had to do so again right in the middle of their harvest and just before Christmas, a most inconvenient time.

## 5.2 Independence of planning consultants

In the case of the wind farm we have experience with, when Council received the submission from the wind farm developer, because these are such huge projects, the council engaged a so called independent company to do the work of looking over the plan and seeing how the application fits with the Council Development Plan and then make a recommendation to the Council and the Development Assessment Panel (DAP). The DAP uses this report to make a decision, in this case to approve the development because that is what the consultant recommended.

The company that our Council contracted to make this assessment was QED Aurecon. According to the QED Aurecon report they were “engaged by the Northern Areas Council to undertake an independent planning assessment” of the wind farm application. It wasn’t until after the Development Application Panel had made its decision, that we found out through our own research that QED Aurecon was in fact involved with the wind turbine industry. The Aurecon website states that..” *our planning team is a recognised leader in wind farm consenting, having secured consent for seven projects in New Zealand to date. We are also active in the development, consenting and implementation of wind farms in Australia*”

Our question remains, how can QED, who are part of a group that is committed to the expansion of wind power in Australia and NZ, and is a recognised leader in wind farm consenting be considered in any way to be independent?

When we brought this matter up with the Council we were sent a threatening letter by a Law firm engaged by Council. Unhappy with their response, we took the matter to the State Ombudsman. He told us that he could do nothing and that the matter could only be appealed through the Environment, Resources and Development Court. Of course by this time it was too late as Appeals must be lodged within 15 business days of the planning decision. Furthermore we had been advised by the Environmental Defenders Office that Appeals could only be made on matters pertaining to planning not to do with the independence of the consultant. We had put in an Appeal on other matters which we had to then withdraw, because we just didn’t have the money or the ability to take a huge case to the court on our own..

**This might give the Senate Community Affairs Committee an idea of just what ordinary people like us are up against when it comes to wind turbine planning issues.**

## 5.3 Consultation Processes

Although wind turbine developers say they consult with local communities, it is our experience that they do not consult in a proper manner. The developers had one “consultation” in each of the three nearby towns. This “consultation” took the form of an “open house” where community members could go over a period of a few hours to look at information displays, talk on a one to one basis with company representatives (usually young attractive men and women) and partake in a sausage sizzle. The company representatives made sure that no one, or group could mix with another so that any discussion could take place on the pros and cons of such a development. The display material provided was very limited, and basically showed what the turbines would look like on the hills, what the power line to take the power away could look like and other basic information. So that there was very little community members could ask questions about. There certainly was not an open forum or public meeting where people could sit in a room together and hear each others opinions and concerns.

We certainly felt that we were being treated with disdain. Particularly when we were asked to complete a questionnaire with the first question being:

*If you had to pick one of the following as your most preferred option for a new power station, what would it be?*

- *Building a new coal burning power plant*
- *Building a new gas fire power plant*
- *Building a nuclear power plant*
- *Building electricity generating windmills.*

Naturally these ruthless companies only give the community the supposed good points about wind. They never tell the truth and suggest that there are any other problems associated with wind. Our question is: How are disadvantaged country communities expected to find out about the real affects of wind turbine development on their communities that may be disaster for them and possibly ruin their lives?

The companies do not want to publicly discuss their proposals so that people can discuss the pros and cons. One company has a policy that their employees do not attend public meetings. These are huge developments with many, many issues that affect people. The wind turbine developers constantly put out information that is false and misleading and say that there is no problem from noise etc etc from wind turbines.

It is our experience that people feel totally disenfranchised with the whole process of wind developments and feel totally powerless to do anything about the onslaught of these wind turbines on their lives and their communities.

This is clearly not good enough. If anyone wants to oppose a proposed development it seems they have to fight the Government, the Council and the various Government Agencies....the very people who should be protecting the interests and rights of the community.

It would cost a minimum \$40- \$50,000 just to take a case to the Environment, Resources and Development Court here in South Australia. This would not include an Appeal if that became necessary. This is beyond the ability of most people let alone disadvantaged people in these rural communities in the mid-north of South Australia.

**We make the following recommendation:**

**Any proposed development should have to include a proper public consultation. Part of any public consultation should have to include at least 2 general public meetings in each of the nearby towns so that all the issues about wind developments can be raised and discussed publicly. One meeting should take place (for example) 6 months before the development plan is presented and a second meeting after the plan has been presented to Council. Residents should have easy access to the development application so that they have opportunity to read it prior to the meeting then question the developers. This should not occur before the development plan has been presented to council, as is currently the practice, when details of the plan are unknown. It should occur after it has been presented to Council and before Council puts the plan out for comment, because, after that date community members only have 14 days to prepare the submission. These developments are HUGE. The public needs to be able to discuss all the problems these developments present before the development is approved and not afterwards. If anybody does make a submission to the council, they are only given 10 minutes to put their case to the Development Assessment Panel**

## 5.4 Siting of wind turbine developments

All the wind turbine developments we have ever seen in Australia are sited high up on the ridges, so that in the case of the ones in the Mid North of South Australia they can be seen for many, many kilometres around. These are huge developments with up to 30 - 70 turbines. In other countries where we have seen them they don't seem to be sited so obtrusively.

Wind turbine developers engage landscape architects to site the turbines to make them supposedly less obtrusive. This of course impresses Councils and Development Assessment Panels and makes it look like the wind companies actually care. They then discuss siting etc. to make it sound like the turbines will hardly be noticed. When seventy 138 metre high wind turbines are sited up on a ridge, stretching over many kilometres, it is going to look like what it really is, that is 70 wind turbines up on a ridge stretching over many kilometres no matter how the developers try to disguise this in their photo montages.

**We recommend that:**

**Wind turbine developments be sited less obtrusively, preferably on flat ground/below the ridge lines so that they don't have a detrimental affect on people and the fabulous scenery for many kilometres around**

## 5.5 Red lights

This is associated with the above issue, siting of developments. Lighting of the turbines is required in some jurisdictions including the wind turbines near us. Because they are sited high on the ridges, the red flashing lights on these 138 metre high turbines can be seen for kilometres around and destroy the ambience of our night skies. In fact, we can see them over 30 kilometres away out of our front window.

**We recommend that:**

**Wind turbine developments be sited less obtrusively, preferably on flat ground/below the ridge lines so that they don't have a detrimental affect on people and the night skies for many kilometres around.**

## 5.6 Interagency consultation

The wind turbine developers consult with various agencies individually, but it would appear that there is little or no consultation between the individual agencies on these matters. For example, in the development we have experience with, there were protected bird and plant species and possibly two protected reptile species on the site of the development. The Department of Environment looked at the proposal and put forward their recommendations.

The Country Fire Service (CFS) also looked at the development proposal and required at this development site that the vegetation 10 metres each side of the tracks must be slashed at least once each fire season. This would mean another 1,032 square kilometres of land will have to be cleared and slashed to a height of 20cm at least once each fire season. Imagine the affect this will have on the flora and fauna at the site!

These two lots of recommendations appeared to be at odds with each other and it is obvious that there was no consultation between each of these agencies. The wind turbine developers consult with each agency individually and of course it benefits them if there is no inter-agency consultation.

(As a comment, the CFS had obviously not looked properly at the site, because the local farmers said it would be impossible to slash all of this area due to the rocky terrain in some areas.)

**We recommend that:**

**There be proper consultation with the various agencies, and copies of each of their recommendations and conditions be seen by each of the agencies, so as to prevent any chance of conflicting recommendations and conditions of interests. This would enable proper, more informed considerations of these planning proposals**

**5.7 Killing of birds, bats and other wildlife**

Each wind turbine site has a huge spatial foot print and sweep a huge area. When the blades are turning their tips are moving at some 200 kilometres per hour. They are built in areas which usually have many raptors and other birds, wedge tailed eagles and bats. It is very well documented now that these wind turbines are huge killers of birds and bats not only from striking the blades but other bats are killed when they get sucked into the low- pressure zone behind the spinning blades. The low pressure can rupture bats' tiny lungs and hearts. The following publications support this contention:

- The National Geographic News, [www.news.nationalgeographic.com.usa](http://www.news.nationalgeographic.com.usa)  
15 September 2010  
*'Biologists looking for birds killed by the windmills in 2003 found nearly 400 dead hoary bats and eastern red-tailed bats. They soon concluded that the West Virginia site alone was killing between 1,400 and 4,000 bats per year.'*
- The Source Weekly, [www.tsweekly.com](http://www.tsweekly.com)  
5 January 2011  
*'During the last 25 years of operating in California, wind turbines have killed more than 30,000 birds of prey. Some estimates done by the University of California at Berkley indicate the mortality higher at 40,000, and about 1,000 of these fatalities to be golden eagles. And scientists are just now beginning to study the damages to bat populations.'*
- The Melbourne Age,  
13 December 2010.  
*'That's why the case of the wedgie, more exactly its endangered Tasmanian sub-species, gives pause for thought. Larger than its mainland cousin at a 2.2 meter wing span, its head often encircled with a regal golden feather ruff, the Tasmanian wedge-tailed numbers fewer than 1,000 birds.  
At the state's largest wind farm at Woolnorth in the islands north-west, 19 wedge-tailed eagles are known to have been killed since it began operations in 2003. Another 3 sea eagles also have also hit the rotors.  
This is allowed, Federal and state environmental permits recognise Woolnorth's rotors may kill a small number of eagles each year.  
Operator Roaring 40's is keenly conscious of the image problem killing eagles poses. It refused access to pictures of the Woolnorth fatalities.'*

- The Melbourne Age  
16 December 2010.  
In a letter, Kevin Ramholdt wrote,  
*'The same consultant worked on Woolnorth and Yaloak (wind farms) and found that Yaloak was predicted to kill twice as many wedge-tails as Woolnorth. Yaloak will have only 14 turbines, compared to 62 at Woolnorth. Despite a Madden-appointed committee stating that wind turbines should not be built near wedge-tail habitat and having previously rejected this wind farm in 2005 because of its impact on wedge-tails, he approved it anyway.'*

Again, we refer to the Development we have experience with. A total of 32 bird species were seen across the sites. The developer, in their Ecological Assessment Final Report shows that Wedge-tailed Eagles, Kestrels and species of bats are killed at wind turbine sites in Australia and elsewhere in the world through turbine strikes. There are several species of rare and endangered birds located at the proposed Carmodies Hill wind turbine site, as well as seven bat species. There are Wedge-tailed Eagles and the rare Peregrine Falcons nesting on the site.

These bird and bat kills are considered by the Government agencies meant to protect them and the wind industry as an unfortunate consequence of these developments. If someone went out and deliberately killed these birds and bats, they would receive serious prosecution. It seems though if you are a wind turbine developer that you can do as you like.

**We recommend that:**

- 1. All wind turbine developments show that they are not a threat to the local bird and bat populations, and other fauna and plant species. That any conditions placed upon them for further investigation into bird and bat, flora and fauna investigations, be carried out prior to the developments being given approval**
- 2. Wind turbine development projects are properly supervised by an independent agency, both during and after construction and commissioning to monitor any destruction to wildlife and vegetation**

**5.8 Fire Safety**

As rural dwellers, fire safety is of huge concern to us. We have been volunteers with the local Country Fire Service for some years, and know first hand the issues for rural communities relating to fire.

These wind turbine developments are allowed to be sited in zones of high fire risk. The development we have experience with also backs on to a state forest plantation. Fires in wind turbines are not uncommon. The Country Fire Service in SA has noted that there have already been fires in wind turbines in South Australia. One in January 2006 at Lake Bonney, one in February 2009 at Cathedral Rocks and another in November 2010 at Starfish Hill. There have also been fires at other wind farm sites in Australia at Yambuck and Chalicum Hills. There is also ample evidence from overseas to suggest that accidents and fires at wind turbine sites are more common than we are led to believe.

Each wind turbine contains some 300+ litres of oil to lubricate the gear boxes and when they catch fire there is nothing the local fire services can do to put them out. This is because the fires are located 90 metres above ground and the local brigades have no way of reaching these fires. In these cases the fires are left to burn out. The Cathedral Rocks turbine fire on Eyre Peninsula took some 6 - 7 hours before it burnt out.

A report in the Victor Harbor Times, 4 Nov 2010 states that when the fire service arrived at the turbine fire at Starfish Hill there was little or nothing that they could do except watch the blaze from half a kilometre away because the situation was deemed too dangerous to approach. When Work Safe SA arrived on the scene, they told the firefighters to retreat a further 500 metres away from the fire as the blades continued to spin. Mr Greg Crawford the group officer for the Southern Fleurieu said, *"There were tips of the blades flying some distance. You could go no closer than a kilometre away"*. A Southern Fleurieu resident Mr Barry Webb said that he, along with many others have concerns about the high danger risks a turbine fire could pose to communities. They (wind turbines) are normally located in areas that are not easily accessible (to emergency crews). The situation has the potential to be quite serious.

We are concerned about what would happen if one of these fires occurs on a catastrophic fire day. Furthermore, this begs the question; if the firefighters were not allowed to approach closer than 1 kilometre, why then are wind turbines allowed to be built closer than 1 kilometre to houses?

In the event of a wind turbine fire, the surrounding properties are also at risk because there is a problem with aerial firefighting from small aircraft near the turbine sites. Wind turbine developments often cover large distances and cover many hectares in area. Despite these developments being worth many hundreds of millions of dollars, wind energy companies still rely on and we think exploit the good will of often hard pressed community volunteers to put their fires out for them!

Farmers and other rural industries have tight restrictions placed on their activities during the fire season, but despite the proven severe fire risk from wind turbines, they are allowed to operate at any time they like including on catastrophic fire days, despite their huge potential for a devastating fire. This is clearly not equitable and not good enough!

Finally, as noted by the CFS, the question needs to be asked: if a fire does occur in a wind farm, where does the liability lay; with the power generator, the landholder, the Council for allowing the development, or some other party?

This discussion clearly indicates that there are serious potential problems with fire at industrial wind turbine sites. In our experience this risk is not seriously addressed by the wind companies or the fire agencies.

**We recommend that:**

- 1. There be closer co-operation between the local fire brigades and developers to produce a proper workable fire plan. This would be in conjunction with the other agencies involved.**
- 2. This plan be properly developed and discussed by the local firefighters who know the fire ground BEFORE development approval is given.**
- 3. Wind turbine developers make more of a financial contribution by providing and making available specialised equipment for fighting turbine fires.**
- 4. The problem of depending on the goodwill of volunteers be discussed and alternatives considered**
- 5. It be made clear in writing to the surrounding farmers and landholders, just who is going to be responsible for any fires on, or that break out of the wind turbine sites**



## 5.9 Power Lines

The wind turbine development we have been associated with did not have the power line required to connect it to the grid as part of its development proposal. This will be a separate development proposal for a later date. In all seriousness, what council is not going to give approval for the power line, despite any objections once the wind turbine development has been approved? The wind companies are able to use this as a way of coercing Governments or Councils to approve the power line or they will stop the development.

**We recommend that:**

**Any application for a wind turbine development MUST have the connecting power line to the grid included as part of that proposal. Not to be presented at a later date.**

## 5.10 Landscape Values

From our experience it is clear to us that there is not enough serious attention given to the issues of landscape values by wind turbine developers and Councils. Often these developments are sited in areas of high scenic value to some but of low scenic value to the wind turbine developers. Landscape values stated in the local development plans are totally ignored by Councils and Governments in preference to the dubious benefits of renewable energy. Landscape values are usually part of a Council's Development Plan but carry little weight compared to some of the other planning principles.

## 5.11 Massive destruction of the environment at the turbine sites

Massive excavation is required for these wind turbine developments. To give an example, the recently approved 70 turbine, Carmodies Hill wind farm development to be constructed on the fabulous range running along the ridge line North of Gulnare, covers some 5,016 hectares, requires 46 kilometres of tracks between 5 and 10 metres wide (which will mean the destruction and clearing of some 230 to 460 square kilometers). Then there are the 46 kilometres of trenches, construction of up to 70 hardstands measuring 40 metres x 40 metres and construction of up to 70 mass concrete foundations. The enormity of the proposed development indicates that there will be massive disturbance to the environment.

The Country Fire Service also required at this development that the vegetation 10 metre each side of the tracks must be slashed at least once each fire season. This will mean another 1,032 square kilometres of land will have to be cleared and slashed to a height of 20 cm at least once each fire season. Imagine the affect this will have on the flora and fauna at the site!!!!

## 5.12 Oversight of the development

Another serious question for these wind turbine developments is who is going to make sure that any conditions or recommendations made by Government agencies etc. are carried out satisfactorily? We notice that most of the work done on these sites is by contractors, who usually care little about details like conditions, as they are under pressure to get the job done or perhaps suffer a penalty. In the wind turbine development proposal I have been associated with, the local council is given responsibility to see that work is carried out properly. It is my experience that these Councils often do not have either the expertise or ability or the capacity to undertake this work or to make sure that it is carried out properly.

**We recommend that:**

**Any conditions or recommendations put on the development must be overseen by the Government/other agencies that made them and a report given to the local Council responsible. This report to be made accessible to the community and not hidden under a confidentiality clause.**

### **5.13 Dismantling of turbines and restoration of the site**

There are no guarantees in wind turbine development applications regarding the dismantling of the turbines after they are finished with. These developments seem to change hands with regularity. The Barn Hill wind farm site alone in the mid-north of SA, although construction has not yet even started, has already had three different owners. Chinese companies are also purchasing Australian wind farms. The development proposal for the wind company we were associated with was already operating under two different names.

We know by past experience how companies start another company, then move on useless assets and then declare that company bankrupt.

While we am not suggesting anything dishonest, we wonder how Councils or the wind companies guarantee that when the turbines are no longer required, that they wont just be moved onto another Company who will no longer take responsibility for them. And how long will the turbines be allowed to stand not operating before they are made to be removed /dismantled? Furthermore, will the ratepayers be left with the huge costs and responsibility for dismantling these monster turbines, and repairing the damage?

**We recommend that:**

- 1. The wind development companies leave a substantial amount of money with Councils in which the development occurs, to show their goodwill to the communities, and to cover any costs for the dismantling of the turbines and cleaning up of the site**
- 2. A time limit be set regarding the length of time that wind turbines can be left standing and not operating**

### **5.14 Efficiency and effectiveness of wind energy to reduce CO2 emissions**

There is plenty of evidence to show that the propaganda put out by the wind energy lobby about generating capacity and reduction of CO2 emissions is not substantiated as follows:

- Paper by Jon Boon 'Overblown', Economics, Emissions, Grid, Technology, U.S September 16, 2010  
*'With over 100,000 massive wind turbines around the world-35,000 plus in North America-not one coal plant has closed due to the installation of any wind projects. Nor is there empirical evidence that there is less coal burned per unit of electricity produced as a specific consequence of wind.'*
- An opinion by Robert Bryce, online.wsj.com 'Windpower wont cool down the planet'  
*'Because wind blows intermittently, electric utilities must either keep their conventional power plants running all the time to make sure the lights don't go dark, or continually ramp up and down the output from conventional coal or gas fired generators (called*

cycling). *But coal-fired and gas-fired generators are designed to be run continuously, and if they don't, fuel consumption and emissions generally increase.'*

- Robert Bryce, Energy Tribune, [www.energytribune.com](http://www.energytribune.com)  
27 August 2010

*'Over the past few years, the wind industry has achieved remarkable growth largely due to the industry's claim that using more wind energy will result in major reductions in carbon dioxide emissions. There's just one problem with that claim: it's not true. Recent studies show that wind generated electricity may not result in any reduction in carbon emissions, or those reductions will be so small as to be almost meaningless.'*

*'In 2008 a British energy consultant, James Oswald, along with two co-authors published a study in the journal Energy Policy, which said that any reductions in Britains' carbon dioxide emissions due to added wind generation capacity "will be less than expected." The study went on to say that neither the extra costs of cycling the power plants "nor the increased carbon production are being taken into account in the government figures for windpower.'*

- Cathy Proctor, Denver Business Journal, [www.bizjournals.com](http://www.bizjournals.com)  
19 March 2010.

*'But the new report concludes that emissions levels at some coal and natural-gas power plants have increased because they're throttled up and down to accommodate the fickle nature of renewable energy -----particularly the wind, according to the Independent Petroleum association of the Mountain States (IPAMS), which paid for the report and evergreen's Bentek Energy Inc' which prepared it'.*

*'The study found that the power output by coal-fired power plants fluctuated as much as 20 percent hour to hour, said Porter Bennett, Bentek President.'*

*'The impact on emissions, according to the study are higher levels ranging between 2 million or 3 million pounds of SOx and NOx, to as much as 10 million pounds of increased emissions, when a power plant is throttled up, Bennett said.'*

*"It's like running your car in fifth gear, and slowing to five miles per hour and then trying to speed up again" said Marc Smith, executive director of IPAMS. "Coal plants are meant to run only in 5<sup>th</sup> gear"*

Yet despite these doubts, the wind industry is still duping Governments and Councils regarding their ability to generate efficiently and reduce CO2 emissions. It is this claim by the wind industry through the various levels of government that is totally dominating and overriding all other considerations of Local Government Development Plans and the very reason that we are having these giant developments foisted upon our rural communities.

This lack of substantiation leads us to believe that the public are being misled by governments and being deceived by the wind industry by being told that wind generated electricity is efficient and greatly reduces CO2 emissions. Wind turbines are purely a giant, clean, green political symbol that governments employ to delude the general public, who know very little about the generation of electricity from wind and it's ill effects, into thinking that they are doing something about global warming when in fact they are doing very little.

Despite plenty of evidence to the contrary the wind industry has nothing to do with reducing CO2, they are all about making money for giant international companies at the expense and ruining the lives of rural communities.

**We recommend that:**

**A robust and honest study be undertaken to prove:**

- **That wind is a cost effective method of electricity generation**
- **That wind generation actually reduces CO2 emissions**
- **That wind can supply a reliable source of electricity generation**
- **That wind turbines do not harm the health of people living nearby**

## Conclusion

Through our experience there appears to be a major difference in ideals between wind turbine developers and we, as residents in the area of the developments. We live in the mid north of SA because we value the landscape, the vegetation, the bird life, the native animals, the history of the area, the close proximity to walking and cycling tracks and the general amenity. The developers hugely down play the impact of an industrial wind turbine site in our area. They seem to see the mid north as a waste land which is sparsely vegetated, with minimal wildlife, unimportant history and unattractive scenery, and refuse to acknowledge the huge impact these monster developments have on the residents and the area.

If wind turbines do not create any problem and are harmless to people as stated by the wind energy industry and supported by Governments, then why aren't they being built on the hills around Adelaide, Canberra, Perth, Brisbane etc. in close proximity to where the power is needed, this would also save on the high costs of electricity transmission? They DON'T because the people in the cities would NOT put up with them, they would see them for the inefficient monsters they are. Therefore wind turbine developers target disadvantaged, often impoverished rural areas. With Government support they make rash and unsubstantiated promises of jobs and other benefits of wind turbine development. There is never any mention of the disadvantages we have outlined in this submission. Community concerns are brushed aside by the wind turbine developers and by all tiers of government. We believe that basic human rights are being neglected and we applaud this inquiry as the first step to investigate in detail the issues that we and others have raised.

DENNIS DALE  
ELIZABETH TRAEGER

*"I have studied the debate, arguments and statistics and come to the personal conclusion that wind farms divide communities, ruin landscapes, affect tourism, make a minimal contribution to our energy needs and a negligible contribution towards reducing CO2 emissions."*

*The Duke of Northumberland, November 2009.*