



The Social and Economic Impact of Rural Wind Farms

Senate Committee Inquiry into Wind Energy Facilities - Steven Fielding

Submit to: community.affairs.sen@aph.gov.au

Department of the Senate

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This submission has been prepared by the Lal Lal and Elaine Landscape Action Group (known as LLELAG). This group is made up of community members and represents the interest of local residents who are affected by WEF proposals in our region. We are an incorporated registered body (Inc. no. A0050308U).

We live in a region south east of Ballarat, Victoria. This area is a highly sought after location for WEF because of its wind resource. The area is also a highly sought after area to live because of its proximity to Ballarat, Geelong and Melbourne and its desirable and variable rural landscapes.

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February 2011

We would be happy to provide further information or present at any subsequent hearings.

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1. INTRODUCTION

1.1.1 Introduction

This submission has been prepared by the Lal Lal and Elaine Landscape Action Group (known as LLELAG). This group is made up of community members who reside in the Yendon and Elaine regions south east of Ballarat. We have significant experience and have gained much knowledge through multiple Wind Energy Facilities (WEF) applications and Panels Victoria Hearings in our area. In particular the Lal Lal WEF which was considered by Panels Victoria in 2008 and subsequently approved (The Lal Lal WEF experience is referred to throughout this report by way of an example). We believe the knowledge we have accrued is valuable and worthy of the Senate Committee Inquiry.

We make this submission in good faith and in the best interests of our local community and the interests of other rural communities across the country who endure significant duress, undergo protracted and overwhelming processes and expend significant amounts of time and money contesting WEF development proposals in their best interest. We have regard for the preservation of the unique environment in which we live our lives and we believe we have a right to express those views and fight for our rights.

1.1.2 Terms of Reference:

The Senate Inquiry will examine (source Senator Steve Fielding, Family First website):

- a) Any adverse health effects for people living in close proximity to wind farms
- b) Concerns over the excessive noise and vibrations emitted by wind farms, which are in close proximity to people's homes
- c) The impact of rural wind farms on property values, employment opportunities and farm income and
- d) The interface between Commonwealth, state and local planning laws as they pertain to wind farms

2. RESPONSE TO TERMS OF REFERENCE

2.1 Any adverse health effects for people living in close proximity to wind farms.

Adverse health impacts have been well documented for people who live in the vicinity of the Waubra WEF. To most of us involved in various WEF proposals and Panel Hearings over the last few years this comes as no surprise. To concede to this notion would be damaging and costly for the WEF Industry and would undermine the Victorian Governments roll-out of WEF across the State to meet its clean energy targets. Therefore we are caught in a cycle of continual denial by the industry and the Government in fear of their liabilities and impacts on the industry. Courage is required to stand up and make sense of the issue in an open and transparent way. Unfortunately it is easy and common for people effected by WEF to be labeled as “whingers” and they have been denigrated in the press (especially the local press which declares obvious bias). The sympathy wheel appears to be slowly turning in favor of effected land holders.

Individuals are also effected in different ways by the application process. The process typically starts with a rumor of a proposed WEF in the locality and this is often followed by an article in the local paper promoting the virtues of the proposal. The process then evolves into a series of studies, phone surveys and the collection of large amounts of information, information sessions, community meetings etc. There is often anger and frustration. Typically the time from public notice to lodgment of application can be in the order of 2 years. Many people are overwhelmed by the drag time, the amount of information and are daunted by the process, panel hearings and submissions. Often these people opt out and their illness remains undiagnosed. They too are part of the health equation. Improvements to the process may help.

Recommendations

- **Ongoing open and independent research measuring impacts on health using existing WEF as a model to generate good quality base information for the improvement of future outcomes.**
- **A simplified planning process with better departmental access and support for residents to ease the stress on residents and give them confidence in the process.**

2.2 b) Concerns over the excessive noise and vibrations emitted by wind farms, which are in close proximity to people’s homes

WEF noise is clearly the biggest issue likely to impact on residents.

The current acoustic standard for wind farms in Victoria is NZS6808:1998. It is 12 years old and is grossly inadequate. It does not allow for a number of factors that are inherent to modern day, larger turbines. These factors include stable air, amplitude modulation and low frequency noise.

Stable air is a factor many in rural Victoria are familiar with. It is the ability of noise to travel long distances at night. Many people hear dogs barking or traffic from far away during the night. Wind turbine noise can also travel in a similar fashion. As stable air is not mentioned in NZS6808:1998 it does not have to be considered.

Amplitude Modulation is the “thump, thump” or whooshing sound created by turbines. The characteristic of this noise means it appears a lot louder than it is, but again wind farm proponents do not have to add it to their calculations.

Low frequency noise is also not in NZS6808:1998. Many residents near Waubra, Portland, Toora and other wind farms describe symptoms of headaches, dizziness, depression, high blood pressure etc. An independent investigation into low frequency noise (or infrasound) must be carried out.

Assessment and layout design for noise levels for the Lal Lal WEF were based on 2MW turbines because that was the only data they had access to from the manufacturers. The application included the option for 3MW machines to be installed. To our surprise The Panel approved the proposal with allowance to go to 3MW without any assessment on likely differing noise impacts from the bigger machines. This was not only surprising but showed lack of concern by Panels Victoria and a disregard for it's duty of care.

A Perception Study prepared by the Lal Lal WEF proponents phone surveyed residents to gauge acceptance of the WEF proposal. The information given to respondents included the following: *“people need to be less than approximately 400-600m from the wind turbines for them to hear any audible noise”* . Mr. Delaire Acoustic expert, Marshall Day appearing for West Wind at the Panel Hearing advised the Panel that he would not make that statement or advocate that position. Further to this the sound of the turbines was clearly audible to the author of this submission when standing 2km from the turbines at the Challicom WEF. Mr. Delaire Acoustic expert agreed that this could occur in some circumstances.

The issue of noise audible to the ear and noise levels measured in accordance with the guidelines confuse many people and need to be clarified. A minimum of 2 to 5 kms between homes and turbines has been recommended as a reasonable and safe limit for setback to avoid noise problems.

Recommendations

- **Update noise testing standards for WEF that are relevant to modern day, larger turbines. These factors include stable air, amplitude modulation and low frequency noise. The standards should be regularly updated to reflect changes in technology.**
- **Give more power to authorities to police noise monitoring on operational WEF and enable them to shut down facilities that do not comply.**
- **Provide an impartial authority that can receive and attend to resident issues relating to noise and operational issues of WEF.**
- **Set standard setbacks (eg 2-5km minimum) for all WEF facilities.**

2.3 c) The impact of rural wind farms on property values, employment opportunities and farm income and

WEF clearly impact on property values. Locally we found it very difficult for valuers to make public and formal declarations on this matter given that they were reliant on public authorities and large private organizations (including WEF proponents) for work and income. They were clearly compromised.

Advise to _____, National Sales Manager, Elders Rural Services Australia Limited (18 January 2011) clearly outlines the logic that underpins everyone's concerns about land values.

Dear _____,

I have been a Licensed Estate Agent for 30 years, specialising in the sale of Rural property, essentially all over Australia, with an emphasis on Victoria and the Riverina. I have held senior Management positions with the largest Rural real estate Companies in Australia.

In recent years the growth of activity and the actuality of wind towers throughout the Victorian rural landscape has been significant.

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

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

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

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

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

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

There is absolutely no doubt, that the value of lands adjacent to wind towers falls significantly in value.

The ambience of a rural property is important, and often times, the sole reason why a purchaser selects a particular area or district. The imposition of wind towers, destroys this ambience forever.

Summary - WEF impact on property values by:

- Degraded visual amenity – turbines have limited appeal ambience destroyed for ever.
- Turbine noise impacts on the rural serenity.

- Buyers are typically averse to buying properties near WEF. This is reflected in reduced market interest.
- Loss of value estimated to be in excess of 30%.

Recommendations

- **Set guides for calculating loss of property value on a graduated scale based on proximity. WEF proponents are to pay the difference in value under agreement with the effected land owner.**
- **Value impacts to be overseen by the Valuer Generals Department.**

2.4 d) The interface between Commonwealth, state and local planning laws as they pertain to wind farms

Local Government is an instrument of State Government. There is limited opportunity for local government to reflect community concerns regarding WEF through their Municipal Strategic Statements (MSS) and Local Planning Policy when these concerns may be contrary to State Government Policy.

Many local Government Authorities are now finding that the responsibility to manage WEF Planning Permits issued by the State are beyond their resource, capacity and abilities. They are limited in the capacity to control the number and size of WEF within their municipality.

National WEF Policy is not adopted by States and is not generally considered to be a referral document in WEF applications because the approval authority is not required to make assessment of them.

Recommendation

- **Allow communities to define parameters for WEF proposals in their municipality as expressed through the MSS and Local Policy.**
- **State Government to undertake responsibility for the policing of operational WEF.**
- **Establish an independent Department responsible for WEF.**

3. OTHER ISSUES OF RELEVANCE

3.1 Housing Density

It is possible to prescribe indicative limits for housing density with set radii of WEF proposals. This would give certainty to landholder in target WEF areas and enable WEF proponents to quickly determine the likelihood of a proposal before investing significant time and resource (developer and community) in proposals.

The Lal Lal WEF is sited in an area of high residential density. This density of housing is the highest of any existing and other approved WEFs (at the time of the proposal 2008) in Victoria. The construction of the Lal Lal WEF will impact on the amenity of approximately 900 houses within a 5 km. radius of the site. This will establish an undesirable precedent for other areas where lifestyle living is a dominant feature of the surroundings.

As an assessment of housing densities comparison with the Challicum Hills WEF (b/w Beaufort and Ararat on the Western Hwy). At Challicum WEF there are approximately 50 homes are within a 5km radius of this WEF. This is generally considered to be an appropriately sited WEF and a reasonable fit for Victoria's WEF Guidelines. Indeed Planisphere (2004 p.5) cited stakeholder surveys that found:

"both Codrington and Challicum Hills were cited by survey respondents as positive or appropriately located wind farm developments."

Victoria's WEF Guidelines require that site selection is appropriate to ensure minimal impacts on local amenity. Selection of a site where housing pattern is a distinct feature that informs on that site obviously creates significant problems in terms of designing a WEF and siting turbines in order to meet this objective (ie minimize impact).

People in rural communities ask that their amenity be respected also and that development proposal make due regard to their circumstance. A WEF in a rural area is a very significant change and will impact the local landscape for a very very long time.

Recommendations

- **Define appropriate levels of housing densities in areas surrounding proposed WEF sites as a measure of site suitability.**
- **Where a proposal exceeds the limits approval will not be granted and where densities are within the agreed thresholds the developer must get formal approval of residents before proceeding with the proposal.**

3.2 Cumulative Effect

Assessment of Cumulative Effect (CE) is a requirement of Victoria's WEF Guidelines. It is a concept that is not well understood. There are no benchmarks for measuring CE. Typically CE is generally considered to be the impact of multiple WEF across a region. But it also relates to the aggregation of turbines within a WEF.

Cumulative effect is a function of movement. If one moves through a landscape then static objects can have a cumulative effect. Likewise if one is stationary and looks across the landscape at moving objects such as turbines a cumulative effect is also created. Wyatt (Expert Evidence West Wind Lal Lal WEF Hearing p.42) concluded that cumulative impact can occur when either sequential and/or simultaneous views to turbines lead to a change in a "community's, resident's or visitor's perception of a region".

It is our concern that the cumulative effect of multiple WEFs across this region will destroy the regional landscape amenity that we all value very highly.

Recommendations

- **Cumulative Effect of WEF need to be measured and defined to set benchmarks for assessment of WEF proposals.**

3.3 Landscape value

Landscape value is generally taken to describe the importance society places on the “visual landscape for reasons other than ‘scenic’ reasons” (LPS, 1976 p.177). Landscape value is basically determined by our perceptions of the ‘place’. Our perceptions are generally ingrained as a product of our upbringing, our environment, our education, our friends, our community and our work. The value we place on the landscape will differ significantly from person to person and it is often only realized or developed fully as an understanding when significant issues that are likely to impact on our visual amenity arise. WEF proposals are one such issue. WEF proposals have proven to be extremely divisive amongst communities and have caused upheaval and resentment. There appears to be no other current issue that raises the concerns of the community on matters of visual amenity like WEFs. It is likely that this concern will increase as WEF developments become more regular, bigger and a dominant part of our landscape.

Evidence provided by Expert Mr Cleary (Landscape Architect) at the Leonards Hill WEF VCAT hearing and accepted by the VCAT Panel was based on the premise:

“[that] landscape values are a vital component of people’s enjoyment of the area and are a strong influence on people’s sense of well-being and quality of life.” (Leonards Hill WEF, 2007. VCAT para 60 p.15).

Evidence provided by Expert Mr Cleary (Landscape Architect) at the Leonards Hill WEF VCAT hearing and accepted by the VCAT Panel determined that:

[turbines] would be a major viewing element, within an area of around one kilometre [in] terms of their structure and movement, unless landform or vegetation [provided] an intervening screen. (Leonards Hill WEF, 2007. VCAT para 60 p.15).

Recommendations

- **Landscape Value to be set across the region so that WEF applications have a benchmark measure to assess the proposal.**

3.4 Landscape and Visual Assessment Report.

Photographs and Photomontages

Photomontages are a very powerful and influential tool used as part of the promotion and communication process in WEF proposals. They are also a requirement of the Victorian WEF Guidelines and are supplied as evidence to Panel Hearings.

They are considered valuable tools because they:

- Allow affected land holders to inform their decision making.
- Enable Panel members to make informed and balanced decisions.

It is our experience that the montages are often inaccurate. At the Lal Lal WEF Panel Hearing we proved gross inaccuracy. The process used was explained in great detail and based on many years experience but it was flawed. The only checking that was applied throughout the whole process was the scrutiny applied by the community. The Department of Sustainability and Environment and Panels Victoria accepted them on face value without any review.

The process of preparing photomontages needs to be measured against an Australian standard and the photomontages need to be checked and verified for accuracy by an independent reviewer.

Recommendations

- **Establish Australian standards for preparation of photomontages for WEF. This standard to be updated regularly to meet changes in technology.**
- **Establish a process of independent review by the relevant Authority to confirm the accuracy of the montages.**

3.5 SOCIAL RESEARCH RE LAL LAL WINDFARM

Social research is a requirement of WEF applications in Victoria in accordance with the Victorian WEF Guidelines. This is an attempt to gauge community acceptance and perception of the proposal. Phone surveys are often utilized to collect this information. Respondents are often poorly informed or misled (knowingly or by mistake) and the outcomes are therefore distorted.

The stated objective of the research was to “determine if the local community would generally be receptive to a wind farm proposal in the area, and more importantly in close proximity to their homes”.

Mr Ofor acknowledged that question 18 (Reark/ERM Perception Study p.42 Vol.3 Lal Lal WEF App.) the following statement was read to respondents:

“Scientific tests conducted at wind farms have shown that people need to be less than approximately 400-600 m from the wind turbines for them to hear any audible noise, even in extreme wind conditions.”

The expert witness says that “it appears that residents from approximately one quarter of all residences within 3 km of the wind turbines made submissions. Of these the very large majority were in opposition to the project. While not making a submission should not be assumed to be a vote in favour of the project, it does indicate that it is a minority of people who feel strongly enough about the project, one way or the other, to make a submission.”

In the Lal Lal WEF Hearing Mr Offor (social research expert evidence West Wind) agreed that the Lal Lal WEF perception survey was a “sub-optimal” designed questionnaire. It’s “not well enough designed” to read more into it. He re-affirmed that it was unwise for the applicant and other experts to have relied on this analysis.

Maxine Cooper (2007) submitted as part of Expert Evidence at the Oaklands Hill WEF that step 1 of the Guidelines requires the need for the proponent to talk to affected landowners about the proposal and issues important to them. She states

“such information should provide input to defining details of the proposal and in preparing the application” (Cooper, 2007 p. 2).

Therefore outcomes of the social research should and therefore the perception study logically inform the design of the WEF.

Recommendations

- **If verification of the local perceptions in regard to the WEF proposal is required then an independent authority should be engaged to undertake a survey of current opinion to determine a baseline for community acceptance.**
- **Design appropriate systems that could provide a standard test of community perception for WEF projects.**
- **Social research for WEF should follow standard approved methods.**
- **Information gleaned from social research should be used to inform the design of the proposed WEF.**

3.6 Associated Infrastructure.

It is necessary that the WEF proposal declare all other infrastructure requirements (on-site and off-site) in accordance with the Guidelines so that a proper consideration of the full impact can be made. Including public utility facilities and power lines. Public utilities such as power lines and substations are currently exempt from planning permit applications.

In our experience the process for defining the power line route can be as onerous and destructive as the WEF process.

All power lines should be undergrounded for amenity and amelioration of fire risk and substations should be integrated into the landscape with suitable mounding and planting. These facilities should not be a scar on the landscape.

Recommendations

- **WEF proponents declare all on-site and off-site infrastructure requirements and impacts on local roadways and remnant roadside vegetation so that the relevant authorities and the local community can make a full and proper consideration of the likely impacts.**
- **Utilities such as power lines and substations should be considered as part of the application process.**
- **Power lines to be undergrounded.**
- **Substations to be suitably integrated into the landscape.**

3.7 Consideration of dwellings in Farm Zone

Consideration of WEF in rural areas has raised an interesting prospect in assessment in VCAT considerations that allude to the view that houses on small lots in Farm Zone have a reduced claim to amenity preservation because they are not appropriately located in accordance with the zone. This has been asserted by Freehills in submission on the Lal Lal WEF. This was raised by Baird (Leonards Hill) and broached by the same in the Newfield consideration.

“Several cases before this Tribunal have involved land in a Farming Zone and have needed to consider submissions that some “priority” be given to rural residential dwellings in such a setting. That is, houses on small lots with no association with farming or rural activities.”

“The principle adopted in those cases has been that rural residential or lifestyle properties in a farm setting do not gain any priority in a Farming Zone, consistent with many other decisions about land use and development in a rural or farming zone. The circumstances in the current proceeding differ. We

understand the area was divided into 100 acre lots decades ago through settlement programs. There are dwellings within or around 3km from the closest turbine but our inspection suggests nearly all appear as being associated with farming land and not rural living of the nature just described. Having said that, we recognize the lifestyle attributes and benefits for these farming families.” (VCAT1617 para 30. p.8).

Several Issues Arise.

Member Baird determined who was actively involved in farming and who wasn't by a simple drive-by. In my case we live on 30 acres adjoining a dairy farm of 250 acres. I am not a farmer and I cherish our rural lifestyle. We are clearly “life-stylers” or hobby farmers. We have invested significantly in farming activity through, pasture improvement, fencing, tree planting, and weed control. I estimate that our farming activity based on dollars invested/ha is significantly higher than the farming activity of the adjoining dairy farmer. My primary income is off-site which affords me the capacity to invest in farming activity. I am aware of many farming families that rely on off-farm income to supplement by agriculture is marginally viable. My point being that farming activity operates at very different levels. Broad assessment of a person's circumstance of relationship to farming cannot simply be made by driving through the region. More robust analysis would be required.

Secondly the apparent status, or confirmed status for that matter, of the relationship a landholder has with farming activity, for any of the lots in the vicinity of the proposed WEF, should not be a consideration of “right of access to amenity”. All landholders should be afforded the same consideration in respect of amenity considerations irrespective of the zoning status of the land.

As I am aware most people exist in an approved circumstance where permit for a dwelling was applied for and issued on the basis that the use was considered acceptable at the time. Consideration of acceptance of that use would have considered numerous matters such as environment, water quality, right to farm, siting and in respect of dwellings in the vicinity of the proposal the Design Development Overlay.

Recommendations

- **Ensure consideration of the amenity currently enjoyed by neighbors and assess those impacts which will unreasonably affect this amenity.**

3.8 Future Use Options on Adjoining Land

WEF are not required to consider future development opportunities for adjoining land. Allowable uses on adjoining properties may be compromised in the future if the WEF is approved and developed. Landholders may not be able to develop their properties in the future if the proposed use is considered likely to affect wind pattern or compromise the operation of the WEF. On this basis the WEF operator may choose to object. By default the WEF imposes a buffer of adjoining uses through the power of veto under the planning scheme. The operation of the WEF does not give rights to the sole access of the wind resource.

Recommendations

- **Ensure future opportunities on adjoining land are considered as part of the WEF application process.**
- **WEF applications to consider the buffer effect of WEF which may preclude future uses on adjoin land.**

3.9 Decommissioning of Turbines.

The subject of decommissioning the WEF at the end of its permitted period of use has not been tested in the field. This leaves great uncertainty in the minds of adjoining landholders. The mechanisms for decommissioning the WEF at the end of the period of permitted use should be clearly stated and include the necessary assurances that decommissioning will occur.

Recommendations

- **Should a permit be issued the proponent be required to provide details on the timelines and processes for decommissioning the WEF at the end of the permitted period of use and that suitable assurances by way of agreement or other be provided to ensure that this will occur.**
- **Payment of a bond as security to the Responsible Authority to cover decommission costs is recommended.**

3.10 Multiple Sites

WEF applications must on the one site or connected sites rather than unrelated sites which are not connected physically. In Victoria it is possible to propose a WEF on multiple unrelated sites. This can give rise to very large multi-site proposals to be submitted on the basis of a single application. The only common link being that they might (or might not) bear the name of the same proponent.

It is clear that the two WEFs need to be considered as separate entities so that appropriate consideration of the impacts and merits of each can be assessed.

Indeed in the Issues Paper on Wind Farms and Landscape Values (Planisphere 2004 footnote p.1) a clear definition for a WEF was given as:

“an array of wind turbines located in close proximity to one another using the same substation (transformer) and power line to connect to an electricity grid.”

Recommendations

- **Establish clear definition of an WEF in respect of multiple. It is recommended that the definition be modeled on the definition as outlined in the Issues Paper on Wind Farms and Landscape Values (Planisphere 2004 footnote p.1).**

3.11 Panel Research

Poor correlation between outcomes as determined by Panel hearings which effectively represent “research” by way of rigorous assessment of all matters. There should be a Panel resource centre where the assessments and recommendations are correlated and specifics are referred on for action. In this way the body of knowledge is enriched through rigor and can influence the “Planning Law”. Specific recommendations of Panel outcomes can be acted on and influence future WEF proposals, assessments and outcomes for the better.

Possibilities

- For example specific outcomes of this assessment may give regard to a standard for photomontage production so that it can be verified in accordance with bench marks.
- A standard for consultation and social surveys likewise to establish testable benchmarks. Post construction assessment o test the theories on social impact and post construction acceptance.
- Ground-truthing of “the body of knowledge” against on ground fully-functioning WEF that can prove whether the Guidelines, permit conditions and expert knowledge is in fact working.

Recommendations

- **Establish a resource of accrued knowledge that is readily accessible.**
- **Ensure Panel Members hearing WEF applications are experienced in that firmed.**

END OF SUBMISSION

Regards,

David Turley M Land Arch. B App Sc (Hort).

**Submission prepared by the Lal Lal and Elaine Landscape Action Group (LLELAG)
February 2011.**

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