

Submission to the

**The Social and Economic Impact of Rural Wind Farms**  
**Senate Community Affairs Committee**

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## **About BREAZE**

Ballarat Renewable Energy And Zero Emissions (BREAZE) Inc. is a community based, climate action group based in Ballarat, Victoria. BREAZE currently represents over 2000 residents within the municipality and surrounding districts.

The principal objective of BREAZE is to protect and enhance the natural environment and increase environmental sustainability within the region by promoting and developing renewable sources of energy and significantly reducing the region's contribution to greenhouse gas emissions.

As one of the main strategies to achieve this objective, BREAZE facilitates the purchase of renewable energy products at affordable prices. It is our experience that there is a growing sector within the community that is eager and prepared to act immediately on reducing their own carbon footprint.

The BREAZE renewable energy installation schemes have resulted in over 400 kW of new solar rooftop photovoltaic panels and over 200 evacuated-tube solar hot water service installations in the Ballarat region. As a result of BREAZE workshops, members have improved the thermal ratings of their homes and implemented other improvements in energy efficiency.

BREAZE also provides education concerning climate change and information relevant to lowering personal GHG emissions.

## Overview

BREAZE strongly supports the development of the wind energy industry in Victoria, both as a necessary part of an urgent response to climate change and as a major driver of employment and economic development in Ballarat and South West Victoria. We encourage the committee not to propose provisions that would make the development of this industry more difficult or onerous.

A thriving wind industry opens up numerous possibilities for economic development in Ballarat, with its established skilled and unskilled manufacturing industry and strengths in education and business services. It also injects much needed cash into the small towns around where turbines are hosted.

This submission outlines a vision of Ballarat as a wind industry hub to demonstrate to the committee how a thriving wind industry can bring fundamental benefits to the economic fabric of regional cities.

Current research and scientific investigations have found that there are no adverse health effects for people living in close proximity to wind farms. Research conducted on modern wind turbines has shown that the levels of low frequency noise and infrasound are within accepted thresholds.

Wind represents a clean, safe source of power that will never run out. In making the transition away from polluting coal, wind will help clean up our air, water systems and improve the health of our communities.

Evidence from overseas is now showing that the installation of wind is actually dropping wholesale power prices. We need to invest further in wind power to manage rising energy prices.

Despite the presence of a vocal minority, wind farms continue to enjoy widespread support in the community.

We believe there is room for Community Engagement processes to be improved.

This submission will respond in turn to each of the areas around the social and economic impacts of rural wind farms set out by the Inquiry.

### **(a) Any adverse health effects for people living in close proximity to wind farms;**

BREAZE sees no reason to dispute the findings of the Victorian Department of Health who stated “The Department of Health has examined the available scientific literature on wind farms and has concluded that there are no direct health effects that can be attributed to modern wind turbines.

This view has been supported by Australia's peak health body – the National Health and Medical Research Council (NHMRC) – who have released a public statement confirming that there is no published scientific evidence to support adverse health effects of wind turbines on health.<sup>1</sup>”

The NHMRC go on to say:

“It has been suggested that if people are worried about their health they may become anxious, causing stress related illnesses. These are genuine health effects arising from their worry, which arises from the wind turbine, even though the turbine may not objectively be a risk to health”

In trying to understand why people are complaining of health-related symptoms the committee should consider the possibility that the source of reported health effects is not the turbines themselves but rather the fears being raised in the community about the effects the turbines are supposed to cause.

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

Again, the National Health and Medical Research Council, after evaluating the available research found no evidence that noise or vibrations were a factor in affecting health of nearby residents.

A recent report from Pacific Hydro measured infrasound levels at two of their wind farms and a range of other natural and man-made infrasound sources. It found “infrasound is not unique to wind farms. The levels of infrasound produced by wind turbines is well below established perception thresholds and, importantly, is also below levels produced by other natural and man-made sources.”<sup>2</sup>

It continues that the report “does provide further support to existing overseas data which shows that infrasound emissions from operational wind farms is significantly below recognised perception thresholds of 85dB(G). It also re-affirms that infrasound is not unique to wind farms and is produced by many sources, both natural and man-made.”

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<sup>1</sup> <http://www.health.vic.gov.au/environment/community/windfarms.htm>

<sup>2</sup> <http://pacifichydro.com.au/en-us/news/5-january-2011.aspx>

## **(c) The impact of rural wind farms on property values, employment opportunities and farm income;**

### **A crucial economic opportunity for Ballarat**

South Western Victoria enjoys some of the best wind resources in Australia<sup>3</sup>. As South West Victoria's regional centre, Ballarat, with a strong manufacturing and services base is ideally placed to capitalise on the continued development of the wind industry by establishing itself as a hub for the industry. Its close proximity to the high voltage power line from Geelong to Portland gives it a distinct advantage over other wind-rich regions by reducing network connection costs for new wind farm developments.

The 20% Renewable Energy Target (RET) is estimated to unlock \$20 billion of new investment across the country. As one of the cheapest forms of renewable energy currently available, wind is likely to account for a significant proportion of this investment. The uniqueness and magnitude of this opportunity should not be underestimated. The RET itself and a series of crucial amendments were passed by the Rudd government in 2008 & 2009 with bipartisan support. It mandates an investment flow for a single industry of a scale that is rarely seen.

As Ballarat looks to expand its population by 47,000 people over the next 30 years<sup>4</sup> we will need to find employment in industries like wind power that will be dependable into the future.

### **Current Situation**

The Ballarat region already benefits from the wind industry and currently hosts operational wind farms in Ararat and Waubra, with installed capacity of 244.5 MW. The two projects provide 30 ongoing positions between them.

New wind farm projects have been granted planning approval to proceed in twelve locations within 100km of Ballarat, totalling 1830.4 MW. Two additional projects totalling 12MW await planning permission.

Wind farm developer, West Wind Energy, maintained an office at the University of Ballarat Global Innovation Centre with six ongoing positions but delays in development of their projects in Lal Lal and Mt. Mercer forced them to consolidate their operation to their head office in Gisborne. They are considering re-establishing this Ballarat office once the projects commence.

There is a clear fit between the skills and services needs of the wind industry and Ballarat's labour and business profile.

### **Direct Wind Industry Employment**

The wind industry currently provides employment in a number of areas:

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<sup>3</sup> [http://www.acfonline.org.au/articles/news.asp?news\\_id=3034](http://www.acfonline.org.au/articles/news.asp?news_id=3034)

<sup>4</sup> <http://www.ballarat.vic.gov.au/media/420842/ballarat%20west%20newsletter%20feb2011.pdf>

## Construction phase

Mostly under the auspices of civil engineering contractors, this phase provides work in low-to-medium skill areas such as fencing, driving machinery and site preparation. There is considerable room for up-skilling here as site-specific skills are supplied through training.

The Waubra Wind Farm provided employment for 200 people in construction phase, the majority in low-to-medium skilled jobs.

## Operation/Maintenance phase

Demand in this phase is predominantly for skilled electrical and mechanical positions for turbine maintenance. As turbine maintenance is a relatively new field in Australia, all employees in this field benefit from extensive on-the-job training from the turbine manufacturers. Existing skills in electrical trades and fitting and turning is readily transferable to these jobs.

## Industry development

These are predominantly high skilled, white-collar jobs in areas like finance, management, project engineering and clerical services. They are ongoing and grow based on a critical mass of operations companies undertake in a particular geographic area.

## Turbine Maintenance

Currently, all training on turbine maintenance is carried out by the turbine suppliers. While this helps them in guarding their intellectual property, it is also an acknowledgement that no training courses currently exist in this field in Australia.

The lack of qualified turbine maintenance workers is a real problem for wind energy firms as difficulties in locating trained staff can significantly lengthen project delivery times. For this reason, it is common practice for firms to stick to a single, trusted turbine supplier who they know can supply trained staff in a timely manner. However, this precludes the firms from tendering for the most competitive price, thus potentially making projects more expensive.

Therefore, access to a stream of trained turbine maintenance engineers would help the competitiveness of the industry in general. This is a genuine opportunity for local education providers such as the University of Ballarat to provide skills level training in this area.

## Opportunities

Ballarat is well placed to capitalise on the growth of the wind energy business and become a hub for its development. Benefits of this could include:

- Being at the forefront of R&D and training in wind energy skills development. With the rapid development of the wind industry across the country there will be a strong demand for both technology R&D as well as labour, in the form of trained turbine maintenance engineers. With its existing strengths in engineering, industry-related R&D and skills training, the University of Ballarat is very well placed to step into these markets, developing strong industry partnerships and providing the first Certificates in Turbine Maintenance in the country.

- Establishment of plants to construct towers and turbine parts. Again, this is a question of critical mass. With its central position in Victoria, Ballarat would be in a good position to supply towers and parts to new wind farms across South Eastern Australia. Acciona Energy already uses Ballarat as the base for its Australian logistics operation.
- Uptake and re-training of available low-to-medium skilled labour. Ballarat's manufacturing sector was hit hard by the Global Financial Crisis of 2008 with a number of firms shedding jobs in the area of light manufacturing. While subsequent economic recovery has provided many new jobs, there remains a pool of low to medium skilled labour shed that would be readily trainable for jobs in wind energy site construction and maintenance.
- Uptake and re-training of available skilled labour, such as electrical tradespeople and fitter and turners in turbine and plant maintenance roles.

### Indirect Economic Benefits to Ballarat

The benefits of a particular industry in a regional centre often extend far beyond the immediate employment and economic benefit provided by the industry itself. Supporting industries can be kicked off and a sense that the town or city identifies with the industry can begin to develop. Names like Sovereign Hill, Mars & McCains are synonymous with Ballarat and there is a strong sense of civic pride around their contribution to the city. In the case of Sovereign Hill, a huge accommodation industry has been established, primarily to service visitors to the attraction.

One of the clear benefits to Ballarat from the establishment of a wind energy hub would be in the area of education, particularly for our primary tertiary institution, the University of Ballarat. The opportunities around the provision of Research & Development services and skilled labour training have been mentioned in the Opportunities section, above.

The University has already been positioning itself to play a role in the wind industry's development, housing wind energy developer, West Wind Energy, for a time in a commercial suite of their Global Innovation Centre. The Global Innovation Centre is a technology precinct in which a number of companies and government entities can work alongside each other in an atmosphere of collaboration and mutual progress. The siting of the Centre on the University's Mt. Helen site is a clear signal of its links to the core work of the University in R&D and graduate training.

*"There is unsupported medical evidence regarding the ill effects wind farms have on local people in the areas they are built. I respect the opinions of these people but the positives seem to outweigh the negatives.*

*The initial positive is to provide alternative renewable energy but the on flowing positives are infinite. The construction side engages many people but the continuous work after construction is never ending. It embarks into many industries such as transport, maintenance, hire of plant, professional people, finance companies and others. It helps businesses to grow thus giving more employment not only directly to the wind farm industry but these businesses indirectly involved."*

**Troy Beaton, General Manager, Eureka Concrete**

As demonstrated by this quote, a contract for his firm to supply concrete for a wind farm has a massive flow on effect to other sections of the local economy such as transport, plant hire, accountancy and finance. This flow-on effect is very significant and should not be underestimated by the committee.

### **Other Economic Benefits**

*“I am a farmer and a farmer’s daughter. If farmers get money they’ll spend it in town. Wind turbines are good for the local businesses.”*

**Helen Darbyshire, Ararat landholder who can see turbines at the Chalicum Hills Wind Farm from her property.**

Rural wind farms also bring income into rural and regional communities in a number of other ways:

- Direct income to landholders who host turbines. This quote from Ararat landholder, Helen Darbyshire, demonstrates how money for rural landholders from the hosting of turbines is money available to towns they are part of – not just to the landholders themselves. Ongoing income also provides opportunities to allow farmers to stay on the land and attend to other financial needs that farming may not be able to meet - retirement income or sending children to private schools in regional centres like Ballarat.
- All wind farms pay a certain amount in support to their communities. For instance, Hepburn Wind plans to spend \$15,000 per turbine per annum (increasing annually with inflation) over the life of their project on their Community Sustainability Fund.

### **(d) The interface between Commonwealth, state and local planning laws as they pertain to wind farms; and**

State and local wind farm planning laws work reasonably well together because it is a quite comprehensive interface. Local government cannot contradict state policy. Even when the local councils produce their own guidelines, they are designed more for the comfort of the local residents. The State planning department is very thorough and not a lot slips through the cracks. Generally, commonwealth planning refers to their state colleagues, which provides a very simple one stop shop for our members to obtain assistance and answers.

As the capacity of many councils to handle planning requests is extremely limited, we believe the planning control must stay with the state authority.

## **(e) Any other relevant matters.**

### **Greenhouse Gas Abatement and Environmental Benefits of Wind Farms**

It is curious that the Committee has chosen to restrict its Inquiry to the social and economic impacts of wind farms only. The primary reason to install wind turbines in Australia is to generate electricity without emitting greenhouse gases. Ross Garnaut recently described Australia as a “world champion of high per capita emissions”<sup>5</sup>. Almost half of our total emissions come from the stationary energy sector<sup>6</sup> so as carbon pollution starts to be priced across the world and Australia implements its global obligations to curb our emissions, it is imperative that we urgently build electricity generation capacity that can operate without generating costly and dangerous carbon pollution.

### **Community Engagement**

Currently, proponents are required to show evidence of what engagement they have done or intend to do. Generally the proponents do a good job (better than most Government departments could achieve). However, the regulations are so vague that each new farm receives a very different message and engagement technique. The public deserve a solid and regular consultation process every time.

Government should take a big picture view of public education similar to .05 campaign, or seat belt laws. This would provide a strong broad understanding for the broader public and better inform those closer to the issue of how the policies are developed.

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<sup>5</sup> <http://www.theaustralian.com.au/national-affairs/we-risk-deep-subversion-of-climate-effort-garnaut/story-fn59niix-1225999796798>

<sup>6</sup> <http://www.garnautreview.org.au/chp7.htm>, Figure 7.8