

Submission to the Senate Inquiry on Wind Turbines



The Australian Wind Alliance is a not-for-profit, community-based advocacy group to promote wind power. We have over 450 financial members and over 10,000 online supporters. Our members are predominantly farmers, wind workers, community members and local businesses. We support wind power because of the benefits it brings to the health of regional economies and to Australia's economy and to the environment through the provision of inexpensive clean energy.

We note that over 300 individual submissions to the Review supportive of wind energy were submitted by our members and supporters. This submission both reinforces and offers complementary information to these submissions.

Wind farms have been operating in Australia since 1987. In 2013, wind power supplied over a quarter of Australia's renewable energy and 4% of total electricity demand.¹

Wind energy has been significant source of jobs and investment to regional Australia. By 2012, \$7 billion in total had been invested in new wind farms, \$4.25 billion of which was invested in Australia, with the creation of 5,200 jobs². A new manufacturing industry has been created in wind tower construction, with up to three plants operating in Victoria, South Australia and Tasmania. In many rural communities, wind farms have been one of the main new sources of economic activity to arrive for decades.

We firmly believe that wind farms are a welcome development for communities in regional Australia. They provide local employment and strengthen the economic base of regional towns and communities. Farmers also receive long lasting benefits through wind farm lease payments that can assist them in difficult times. The flow on benefits of these payments to local businesses are exponential. Most farmers spend the majority of their income in local towns.

By our calculations, this inquiry follows eleven other inquiries into various aspects of wind energy in the last five years. We submit that in relation to the issues raised in the Inquiry's Terms of Reference, reliable evidence has been provided and re-provided by reputable bodies. To mount another inquiry at this time is a flagrant misuse of government resources in a time when the government itself is calling for fiscal restraint.

A more constructive approach for the Inquiry would be to recognise the benefits of wind energy for rural and regional Australia and for greenhouse gas reduction and to focus on solving problems

¹ <https://www.cleanenergycouncil.org.au/technologies/wind-energy.html>

²

<https://www.cleanenergycouncil.org.au/dam/cec/technologies/wind/fact-sheets/Wind-Energy-Fact-Sheet-Theres-Power-in-Wind-National-Snapshot.pdf>

through exploration of such matters as economic benefit sharing and improved monitoring and compliance regimes. This would be an excellent step to assist regional communities to embrace the economic and social opportunity this fledgling industry presents to rural Australia.

AWA would appreciate the chance to present this submission to members of the Committee or to a public hearing. Please contact the writer on

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Previous Inquiries

A total of eleven discrete inquiries or reports have been conducted by government or statutory bodies since 2010. In addition, every one of Australia's 75 wind farms has undergone an extensive process of examination required to achieve planning consent.

These inquiries and planning applications have covered issues all of the issues identified in the current Terms of Reference - economics, efficiency, regulation, contribution to electricity supply, environment, noise, health, flora and fauna and much else besides.

It is appropriate that like all major developments wind farms are subject to appropriate scrutiny and ongoing experience will change over time but there comes a point where continued revisiting of the same evidence simply becomes another form of red tape designed to subdue an industry of which a number of members of the Committee are publicly critical.

2014

- Climate Change Authority - Review of Renewable Energy Target
- Dept of Prime Minister & Cabinet - Warburton Review of Renewable Energy Target

2013

- South Australian EPA - Waterloo Wind Farm environmental noise study
- South Australian EPA - Infrasound levels near wind farms and in other environments

2012

- NHMRC - Systematic review of the human health effects of wind farms (2012 - 2015)
- Climate Change Authority - Review of Renewable Energy Target
- Senate - Renewable Energy (Electricity) Amendment (Excessive Noise from Wind Farm) Bill
- SA Government - Select Committee investigation into Wind Farm Developments in South Australia (ongoing)
- NSW Government - Draft Wind Farm Planning Guidelines

2011

- Senate - Inquiry on Social and Economic Impact of Rural Wind farms

2010

- NHMRC - Public Statement & Evidence Review: Wind Turbines and Health

Issues raised in Terms of Reference

This submission will address terms of reference in the order laid out by the Committee.

a. the effect on household power prices, particularly households which receive no benefit from rooftop solar panels, and the merits of consumer subsidies for operators;

Wind energy is the cheapest source of readily deployable large scale renewable power and is expected to supply the majority of Large Scale Renewable Energy (LRET) capacity in coming years. Wind energy can now be supplied in Australia for as low as \$65 per megawatt hour, reflecting significant year-on-year reductions in the cost of wind power in Australia³.

The recently completed 2014 Warburton Review of the Renewable Energy Target found that while the RET scheme imposed a levy on household electricity customers, it also reduced wholesale power prices. When these lower wholesale costs were passed on, the RET levy was largely wiped out. Retail electricity prices would be lower from 2020 under the existing RET than without it⁴.

Electricity consumers with solar panels receive rebates for the purchase of their system under the portion of the RET for small scale renewable energy (SRES). To the extent that they then purchase less electricity through their retailer, their exposure to costs or benefits of the LRET changes commensurately.

It should be noted that the Warburton Review, which was not required by legislation, came to broadly the same conclusions as the 2012 Climate Change Authority review of the Renewable Energy Target in regard to the effect of the RET on consumer pricing.

In what became almost a parody of reviews, the 2014 Climate Change Authority Renewable Energy Target Review restated the conclusions of the exhaustive 2012 CCA Review and the 2014 Warburton Review in regard to consumer pricing. We find it difficult to imagine what new information the current Inquiry hopes to find in regard to this issue.

Electricity generation accounts for 33% of Australia's current greenhouse gas emissions⁵. Reducing our overall emissions in line with international expectations will require steep cuts to the emissions from the electricity generation sector.

The large-scale Renewable Energy Target (LRET) pays a premium to renewable energy generators above the market price for electricity to purchase generation with no greenhouse gas emissions.

³ Coonooer Bridge Wind Farm will be paid a fixed price of \$81.50/MWh for 20 years by the ACT government. Adjusted for inflation, this figure represents around \$65/MWh in today's dollars
<http://www.theage.com.au/environment/coonooer-bridge-wind-farm-a-renewable-win-for-victoria-in-dire-environment-20150428-1mv971.html>

⁴ Renewable Energy Target Scheme, Report of the Expert Panel, August 2014, p36
<https://retreview.dpmc.gov.au/ret-review-report-0>

⁵

<http://www.environment.gov.au/system/files/resources/36653a43-4e2f-4b3a-bd1d-0d676778f780/files/nggi-quarterly-update-sept-2014.pdf>

This premium reflects the urgent need to reduce the emissions intensity of our current generation sector, which is responsible for around half of Australia's total emissions.

With the demise of the carbon price, the RET is the only price signal in the electricity generation market to encourage an increase in clean energy. In contrast to the government's Emissions Reduction Fund, the RET has been operating more or less successfully for 14 years and its capacity to cut emissions is cost effective, proven and well understood.

c. the role and capacity of the National Health and Medical Research Council in providing guidance to state and territory authorities;

The most recent survey of medical evidence by the National Health and Medical Research Council regarding wind turbines found "no consistent evidence that wind farms cause adverse health effects in humans."⁶ Despite surveying thousands of references, only a handful were sufficiently robust to qualify as 'direct evidence'. Of these, not one study was objectively measured (e.g. by using a test performed by a doctor or scientist), with all respondents self-reporting.

It is notable that, had it been submitted in time, the Cape Bridgewater study by Steven Cooper would have been unlikely to be counted by the NHMRC as direct evidence because of the high number of confounding factors inherent in its methodology. The Committee should be very hesitant in drawing sweeping conclusions from Mr Cooper's limited study.

By contrast, studies consistently identify the adverse health outcomes associated with the mining and burning of coal for electricity generation⁷. Any discussion by the Committee on reports of health effects from wind farms should take into account the far higher incidence and stronger evidence of health effects from incumbent generation sources.

d. the implementation of planning processes in relation to wind farms, including the level of information available to prospective wind farm hosts;

The Australian Wind Alliance supports fair and equitable land use planning regimes to determine the siting of wind turbines and to address genuine environmental and amenity concerns. Local matters around individual projects are routinely and expertly handled by existing state and local planning processes.

Public planning hearings should provide an opportunity for local residents to express the full range of opinions about a prospective project. However, AWA is concerned that these hearings are often 'hijacked' by anti-wind groups who marginalise local voices that are supportive of a wind project.

At a recent Planning Assessment Commission hearing for the NSW Crookwell 3 project, an AWA representative appeared to represent those locals who supported the project but didn't want to subject themselves to the personal vitriol these events often bring forth. As is often the case, the speakers' list was largely made up of residents well outside the project area, whose contribution

⁶ <https://www.nhmrc.gov.au/guidelines-publications/eh57>

⁷ <http://caha.org.au/health-and-energy-background-briefing-paper/>

was not to address the project in question but instead to express their opposition to wind energy in general.

When our representative attempted to address the Commissioners she was verbally and then physically intimidated by those in attendance⁸. Clearly this kind of behaviour is unacceptable and does nothing to further the PAC's understanding of local views on the project. It is our experience that this kind of anti-social behaviour from wind farm opponents can be a cause of community division.

In general, AWA would like to see greater transparency for local communities in the wind farm development process. The example of the Coonoor Bridge Wind Farm in Victoria demonstrates that a new wind farm can be developed in a way that involves all interested members of the local community - hosts and neighbours alike - from very early in the development process. This process enhances the ability of the community to make informed decisions about what is in the best interests of their community and make them less susceptible to pressure and misinformation from outside groups who oppose wind farms.

e. the adequacy of monitoring and compliance governance of wind farms;

It is critical that monitoring and compliance of wind farms is robust and responsive to community concerns.

Compliance of wind farms with applicable regulations is in many cases devolved to the local council level, who are often under resourced and lack the appropriate skill base to execute this work properly.

Post-construction noise monitoring is generally done by acoustic consultants retained by the developer. Submission 111 to this Inquiry from Glenelg Shire Council has suggested that post-construction and ongoing monitoring work be done at arms' length from developers.

AWA sees merit in this idea and would welcome it as a way to increase the community's trust in the process.

h. the energy and emission input and output equations from whole-of-life operation of wind turbines;

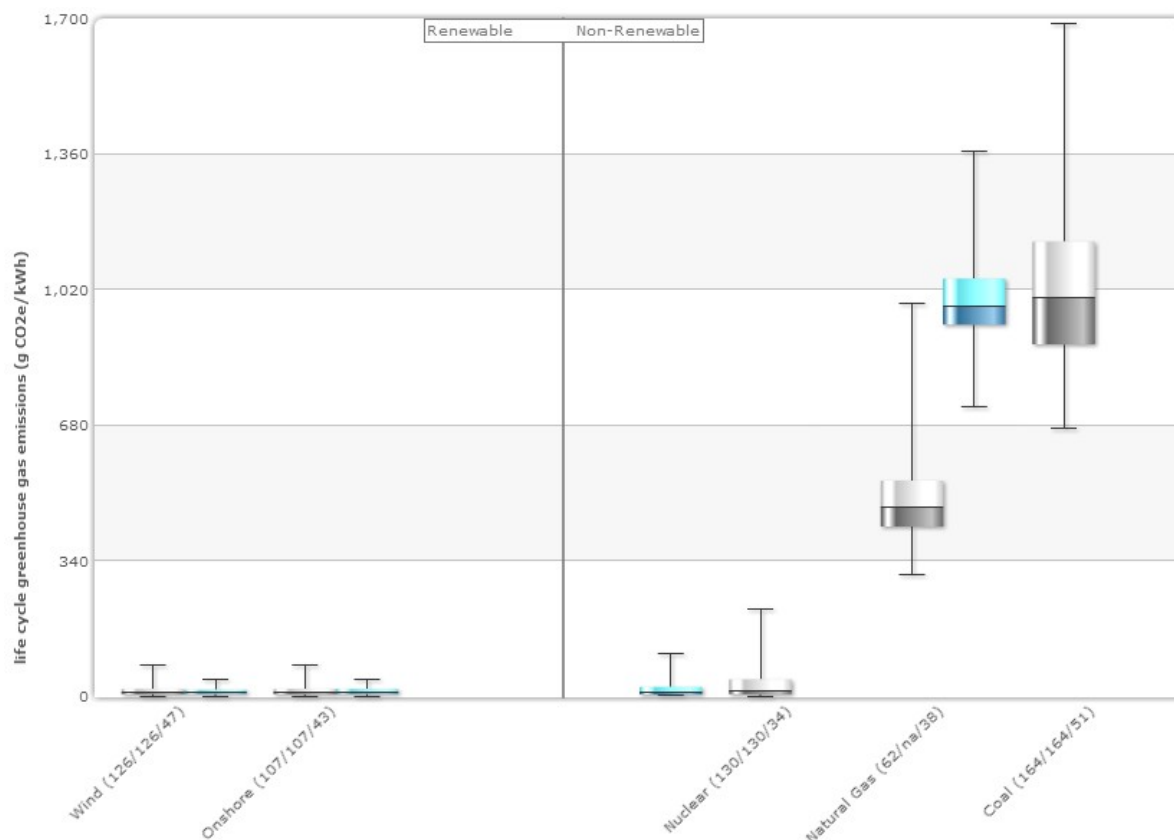
It is perplexing that the Inquiry feels the need to continue investigating this area as the data supporting the fact that wind turbines abate more greenhouse gases than are used in their manufacture is so long-established and so strong.

Life Cycle Assessments

⁸ see our letter to the PAC Commissioner regarding this appearance, attached.

Life cycle assessments are conducted and reported for all generation types to ISO standards. Aggregations of hundreds of studies provide a very high level of accuracy.

These life cycle figures (though now somewhat dated) calculate that wind farms produce only 12g of CO₂e emissions per kilowatt hour of electricity produced⁹. This takes into account all aspects of wind farm construction, installation, operation and decommissioning. By contrast, natural gas is around 30 times higher than wind and coal around 60 times higher than wind.



Recent evidence suggests that life cycle emissions from wind turbines continues to reduce, with wind turbine manufacturer, Vestas, reporting that one of their latest turbine models, V112 3.3MW, emits only 6g/kWh¹⁰.

Estimates for how quickly wind turbines pay back their life cycle emissions vary but an indicative estimate from wind turbine manufacturer, Siemens, estimates that an onshore wind farm featuring 20 Siemens SWT-3.2-113 wind turbines would pay back it's carbon footprint in 4.5 months¹¹.

⁹ OpenEI <http://en.openei.org/apps/LCA/> (accessed 1/5/2015)

¹⁰ <http://www.vestas.com/en/about/sustainability#!carbon-footprint>

¹¹

[http://www.siemens.com/press/en/pressrelease/?press=en/pressrelease/2014/windpower-renewables/pr2014110070wpen.htm&content\[\]=WP](http://www.siemens.com/press/en/pressrelease/?press=en/pressrelease/2014/windpower-renewables/pr2014110070wpen.htm&content[]=WP)

AEMO response to claims that wind farms do not abate greenhouse gases

Claims that wind energy does not displace coal-fired generation or requires additional gas-fired generation as backup have been repudiated by the Australian Energy Market Operator on a number of occasions. An example of such can be found in Inquiry Submission number 31 from Mr Hamish Cumming.

Proceedings from the permit application for the Stockyard Hill Wind farm demonstrate that AEMO's arguments convinced the panel that arguments mounted on that occasion by Peter Mitchell, Peter Lang and Andrew Miskelly were not correct and that "the amount of electricity to be exported from the site and the greenhouse gas savings are credible."¹²

"The responses that we asked for and received from Sustainability Victoria and AEMO to the papers from Mr Lang and Mr Miskelly, and the submission from Mr Mitchell, indicate that claims that Stockyard Hill Wind Farm would not lead to a useful reduction in greenhouse gas emissions and could lead to difficulties in grid operation are not supported by them."

The South Australian experience

The real world example of this is to be found in South Australia where wind energy has grown rapidly from 2005 and now supplies over a quarter of the state's total demand. An examination of by Dr David Osmond and Luke Osborne found that emissions declined 34.5% between 2005/06 and 2012/13 when wind energy grew by over 300% from 388MW to 1203MW.¹³

i. any related matter

Benefits of wind for regional, rural and farming communities

Any meaningful discussion of wind energy should acknowledge the benefits to employment, stimulation and diversification of local economies and security for an increasingly fragile farming sector.

At a time when life for farmers is becoming increasingly difficult, and commodity prices typically volatile, wind farms provide valuable income security and diversification for farmers. This income is allowing farmers to employ farm labourers and source goods and services from local suppliers, thereby pushing wind turbine lease payments further through the local economy. A real-life example is supplied by a farmer in Crookwell, NSW, Charlie Prell (who now works for AWA) who tallied how he was spending the money he received from turbine rental¹⁴.

¹² STOCKYARD HILL WIND FARM, PYRENEES AND CORANGAMITE PLANNING SCHEMES, PERMIT APPLICATIONS PL-SP/05/0548, P2009/105 AND P/2009/104, PANEL REPORT, AUGUST 2010

<http://www.austlii.edu.au/cgi-bin/sinodisp/au/cases/vic/PPV/2010/84.html?stem=0&synonyms=0&query=wind+farm+aerial>

¹³ Peaking Capacity, CO₂-e Emissions and Pricing in the South Australian Electricity Grid with High Wind Penetration 2005-2013, Osmond & Osborne

http://www.windlab.com/sites/default/files/South_Australian_Wind_Power_Study_2014_Windlab.pdf

¹⁴ See attached document - 13 08 21 Goulburn Chamber of Commerce.pdf

As submissions from several of our members attest, reliable farm income that is independent of the ups and downs of weather and commodity prices, also allows for added benefits which are crucial to preserving a rural way of life, such as passing on a viable farming businesses to the next generation and resisting the pressure to break up large farming properties.

Overall, the Clean Energy Council estimates that Australia-wide the RET has created 24,000 jobs since its inception in 2001. Submissions to previous reviews from our members demonstrate what this looks like at the local level.

In Portland, Victoria, employment at Keppel Prince Engineering from the manufacture of wind towers provides direct employment for around 110 skilled and semi-skilled workers, down from a peak of 200 in 2008. In a town of only 10,000 people, manufacturing wind towers is not only a critical employer but also a source of much flow-on business to other businesses in the town.

Construction of wind farms themselves is a boon for local contracting firms in the civil, electrical, fencing and earthmoving fields. Wind farm developers regularly engage local contractors for much of their work.

A prior submission from GR Carr Building Contractors in Portland is especially noteworthy with its description of the dozens of people they employ directly and the further dozens of local enterprises who subcontract to them¹⁵. These are real jobs that are the lifeblood of these towns.

Conversely, the stop/start nature of wind farm developments over recent years has required the company to lay off workers who often leave Portland to find work elsewhere.

For an entire project, these positive impacts add up.

In its analysis of the economic impacts of the Macarthur and Oaklands Hill Wind Farm, SKM found that gross regional product and employment in the Local Government Areas (LGAs) of Southern Grampians Shire, Moyne Shire, Glenelg Shire and the Warrnambool City was boosted significantly by these projects. A total of \$146.7m and 875 jobs were added during construction with an annual injection of \$66.8m and 52 jobs each year for the next 25 years.

A study of the Waubra and Gunning Wind Farms by PricewaterhouseCoopers found that the Waubra Wind Farm boosted the gross regional product of the Central Highlands region by 6%, or \$346m over 10 years¹⁶.

In Victoria, the wider shift we are witnessing is that a portion of the financial benefits that come from hosting energy production facilities is gradually shifting away from the Latrobe Valley into communities in the more wind-rich parts western and south-western parts of the state.

It is worth noting that wind farm developments are unique in regional Australia right now in their ability to bring such an economic impact and leave the underlying farming base intact.

¹⁵ GR Carr Building Contractors, Submission to 2014 Renewable Energy Target Review
https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&cad=rja&uact=8&ved=0CCMQFjAB&url=https%3A%2F%2Fretreview.dpmc.gov.au%2Fsites%2Fdefault%2Ffiles%2Fwebform%2Fsubmissions%2FPeter%2520Carr_0.docx&ei=aiRHVZOmDKHDMwXUkiHYAw&usg=AFQjCNEOmg_fgKIUUjXaiXa1kUkOclzJw&bvm=bv.92291466,d.dGY

¹⁶ Economic Benefits of the Waubra and Gunning Wind Farms, PricewaterhouseCoopers, 2012

A constructive approach that fits for the whole community

From media statements that various members of the Committee have made, it is clear it finds many negative issues with wind farms.

We urge the Committee to also acknowledge the benefits of wind energy for jobs and investment in regional and rural communities and the clean energy benefits wind power provides for Australia.

Hundreds of wind farm workers and farmers work in close proximity to wind farms every working day of their lives. Thousands of people across the country live in close proximity to wind farms and experience no negative consequences. Typical of these people is Hamish Officer, who lives with his wife and two children in the middle of the Macarthur Wind Farm, the largest wind farm in the Southern Hemisphere, with the largest machines¹⁷.

Mr Officer has five turbines just 800m away from his house. As often happens with host landholders, he has signed a waiver agreement to allow the wind farm operator to emit noise levels above the relevant standard due to his proximity. That is, he is subjected to higher levels of audible and low frequency noise than any of his neighbours. You could argue that if anyone should be sick from wind farm noise, it would be him and his family but this is not even remotely the case. As he pointed out, he is free to say whatever he wants about the wind farm. That is, he is not gagged, as many opponents have claimed about wind farm hosts.

As research by Dr Simon Chapman suggests¹⁸, people who are disturbed by living near wind farms are the exception and not the rule. Every effort should be made to respond to their concerns, mitigate noise or visual issues and accommodate, where possible, their complaints. But simply stopping construction of new wind farms for some indefinite period of time, as has been suggested in media comments by some members of the Committee, would subject wind farms to restrictions far beyond that of any comparable development such as a road, airport or power plant and not match the experience of the majority of the community.

Community engagement and benefit sharing

AWA firmly believes that strong community engagement is the key to greater community acceptance of wind farm projects.

A relationship of trust between the project developer and the community is fundamental. As outlined in section d. above, more transparent dealings between developers and communities would increase the level of trust and avoid much of the disquiet that has accompanied some wind farm projects.

It is AWA's view that a perceived inequality of economic benefit among residents is at the heart of many of the difficulties around wind farm development. A higher standard of community engagement by developers should see situation-specific benefit sharing options adopted that canvas transparent distribution of wind farm payments, community enhancement funding and options for community investment and ownership, within reasonable parameters.

¹⁷ see evidence from Hamish Officer, Senate Inquiry Hearing 30th March 2015

¹⁸ Wind farm noise complaints and anti-wind groups: how many, how large? Renew Economy. Jan 2014:
<http://reneweconomy.com.au/2014/wind-farm-noise-complainants-and-anti-wind-groups-how-many-how-large-34978>

New projects should also ensure that the regional economy is a key focus, giving priority to sourcing head contractors, subcontractors, communications officers, workforce, products and services locally as far as possible.

We would welcome recommendations from the Committee that played a constructive role in increasing community acceptance of wind farms.

Cost of government inquiries

The Committee heard clearly at the Portland hearing on 30th March 2015 about the costs to local jobs and industry certainty that is caused by incessant government inquiries into wind energy¹⁹. The interminable delay in bipartisan agreement around the Renewable Energy Target has seen large scale renewable energy investment collapse by 88% from \$2 billion in 2013 to \$240 million in 2014, the lowest level of investment in the sector in a decade²⁰.

In the longer term, the stop-start nature of renewable energy development in Australia has severely hampered our ability to build a sustainable domestic industry to fully leverage this investment. A wind turbine blade manufacture facility in Portland, Victoria and a wind turbine assembly plant in Wynyard, Tasmania were closed in 2007 and 2006 respectively after the then Howard government's decision not to expand the Renewable Energy Target against the advice of its own Tambling Review. Australia's inability to provide a policy environment that facilitates long-term investment means that future wind farm investment is not creating the number of local jobs it should be, especially in the manufacturing sector.

Regardless of what shortcomings the Committee believes there is to find in the operation of wind farms, it must recognise that this Inquiry is contributing to industry uncertainty that is holding up much needed drought proof income for farmers and their communities and costing long-term manufacturing jobs.

¹⁹ see comments by Daniel McKinna, Assistant General Manager, Keppel Prince Engineering and Gilbert Wilson, Glenelg Shire Councillor and Keppel Prince employee.

²⁰ <https://sourceable.net/ret-uncertainty-triggers-plunge-in-investment/#>