

Supplementary 7-1  
Submission No: .....

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The Committee Secretary  
House of Representatives Standing Committee  
On Industry and Resources  
PO Box 6021  
Parliament House  
Canberra ACT 2600

Dear Sir/Madam,

**Inquiry into the development of Australia's non-fossil fuel energy industry: Case study into selected renewable energy sectors**

Tarwin Valley Coastal Guardians Inc. (TVCG) was established in July 2002 in response to an 84 turbine wind energy facility proposal between Tarwin Lower and Walkerville in South Gippsland, Victoria. The proposal attracted about 1,500 individual, NGO and statutory body submissions opposing the facility and about 40 in favour. Objectors to the facility thus far include:

- The Australian Conservation Foundation.
- The National Trust (Vic).
- South Gippsland Shire Council.
- Gippsland Coastal Board.
- The Victorian National Parks Association.

There was bi-partisan opposition to this facility including the Federal ALP sitting member at the time, the new Federal Liberal Party member and more recently the Greens (Vic) also opposed this facility.

In response to this opposition was the full weight of the Bracks Government and the developer, Wind Power Pty Ltd, a \$100 paid-up-capital company run by a former operator of aged care facilities and a Bourke Street lawyer. The Bracks government approved the facility almost without condition.

Over the course of the past five years TVCG have gained certain expertise and knowledge which we trust will be of value to the Committee in looking at the wind industry as a case study.

We note the Committee shall undertake a comparative study of the following renewable energy sectors: solar, wave, tidal, geothermal, wind, bioenergy and hydrogen. The case study will examine *the relative state of development* (our emphasis) and their prospects for *economically viable* electricity generation, storage and transmission.

We believe that the wind industry, whilst cornering the majority of financial subsidies available, has:

- Failed to deliver any innovation.
- Failed to meet job creation promises, particularly in the high-tech end of turbine manufacturing.
- Clearly a product that is uneconomic.
- Generally targeted remote communities causing transmission issues.
- No realistic way of storing their output (compared to solar hot water for example) so is an unviable, irritant to the energy mix.
- Created social division, biodiversity impacts and landscape destruction on a large scale with the pursuit of profit being the overriding consideration in the development of their industry.

We consider the following to be relevant in any case study and trust the Committee will call for evidence that will support or negate our commentary.

1. Do wind turbines effectively displace coal-fired generation and really displace the amount of carbon dioxide equivalent (CO<sub>2</sub>e) claimed by Bracks Government, the developers and the wind industry lobby group, Auswind (nee AusWEA)?
2. Do the wind industry claims of job creation stack up using historical evidence?
3. Are there social and economics impacts of wind energy of which the wind industry and some arms of government are aware yet they chose not to investigate or disclose?

The Federal Government has supported the development of the renewable energy industry through the establishment of the Mandatory Renewable Energy Target (MRET).

As has been pointed out by the Federal Resources Minister, The Hon Ian Macfarlane, there has been an unfortunate side effect to the MRET in that it has stimulated very little innovation or industry in renewables. The wind industry moved rapidly to exploit and corner the available pool of funds from MRET. This vacuuming of available funds hindered development of new renewable technologies, such as geothermal generation.

The wind energy industry rapidly finessed the Bracks Government into doing their bidding and were well placed to influence policy and planning. For example:

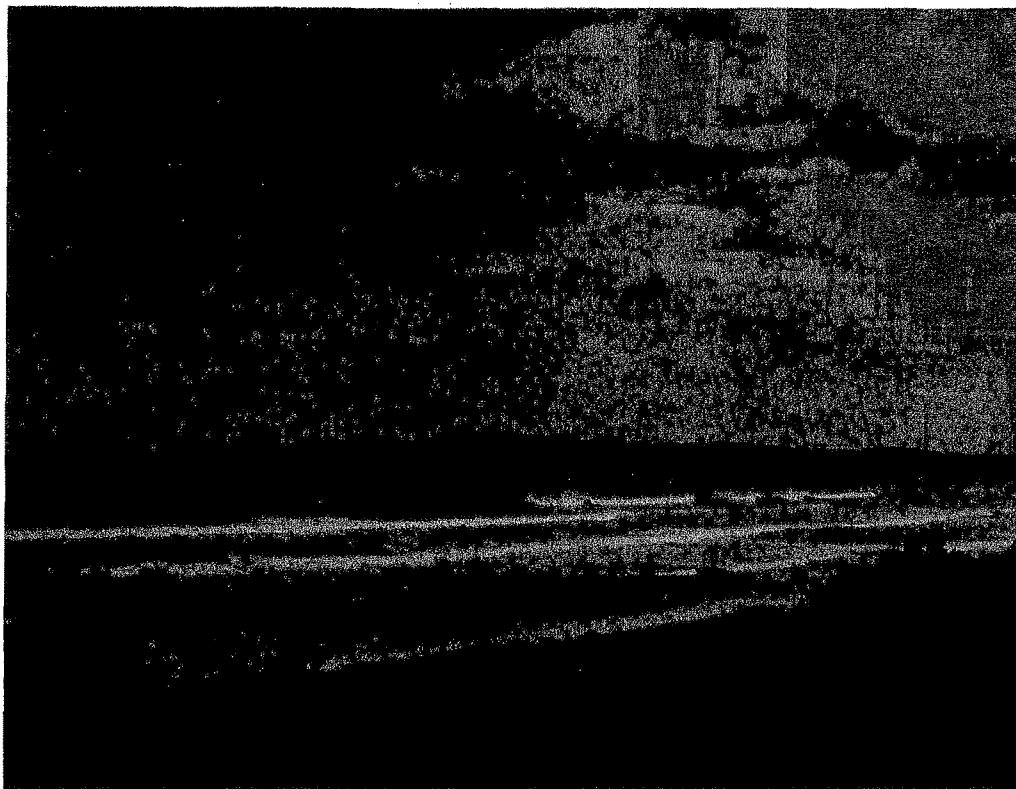
- The CEO of the Australian Wind Energy Association, Ms Libby Anthony, was a board member of the Sustainable Energy Association of Victoria at the time the SEAV was overseeing the development of the Bracks Government policy and planning guidelines.

- It was reported widely in The Age under the heading “Conflict of Interest” <http://www.theage.com.au/articles/2003/05/04/1051987607568.html> that people with intimate links to the wind industry were in positions to influence policy within the Bracks government.
- The Wonthaggi wind energy facility is owned by the Local Authorities Superannuation Fund which is closely related to the Industry Funds Super whose senior management have intimate links with the Bracks government.
- The Regional Infrastructure Fund, also with union super fund associations, was mooted as the cornerstone investor in the Bald Hills wind proposal.
- In 2002 the Bracks Cabinet considered a report from Ernst & Young on wind energy. The report contained analysis of the economics of wind energy and we are advised this analysis was damning. The report has never been made public.
- In 2006 the Bracks’ government received a Business Impact Assessment on the Victorian Renewable Energy Target (VRET) from their own Competition and Efficiency Commission. They have consistently refused to make this report public.

All in all there is a clear line of dots leading from the wind industry to the door of Premier Bracks and a pattern of hiding any information that might display their policy and the economic viability of wind energy in a poor light.

During the planning application process for the Portland Wind Energy Project (PWEP) a number of public and not-so-public statements were made to influence the Bracks government.

PWEP was very important for the wind industry as a win at Cape Bridgewater, rated as Victoria’s second most valuable landscape after the Twelve Apostles, would set a landscape precedent difficult for any community to oppose.



Cape Bridgewater.

Pacific Hydro Chief Operating Officer at the time, Roy Adair, categorically stated that PWEF would result in 2,500 regional jobs. These statements were made on the back of the existing MRET subsidy at the time. These jobs never eventuated to any scale remotely resembling the public statements made during the planning process.

The amounts mooted to be invested by NEG Micon were never made widely public however this extract from [http://www.industry.gov.au/assets/documents/itrinternet/REAA\\_CEO\\_Group\\_Implementation\\_Report\\_220051221162926.pdf](http://www.industry.gov.au/assets/documents/itrinternet/REAA_CEO_Group_Implementation_Report_220051221162926.pdf) indicates the numbers being bandied about in Victoria: *“Similarly, NEG Micon has committed to invest \$60-80 million to establish wind turbine blade manufacturing facilities in Portland, Victoria, should Pacific Hydro’s Portland Wind Energy Project obtain planning approval.”*

Note the comment ‘has committed’. In reality the investment ended up at less than \$10 million and the Bracks government ended up giving the company (now owned by Vestas Wind Systems of Denmark) a handout.

Vestas recently announced the closure of a nacelle manufacturing plant in Tasmania. Many commentators blamed the plant closure on the lack of further MRET funds for the wind industry. They chose to ignore the fact that on the very same day Vestas announced the closure of a similar factory in Scotland, a country where the wind industry has access

to some of the most generous subsidies. It was subsequently announced that the Federal government had given Vestas significant tax relief that further reduced the value of the Australian investments.

Clearly the job creation claims of the developer and financial investment by NEG Micon/Vestas have failed to eventuate.

During the panel hearings for the Bald Hills facility the managing director of Wind Power Pty Ltd was travelling in Europe at the same time as Victorian Energy Minister, Theo Theophanous. Whilst there, Mr Theophanous announced the planned construction of yet another blade factory (at Ararat) by LM Glasfiber, "should the Bald Hills facility gain approval.' The timing of the announcement and the travel plans of two key players was not missed by the local community. (See Vic Govt media releases Sunday March 28, 2004). Needless to say the Bald Hills facility has been approved and no blade plant has been built at Ararat.

In reality the job promises of the wind industry have just been a lot of hot air. A river of Australian subsidy money is flowing to foreign manufacturers with limited job creation, particularly at a high-tech level. There is however an army of consultants who have made themselves available to assist developers gain planning approvals.

At Bald Hills there were two particular consultants whose 'expert witness' evidence caused much community angst and the flaws in their work were ignored by the panel or the Bracks government. For example:

Brett Lane and Associates: Fauna and Flora consultants to a wide number of proposals, particularly wind facilities. At Bald Hills the panel described Mr Lane's work such:

*"The Panel does not as a general comment consider that the bird assessment as presented to the Panel entitles the Panel to conclude that the proposal will not adversely impact on conservation of biological diversity and ecological integrity within the development sites and surrounding lands."*

This comment was one of the more complimentary contained in the panel report however similar criticisms have been levelled at Mr Lane by panels at Yaloak and Waubra. Even a peer review of Lanes' work described it '*as a relatively low survey effort*'.

The Bald Hills panel noted that Mr Lane was engaged by AusWEA to assist with development of their guidelines on avian impacts. At the panel hearings Mr Lane admitted to being a supporter of wind energy, effectively putting himself in the position of an advocate for wind energy. In this light his evidence should be viewed appropriately. Here we see a classic example of how the wind industry lobby group fails to set standards and have their own consultants meet them.

Wind Power Pty Ltd used John Cleary, of John Cleary Planning, as a landscape consultant who presented expert evidence to the Bald Hills panel. Mr Cleary admitted he

had no formal qualifications in landscape assessment. He had also not visited any adjoining residences yet gave an expert opinion on the visual impact on neighbours. The Bald Hills panel accepted his evidence over that of residents and formally qualified landscape experts employed by the community.

In terms of natural justice the Bald Hills panel was chaired by Mr Rynd Smith. Mr Smith chaired the PWEPP panel hearings and chaired a meeting that contributed to the development of the Bracks government policy and planning guidelines. Mr Smith also prevented a submitter from giving evidence of the economics of wind energy and failed to assess the greenhouse gas reduction claims of the developer by avoiding any empirical measurement and accepting the widely discredited figures published by Sustainability Victoria.

During the Bald Hills panel hearings the then head of SEAV, Mr David Young, was questioned extensively as to whether wind turbines would have an impact of the brown coal generators of the La Trobe Valley. Mr Young finally stated "Wind is an experiment. We won't know if it works until we build them."

During the Yaloak panel hearings the general manager of renewables for the SEAV, MS Meagan Wheatley made the comment "we have no way of measuring whether wind is impacting of the La Trobe Valley." Needless to say these comments do not inspire much faith in the ability of wind energy to displace coal fired generation in a significant way.

#### The German Experience.

Germany has more wind turbines installed than any other country. They have a robust electricity grid, unlike the fragile spider web that typifies much of Australian electricity distribution. In most other ways their grid is similar to Australia so they can offer good empirical evidence of the efficiencies and drawbacks of wind energy.

Every year Eon-Netz publishes a "Wind Report". A copy is included with this submission, however the following quotes are particularly relevant:

- Wind energy is only able to replace traditional power stations to a limited extent. Their dependence on the prevailing wind conditions means that wind power has a limited load factor even when technically available. It is not possible to guarantee its use for the continual cover of electricity consumption. Consequently, traditional power stations with capacities equal to 90% of the installed wind power capacity must be permanently online in order to guarantee power supply at all times.
- Wind power feed-in can only be forecast to a limited degree. The transmission system operator must balance out variations between the forecast wind power and the actual feed-in using the short-term use of reserve capacity.

The two quotes, based on actual experience, demolish the claims by many wind energy advocates that wind power can provide reliable base load, particularly if there is widespread dispersal of turbines over Australia to capture wind in one place where it may not be blowing in another.

Eon-Netz make a big headline of their experience on the guaranteed capacity of wind power in their report. They make damning commentary on the ability of wind to replace a conventional generator. (Our italics and highlight)

## Guaranteed wind power capacity below ten percent – traditional power stations essential.

In order to also guarantee reliable electricity supplies when wind farms produce little or no power, e.g. during periods of calm or storm-related shutdowns, traditional power station capacities must be available as a reserve. ***This means that wind farms can only replace traditional power station capacities to a limited degree.***

An objective measure of the extent to which wind farms are able to replace traditional power stations, is the contribution towards guaranteed capacity which they make within an existing power station portfolio. Approximately this capacity may be dispensed within a traditional power station portfolio, without thereby prejudicing the level of supply reliability.

In 2004 two major German studies investigated the size of contribution that wind farms make towards guaranteed capacity. Both studies separately came to virtually identical conclusions, ***that wind energy currently contributes to the secure production capacity of the system, by providing 8% of its installed capacity.***

(AS WIND INTALLED CAPACITY INCREASES SO RELIABILITY FALLS)

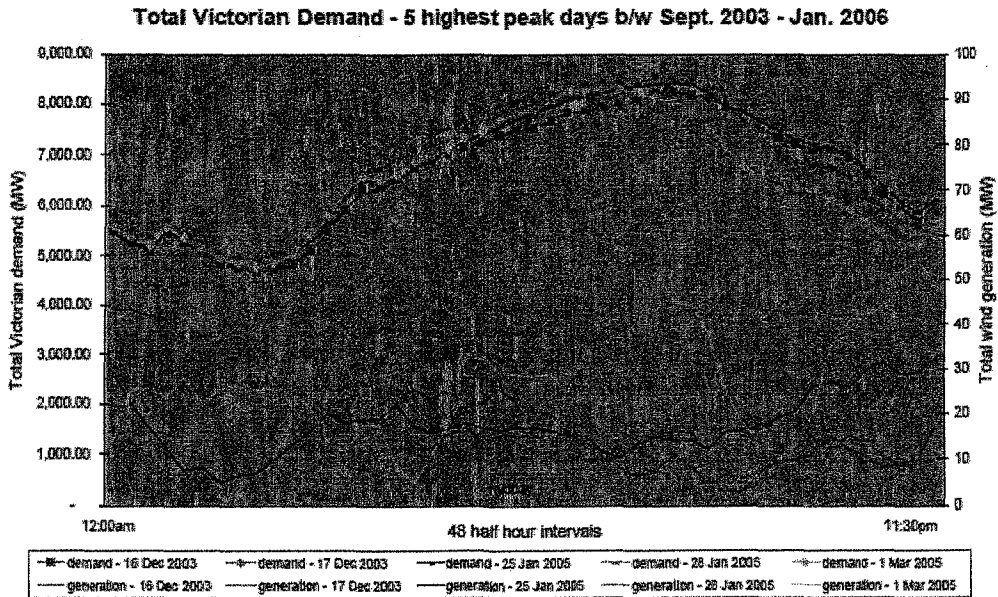
As wind power capacity rises, the lower availability of the wind farms determines the reliability of the system as a whole to an ever increasing extent. Consequently the greater reliability of traditional power stations becomes increasingly eclipsed. ***As a result, the relative contribution of wind power to the guaranteed capacity of our supply system up to the year 2020 will fall continuously to around 4%.***

In concrete terms, this means that in 2020, ***with a forecast wind power capacity of over 48,000MW (source: dena grid study), 2,000MW of traditional power production can be replaced by these wind farms.***

The Bracks Government repeats the mantra that wind blows at times of peak demand as evidenced in this email received from Steve Bracks on 4 April 2005 in which he states "In contrast, wind speed data for Victoria provided by the Bureau of Meteorology, shows that the highest average wind speeds occur in the mid-afternoon over the summer months, which tends to match our periods of peak electricity demand."

This opinion contradicts the direct evidence, available to the Premier, and published by Origin Energy in their submission on VRET. (Copy attached) The following graphic demonstrates that on the hottest days of the year Victorian wind energy was a very limited contributor to energy supply.

The chart below plots total half hourly Victorian demand (on the 5 highest peak load days between September 2003 and January 2006) against the total wind production for Victorian wind generation per half hour. Significant generation support was required to account for variable wind generation output during peak periods on these 5 days.



Source: Origin Energy 2006

The wind energy industry claims that with increased ability to forecast wind speed they will be able to schedule generation and displace conventional generators. Once again overseas experience is very relevant and destroys this argument. The following table comes from Eon Netz and demonstrates just how widely forecast generation varies, further underlining the fact that slow response generators, such as coal fired ones, cannot easily be displaced by wind energy. See [www.eon-netz.com](http://www.eon-netz.com)

What the table shows is that on 5 June 2007 the closest the wind predictors could come to is they forecast 589MW but got 495MW and their worst effort was when they forecast 441 MW and actually only produced 141 MW or 31% of forecast. These wild fluctuations occurred over a short six hour period.



05.06.2007	00:00	06:00	12:00	18:00
	03:00	12:00	18:00	24:00

Period (¼ hour)	forecasted [MW]	actual [MW]
00:00 - 00:15	589	453
00:15 - 00:30	589	474
00:30 - 00:45	589	495
00:45 - 01:00	589	453
01:00 - 01:15	516	415
01:15 - 01:30	516	389
01:30 - 01:45	516	347
01:45 - 02:00	516	314
02:00 - 02:15	476	273
02:15 - 02:30	476	270
02:30 - 02:45	476	267
02:45 - 03:00	476	274
03:00 - 03:15	437	282
03:15 - 03:30	437	296
03:30 - 03:45	437	275
03:45 - 04:00	437	245
04:00 - 04:15	442	222
04:15 - 04:30	442	200
04:30 - 04:45	442	185
04:45 - 05:00	442	161
05:00 - 05:15	441	144
05:15 - 05:30	441	137
05:30 - 05:45	441	145
05:45 - 06:00	441	141

Source: Eon-Netz.

Noise impacts and land values.

The wind industry and the Bracks government deny noise and land value issues. In their "Myths and Facts" publication Sustainability Victoria (SV) state "FACT: Studies have found no evidence to support the claims that wind farms decrease property values" They then go on to say that no formal studies have been undertaken in Australia. Fact?

"FACT: You can hold a normal conversation at the base of a turbine without having to raise your voice." And "Advances in technology mean that mechanical sound from modern wind turbines has practically eliminated."

There are a few problems with the SV "fact" sheet. Firstly they know that Stanwell Corporation has paid compensation to adjoining landowners at the Toora facility. The amounts are in the six figure category. They also know that, from rates notices tabled at the Bald Hills panel hearings, that property values went down in council assessments on properties near Toora when everywhere else in the shire valuations went up. Finally they know that Stanwell Corporation has exceeded noise levels at Toora.

However the following photo sums it up for the deniers at SV and AusWind. It is the home of Les Osborne who lived next door to the Toora wind facility. Les was a big supporter of wind energy and even signed the petition in favour of the Toora turbines.



Stanwell purchased Les' house and demolished it in June 2006.

The following extract from an ABC radio piece is relevant. The Bracks government and AusWEA both use media monitoring services. Yet they continue to deny!

Wind farms proposed to reach renewable energy targets AM - Saturday, 2 October, 2004

<http://www.abc.net.au/am/content/2004/s1211902.htm>

RACHEL CARBONELL: Under the Federal Government's mandatory renewable energy targets, 2 per cent of the nation's electricity should come from renewable sources by 2010.

Green groups would prefer that figure to be higher, but even reaching 2 per cent could be a challenge.

So far three wind farms have been built in Victoria, but many more are proposed, particularly in South Gippsland where there is stiff opposition from many local residents.

Les Osborne initially welcomed plans for a wind farm next door to his house near the town of Toora. Now the turbines have been constructed he has a different view.

LES OSBORNE: Well, I welcomed them because they told me they weren't going to be noisy and they actually lied to me. So, I was under a misconception that they were going to be good. But they're not, they're evil.

RACHEL CARBONELL: I can hear them sort of swooshing in the background. Is that as noisy as they ever get?

LES OSBORNE: No, that's actually quite quiet... because we have an easterly and the noise is being blown away from us. Usually it comes from the southwest or northwest, and that's when I can't sleep at night.

RACHEL CARBONELL: How noisy is it?

LES OSBORNE: I liken it to living... having my bed on Tullamarine tarmac when a jet plane's coming in.

RACHEL CARBONELL: Les Osborne says selling up and moving isn't a viable option.

LES OSBORNE: I bought... when I bought this place it was my paradise, and now that big company from Queensland's come along and made it horrible... and they don't lose any sleep. According to the local real estate agents, my property's devalued by \$100,000.

RACHEL CARBONELL: The company that runs the 12 turbine farm, Stanwell Corporation, declined to be interviewed, and instead issued a statement:

STANWELL CORPORATION STATEMENT: Independent experts and noise level monitoring have verified that the Toora Wind Farm is fully compliant with its operating permit conditions.

**Summary:**

It is widely accepted that new energy sources will be required to meet economic, supply and pollution agendas. Wind energy clearly cannot deliver economic or reliable power. Wind energy comes at high social and environmental cost and delivers benefits mainly to those that do not have to live with the impacts of the facilities.

Wind enthusiasts are quick to quote Denmark as an example of successful wind penetration. However this ABS Energy Report published in 2006 destroys the Danish argument. *"In 2004, wind accounted for 20 percent of total electricity production in Denmark but supplied only 6 percent of consumption, because it produced a surplus at periods of lowest demand. What's more, 84 percent of Danish wind-generated electricity was exported to Norway, and sold at a loss for Denmark. Furthermore, the Norwegian electricity system uses carbon free hydro power, so the effect of carbon reductions realised in power produced by windmills was nullified."*

TVCG would be grateful if the following outcomes could be considered:

1. The wind industry produces empirical evidence to support their claims of emissions reductions whilst the wind is blowing based on historical data and generator responses as wind feeds into the system..
2. The wind industry acknowledges formally the impacts of facilities on neighbours.
3. Wind industry proponents be held to account misleading the public over job claims.
4. A national code of conduct be implemented whereby advocates for wind energy cannot give evidence as expert witnesses.

Yours faithfully,

Tarwin Valley Coastal Guardians Inc.