

Submission No: **36**

Sent: Friday, 15 June 2007 10:40 AM

To: Committee, ISR (REPS)

Subject: Submission to Inquiry into the development of Australia's non-fossil fuel energy industry:

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

Submission by:

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Until almost 3 years ago, our interest in, and knowledge of, the wind-industry was scant. Then we became caught up in the battle to save our 1000 home, rural residential neighbourhood near Queanbeyan, NSW, from becoming the site of a 60 turbine industrial wind-plant. Naturally, we embarked on a quick learning curve. What we discovered made us conclude that tax-payer investment in the wind-industry is a very poor use of scarce resources, and that there are ways to reduce greenhouse gas emissions that are far more efficient and effective, and that do not have the adverse social and environmental impacts that accompany large-scale industrial wind-energy installations.

PROBLEMS WITH INDUSTRIAL WIND POWER GENERATION

➤ **Wind energy does not displace base-load coal-fired power generation.**

The wind does not blow on demand. It cannot be relied upon to blow at the right time, nor at the right speed, to guarantee a supply of electricity when it is needed. As a result, wind-farms operate at only 20% to 30% of their claimed capacity.

Because the wind cannot be depended upon for a reliable source of energy, wind-farms must be backed up to 90% of their capacity by other forms of base-load power. In Australia, this is currently mostly coal-fired. The requirement for a 90% back-up has been confirmed in a 2005 report by German grid operator E.ON Netz, which says:

"Wind energy is only able to replace traditional power stations to a limited extent ... traditional power stations with capacities equal to 90 per cent of the installed wind power must be permanently on line to guarantee power supply at all times."

Wind's inability to displace coal-fired power generation largely negates the wind-industry's claims that wind-energy 'saves' the production of large amounts of greenhouse gases.

➤ **Wind cannot be relied on for peak-load power**

It is pure coincidence if the wind happens to blow at the time consumers actually want to use the electricity generated by wind-farms. It is reported that Babcock and Brown Wind Partners, who

operate 19 wind farms, have faced a \$10 million profit downgrade because the 2006 heat wave in Spain and Germany led to "still wind" at a time when there was most demand for electricity from air conditioners. Australian wind-farms have run into similar problems. For example, in January 2006, during the South Australian heat-wave, lack of wind, turbine fires, and automatic turbine shut-downs because of high temperatures meant that the State's 180 turbines operated at only 10% of their capacity. An article in the Sunday Mail (South Australia) dated 12 February 2006 said:

The experience proved SA could not rely on wind power to provide electricity when demand was greatest, the Electricity Supply Industry Planning Council (ESIPC) said.

"You never know if the wind will be blowing when you need it to or if wind turbines will shut down," ESIPC spokesman Brad Cowain said.

Operators of the Lake Bonney wind farm, where the turbine fire occurred on Sunday, January 22, said all of its 46 turbines had automatically shut down during the heat wave when temperatures exceeded 40C.

"We want the turbines to operate during peak demand to capture revenue but power output is limited by the automatic shut down to protect electrical instruments," wind farm operator Miles George of Babcock and Brown Wind Partners said.

➤ **Wind-power displaces other, more efficient and relatively environmentally friendly electricity sources**

Wind-energy actually hinders the consumption of other forms of energy that are more efficient than wind, and more environmentally friendly than coal. Because of the erratic nature of wind-energy, on the occasions it does produce an electricity supply it receives priority in the grid over other forms of electricity generation. This means that, because coal-fired power stations cannot be turned up or down quickly enough to match the whims of the weather, gas and hydro power are 'kicked off' the grid in favour of wind.

According to an article in The Age on 5 August 2006 ('Air power will only blow hot and cold as state seeks grid boost', by Liz Minchin)

"A spokesman for the National Electricity Market Management Company has confirmed that greenhouse-friendly power sources such as gas and hydro are likely to be the first to be shut down when wind energy enters the grid. The last to be displaced is brown coal, the worst for the environment but also the cheapest."

➤ **Connecting wind energy to the grid is problematic**

We understand that integrating wind-energy into the grid poses real problems for the management of a stable supply electricity supply. For example, in March 2005, a report by the South Australian Electricity Supply Industry Planning Council said that the variability of wind is known to put a stress on overall grid stability, that the problems are severe, and that the costs to prevent them are high.

THE WIND INDUSTRY MAKES EXAGGERATED CLAIMS

In our experience, the wind industry makes grossly exaggerated claims about the benefits of wind-energy, while simply ignoring, or glossing, over problems such as those outlined above. For example, wind-industry media releases often report that a particular wind-farm will 'power' a certain number of homes. In reality the wind-farm in question might provide electricity to the grid for 20% to 30% of its useful life, with the electricity being optimistically dumped into the grid, whether or not there is a demand for it. Meanwhile, the wind-farm competes with more efficient and relatively clean sources of electricity such as gas and hydro. Consumers close to the wind-farm are misled into thinking that their energy will come directly from the wind-farm.

Electricity retailers seem happy to perpetuate the myth that wind-farms 'power' homes, presumably as this helps them to meet their MRET targets. Retailers encourage consumers to sign up to Green Energy programs and allow them to believe that, by doing so, they will be consuming only 'green' energy (as though there is a direct power line between the consumer and the wind-farm). In reality, all consumers are doing is paying more for the same electricity that everyone else receives.

WIND INDUSTRY DENIAL OF IMPACTS

The only imperative for the Australian wind-industry is to maximize return on its (often overseas) shareholders' investments. In practice this means that their only concern is to keep costs to a minimum by siting wind-farms close to a suitable transmission line to get ready access to the power grid and with nearby road access. Whether this is close to existing homes or areas of high natural or heritage value and impacts on landscape values is irrelevant to wind industry speculators. In our experience, they entirely refute any negative impacts, such as those on residents, wildlife and the landscape. It is no exaggeration to say that the wind-industry is in complete denial of any harmful effects it generates. A National Code for the Location of Wind Farms which protects established rural communities must be developed as a priority.

EFFECTS ON COMMUNITIES FROM POORLY SITED WIND-FARMS

Rural communities are often devastated by the impacts of a wind-farm proposal. Usually, a few landholders stand to profit from having turbines on their land, while the vast majority of residents are left to cope with impacts of noise, shadow flicker and reduced property values, with no prospect of compensation. In our experience, the wind-farm proponents see the 'consultation process' as merely a 'box-ticking' exercise and have no real interest the views of local communities. Consequently, poorly resourced rural communities must spend time, money and emotions merely to try to have their voices heard by decision makers.

ALTERNATIVES TO LARGE-SCALE INDUSTRIAL WIND-PLANTS

We would like to stress that our concern is with large scale industrial wind-plants. We are fully supportive of small-scale wind installations. For example, these might include individual rural residents choosing to 'stand-alone' from the grid by installing domestic wind-turbines and solar power. Also, remote rural communities that currently rely on petrol or diesel generators could benefit from a combination of wind and solar power or small scale wind/diesel electricity generation.

UNINTENDED OUTCOMES OF THE MANDATORY RENEWABLE ENERGY TARGET SCHEME

The MRET has been described as:

"an example of demand stimulation through targets with the intention to accelerate the uptake of renewable energy in grid-based electricity supply."

We believe the MRET scheme, in particular the market created for Renewable Energy Certificates (RECs), has had unintended consequences. It has generated a 'wind-rush' fuelled by speculators whose main product is not reliable, clean, energy, but rather the sale of RECs. Every megawatt of electricity that they produce - whether it is required or not - earns the wind farm operator a REC which has a dollar value and can be sold. Consequently, these speculators seek to 'mine' the available subsidies by haphazardly dumping energy into the grid. Meanwhile, their output has very little impact on the real problem - that of the need to reduce our reliance on base-load coal-fired power generation.

In our view, the resources invested in subsidising the MRET scheme and RECs would be better spent on research and development and ongoing support of other renewable energy sources which could actually displace coal, such as geothermal, thermal solar and high efficiency solar photo-voltaics.

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