

**Submission
No 53**

INQUIRY INTO RURAL WIND FARMS

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The Director
General Purpose Standing Committee No. 5
Parliament House
Macquarie St
Sydney NSW 2000

21 August 2009

Inquiry into rural wind farms

Sir/Madam,

On behalf of the Molonglo Landscape Guardians (MLG) I present our submission to the above-mentioned Inquiry.

The Molonglo Landscape Guardians is an incorporated association that was formed by ordinary members of our community to oppose the development of a 60 turbine industrial wind-plant proposed by Spanish company Acciona (formerly EHN) for the Molonglo Ridges on the outskirts of Queanbeyan, NSW. Our objection to that proposal, which has now been abandoned by the proponent, was that the proposed location was too close to homes, wildlife refuges, water catchments and other environmentally sensitive areas.

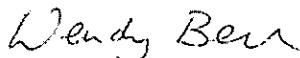
The MLG supports the development of alternative sources of energy that will actually displace fossil fuel-powered electricity generation. However, the research we have undertaken as part of our campaign has led us to question the claims made by the industrial wind industry and its supporters about its ability to displace carbon emissions from coal-fired power generation. Our experience in fighting Acciona's proposal in our neighbourhood and the assistance we have given to other communities who find themselves in a similar situation has given us insight into the problems associated with industrial wind energy developments.

The MLG is an independent body whose membership consists entirely of local residents. Our members are residents of both the Palerang and Queanbeyan City local government areas, primarily from the localities of Burra, Urila, Carwoola, Primrose Valley, Radcliffe, and Queanbeyan. Although the immediate threat from Acciona's ill-considered development has passed, the work of our Association continues as we want to ensure that our community will never again be targeted by wind energy speculators.

The MLG is not associated with any industry group or political party and receives no financial support or other support from these sources.

If you have any queries about this submission please do not hesitate to contact me.

Yours sincerely



Wendy Bell
President, Molonglo Landscape Guardians.

Molonglo Landscape Guardians

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**Submission to the NSW Legislative Council General
Purpose Standing Committee No. 5**

Inquiry into rural wind farms

August 2009

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Executive Summary

Rural residents in New South Wales are about find themselves at the pointy end of a “wind rush” as industrial wind farm developers position themselves to take advantage of commercial opportunities created by the recently increased Mandatory Renewable Energy Target (MRET) and an open-slatheer approach to the development process courtesy of the NSW Government.

Any expectations that residents could protect themselves from inappropriate wind farm developments evaporated in February 2009 when Premier Nathan Rees announced that five regional areas of NSW, all of them outside the Sydney basin, had become “Renewable Energy Precincts for wind energy”. Overnight, and without any consultation with affected communities, the NSW Government effectively rezoned large areas of rural and rural-residential land for industrial power generation.

Planning procedures normally required of any large-scale industrial project have been discarded as industrial wind energy developments now enjoy a “streamlined planning and approvals processes”, application fees waived and a guarantee from the Government that the project approval process will be concluded in only four-months from submission. Instead of taking the role of impartial assessors of development applications, Premier Rees has announced that public servants employed in the NSW Department of Planning would act on behalf of wind-industry developers, their role being to “consult with local communities to gain support for investments in the development and operation of wind energy projects”.

It is hard not be cynical when Premier Rees announces that he has a plan to “transform Australia’s industrial landscape” without mentioning the natural landscape that will be transformed against the wishes of local communities. With both State and Federal Governments vocally and enthusiastically supporting the needs of the industrial wind industry, and Local Government shut out of the process by declaring virtually all wind farm developments “critical infrastructure”, who will represent the interests of the residents most directly affected?

This unprecedented, preferential support for a single sector of the renewable energy market is seeing permanent decisions made about land use without any balanced examination of wind energy’s ability to meet the State’s growing energy needs, let alone assess whether it is capable of doing what it promises – displace coal-fired power generation. Only two years ago, the NSW minister for Primary Industries, Hon Ian Macdonald expressed doubts over wind energy’s promises when he said:

NSW isn't a high wind state where you could reliably guarantee, efficiently, wind power into the grid to meet both economic and target needs.¹

Only two years before that statement, the then Premier of NSW, the Hon Bob Carr, highlighted the limitations of wind energy when he said "You could have a wind farm across all of outback New South Wales...It'd kill every kookaburra but it wouldn't provide the base-load [power] we need."² Presumably, these two statements were based on advice from the government's bureaucrats and energy managers. Today, this advice is ignored, turned on its head, by a government keen to establish its "clean, green" credentials regardless of the cost to sound, long-term planning and local environments.

Governments are on safe ground in providing such florid support for industrial wind developments. Indeed, there is popular support for large-scale industrial wind power installations, fuelled by an anxious public looking for a 'quick-fix' to the problems posed by climate change. However, this support has been developed in an information vacuum because the general public does not have access to balanced information about the benefits, drawbacks and inadequacies of industrial wind power.

In this submission, we provide evidence that despite the claims of its promoters, industrial wind energy is an inferior option for Australia's renewable energy mix. Our evidence encompasses these broad themes:

- The limitations of industrial wind to displace fossil fuel electricity generation and its subsequent limited ability to "save" greenhouse gas emissions;
- The problem of connecting a variable, intermittent electricity source (wind) to the electricity grid;
- The misleading promotion of wind energy by the wind industry and its supporters;
- The negative effects of wind farm proposals and developments on rural communities; and
- Recommendation for more appropriate uses of wind energy.

¹ *Solar's struggle to climb tower of potential*, Simon Grose, The Canberra Times, 24 October 2007
<<http://www.canberratimes.com.au/news/opinion/editorial/general/solars-struggle-to-climb-tower-of-potential/130737.aspx>>

² Carr calls for nuclear power debate, 2 June 2005, ABC online
<<http://www.abc.net.au/news/newsitems/200506/s1383392.htm>>

Spinning a story – the hard sell of wind energy

The lack of balanced information about wind energy stems largely from industrial wind proponents and their supporters who make exaggerated claim about its benefits, for example the number of homes that a wind farm will ‘power’; the amount of greenhouse gases that a wind farm will ‘prevent the production of’; and the ability of wind energy to meet our growing energy consumption.

Although NEMMCO (now absorbed into AEMO - the Australian Energy Market Operator) has highlighted the serious technical problems involved with connecting an erratic power supply like large-scale industrial wind power to the grid and wind energy’s inability to provide a reliable, predictable electricity supply, the wind industry arrogantly dismisses these facts as ‘myths’.

Even though it is unable to demonstrate that its product does what it says it will do – displace coal-fired power generation – the industrial wind industry will now to flourish courtesy of the newly-increased MRET (RET).

In the midst of all this are the hapless communities who have been targeted by the industrial wind developers with their unwanted turbines. There is a disturbingly similar pattern to the way almost all wind farm developers behave, including a failure to consult local communities in a meaningful way and take notice of their concerns. Industrial wind energy proponents completely deny the existence of any adverse impacts on communities targeted for industrial wind plants. Across Australia, communities are being severely disrupted and individuals face substantial losses, without compensation, as a result of having wind farms proposed or approved for their areas. Ordinary people are being forced into spending large amounts of time and energy to defend their life’s investments against wind farms, whose greenhouse gas benefits are largely hypothetical.

Wind farm developers deliberately compound the problems they create for rural communities by signing up some landholders to “secret” deals, a recipe for division in these inter-dependant communities. Even if the wind farm does not go ahead, the social fabric of the community is torn. Varying this odious activity by encouraging “local buy-in” and “community-owned” installations simply means that locals will be done-over by members of their own community instead of strangers.

Industrial wind farms have no place close to residential areas. Industrial wind developers do not propose their turbines for rural and rural residential areas because they are inherently windy sites. The attraction of these sites is that they are close to existing transmission lines, and plugging into existing infrastructure reduces their start-up costs. Sensible, National guidelines for the siting of wind turbines away from people’s homes and areas of cultural and natural significance would overcome many of the problems that current wind industry practice creates for rural communities.

There are a number of viable, and better, renewable alternatives to industrial wind power. These include small scale wind generation such as those installed in small communities to reduce reliance on diesel generators. Our research has shown that these types of wind installations are welcomed by local communities because they derive a direct benefit. Other sources of power, such as geothermal and solar thermal, that are able – or have the potential – to replace base load coal-fired power generation should be given priority for funding and support over industrial wind power.

We support energy efficiency measures that would reduce the demand for electricity and consider that this would represent better value for the taxpayer than subsidizing inefficient wind energy. These measures could be supported by rebates for better forms of heating and cooling in commercial and domestic homes and mandating improved building standards. Of course, these measures are not as photogenic as a wind turbine and thus will be less attractive to Government, but they are certainly more effective solutions to reducing greenhouse emissions.

1 Introduction

Climate change, global warming and carbon emissions are hot topics. Open any newspaper, turn on the TV, listen to the radio and it is there, constantly. A frightened public is looking to Governments, both State and Federal, to miraculously provide a painless, quick-fix.

Unfortunately, many people have been misled into believing that the solution is easy – just erect a few big windmills to replace our dependence on coal. Television advertisements for an energy retailer show happy power workers plucking a coal-fired power station off the landscape and replacing it with three wind turbines. At an annual rally in support of climate change action held in Sydney, models of wind turbines were carried aloft by well-meaning, but ill-informed protesters. Peruse any internet discussion board and you will find plenty of people with the strongly held belief that wind energy is all good and that coal energy is entirely bad and must be done away with immediately.

The myth that our fossil-fuel based economy can simply be transformed, by the flick of a switch, to source its energy needs primarily from wind is perpetuated by those who have a vested interest in the expansion of industrial wind-power. These are the wind industry developers looking for a quick profit, organized environmental groups who see green symbolism in spinning turbines, a slack media looking for an easy-to-understand “visual” to illustrate the complexity of climate change, and State governments seeking ways to demonstrate their green credentials and distract the public while they simultaneously approve new coal and gas fired power stations.

The push for industrial wind installations is taking place in an information vacuum: a misinformed general public are sold on the glowing benefits of wind energy without having access to balanced information about its many shortcomings.

Communities like ours, on the outskirts of Queanbeyan, who face the prospect of a wind-farm being built in their residential neighbourhood, are caught in the front line of this industry-led wind rush. We were forced to battle wind-industry developers, green lobby groups, the media and a misinformed public. Amongst other things, we were labeled ‘selfish NIMBY’s’, accused of being in cahoots with the coal and nuclear industries, and tagged as ‘climate change sceptics’.

Even worse, our communities were torn apart by speculators who set neighbour against neighbour using the ‘divide and rule’ philosophy by signing up some landholders to secret, “commercial-in-confidence” contracts and employing others to act as their “local agents”. Even though the developer eventually abandoned their ill-considered project, the scars remain.

Thanks to the NSW Government’s February announcement that we are now living in a declared wind industry precinct, we may face this ordeal again. This time, though,

we can not expect the NSW bureaucracy to deal with any development application impartially since the Premier has committed the public service to work on behalf of the developer against the legitimate objections and concerns of our community.

Like similar communities and individuals across NSW, we are all just ordinary people who have been forced to fight protect to our homes (and in some cases our livelihoods), and our local environment from being transformed from a peaceful rural residential area into an industrial zone. We have become the 'test-cases' – and have been told that we should willingly, and without compensation, be sacrificed for the "greater good". The "greater good" is largely symbolic gesture – the erection of industrial wind-turbines whose primary value is not the generation of electricity, but rather as a salve to a collective conscience pricked by the fear of human-led climate change.

2 Our story – Molonglo Ridge

The Molonglo Ridge is located to the south east of the City of Queanbeyan, and is visible from Parliament House. Most particularly, it is visible from around a thousand rural residential homes on both sides of the ridge and from many parts of Queanbeyan and Canberra, and is surrounded by wildlife reserves, can be seen from the historic London Bridge homestead, and is next to the Googong Dam reserve and catchment. The Molonglo Ridge is protected by local planning laws that prohibit any construction on the ridgeline. In short, it is the least desirable place to locate an industrial power generation facility.

In November 2004, a Spanish energy generation company EHN (now named Acciona Energy) announced that they had plans to construct a 60 turbine industrial wind installation on the Molonglo Ridge. Although their plans had been in development for several years and they had already signed up a single landowner to host the 125 metre tall turbines, it was not until November 2004 that the developer sought to inform the affected local communities of their plans.

At four meetings held by the developer in December 2004, the overwhelming response from the community was opposition to the industrial wind farm proposal. Faced with a cashed up, speculative developer, the communities on both sides of the ridge united and formed the Molonglo Landscape Guardians (MLG). Our aim is to prevent the inappropriate development on the Molonglo Ridge and to inform the community about the project.

Subsequent consultation with the community by the developer, Acciona, was completely inadequate and thoroughly divisive. There was no meaningful communication from the developer from March 2005 until they finally announced that they were abandoning the project in May 2008. Their website was not updated after March 2005 and the only public statements they made when asked for a project

update was that “studies are continuing”. Then, in July 2006 it was reported in the media that the project was “on hold indefinitely”³, and so it remained, and so we remained – in limbo - until a media release in May 2008 quietly announced that the project was dead.

By any measure, this is reprehensible behaviour by the developer – they blew into our community uninvited, created anxiety and division, and then remained mute on the subject, seemingly content to just sit there keeping their options open at our expense for four, long years. No doubt they hoped that our determination would fade and, like many communities weakened by the constant fight, burn out. We did not, but the wasted time and effort of many people spent on the campaign would have been better spent doing positive things for community.

We now know that a lack of meaningful consultation and a corrosive pattern of dividing communities is a consistent feature of wind farm developments across the continent. A review of submissions to the House of Representatives Standing Committee on Industry and Resources inquiry⁴ reveals that wherever a wind development is planned, social upheaval follows. The usual pattern is that a developer will sign wind turbine hosts to “commercial-in-confidence” agreements and offer sponsorship to a community body such as the volunteer fire brigade, community association or struggling football club. When nearby landholders object to the wind farm development, they discover they are arguing with the Fire Brigade or football club stalwarts who have been promised financial support by the developer. It is difficult to conclude that it is anything but a deliberate strategy on behalf of the industrial wind industry. As such, it should be a matter of urgent concern for all levels of government that inter-dependent rural communities are being torn asunder by this mercenary industry.

Instead of acknowledging the documented social harm that the wind industry and its unwanted developments do to weakened rural communities, the NSW State Government has recently announced plans to use its own employees to work on behalf of the developers to convince residents to feel good about having their rural amenity shattered, peace and quiet wrecked, and property values demolished by an industrial wind-plant in a nearby paddock. This will not encourage “local buy-in and ownership”. It will simply further disenfranchise rural communities who will conclude that they have nobody in a position of power to protect their interests and that resistance is futile. It is simply not acceptable that NSW Government devotes taxpayer resources to the task of silencing its own citizen’s objections. Worse, it directs NSW public servants in from the Department of Planning – of all places – to act in a partisan manner and assume the default position of supporting the developer.

³ < www.abc.net.au/news/newsitems/200607/s1693519.htm >

⁴ < www.aph.gov.au/house/committees/isr/renewables/subs.htm >

The MLG took an early decision that as a local, grassroots organization, we are not resourced to fight the battle to “disprove” the case for wind energy. In fact, to do so would be contrary to the views of our membership who are generally supportive of the development of effective renewable energy resources, including appropriately sited and implemented wind energy installations. However, the research we have undertaken as part of our campaign has led us to question current wind energy practice and the claims made by the industrial wind industry and its supporters about its ability to displace carbon emissions from coal-fired power generation.

Like many other communities across the continent our main focus has been to challenge the imposition of an unwanted industrial wind energy development in our neighbourhoods. By keeping the debate focused on individual developments, we have unwittingly allowed the industrial wind industry and their supporters to successfully narrow the debate down to one of aesthetics and “bird kills”. In fact, the wind industry is relaxed about these criticisms and keeps the kettle boiling on them – they can, after all, be batted away as “NIMBYism”. Although these concerns are legitimate, the debate should and must be broader than this – the industrial wind industry’s dubious claims about the value and usefulness of their product must be challenged and tested. Importantly, it should not be left to under-resourced communities and individuals to do this work.

We simply want to protect our local environment while encouraging a broader, informed debate about the worth of industrial wind to do what it says it will do – displace coal fired power generation and reduce CO² emissions. We are encouraged by the terms of reference of this inquiry and hope that one of the recommendations of this inquiry process will be that an education program is developed to assist the wider community assess the relative worth of all renewable energy options, especially high profile wind energy, free from the spin of the self-interested wind industry speculators, and sadly, the NSW Government.

3 Who is really pushing the wind energy barrow?

According to a survey commissioned by AUSWind in 2006⁵, “Australians are open minded about wind farms and the positive effect an expansion of their use would have on the environment”.

In this survey, the responses to the statements “I think the government should look at setting up more wind farms in Australia” and “Wind energy is a good alternative energy source” were 77% and 74% in the affirmative, respectively. Responses like these reflect the lack of information available to the general population to help inform their opinions. The results would probably have been quite different if the respondents were also told that:

⁵ *Wind Industry Study (NF5370)*, AC Neilson, prepared for AUSWind, October 2006. (www.auswind.org/auswea/downloads/mediareleases/AuswindEnergyReportHandout201006.ppt)

- Wind turbines operate at an average of less than 30% installed capacity;
- Wind energy is an intermittent power source that only displaces other forms of low-impact energy such as hydro and gas, not coal⁶;
- Electricity generated by wind turbines does not respond to demand, but is a response to the weather (i.e. the wind blowing, and blowing at the right speed);
- Wind farm operators earn a valuable Renewable Energy Certificate (REC) for every megawatt that they dribble into the grid, regardless of when that electricity is generated and whether that power is used or required;
- Other forms of electricity generation, namely coal-fired, are kept running and churning out emissions because wind generation cannot be relied upon to produce electricity when it is required, nor to keep producing electricity at peak demand periods; and
- Claims that dispersed wind generation installations will work because “the wind will be blowing somewhere” have been analysed by measuring documented wind-farm output data and proven to be incorrect.

With the benefit of this information, it is likely that respondents to the AC Nielson survey would be less equivocal in their support of wind energy as a useful response to curbing CO² emissions.

4 Limitations of industrial wind power

Industrial wind developers invariably present their proposals in the most advantageous light, and present the perceived benefits – the amount of power generated and the (largely hypothetical) CO² savings – out of context.

Wind- power generation and uptake

When Acciona Energy first announced its plans for the Molonglo Ridge industrial wind farm, it claimed it would “be capable of servicing the electricity needs of 45,000 homes”⁷. This is typical of claims made by all wind farm developers about their industrial wind farm proposals.

These claims mislead the public into believing that 45,000 homes will be supplied entirely by the local wind farm each and every day and that other forms of electricity generation are not involved. However, there is a significant difference between being “capable” of servicing the electricity needs and actually servicing the needs.

On average, industrial wind farms produce 30 per cent of their installed power. This is a consequence of the intermittency of wind. Therefore, Acciona’s proposed industrial

⁶ *Air power will only blow hot and cold as state seeks grid boost*, The Age, 5 August 2006

⁷ Community Newsletter No. 1, EHN (Oceania) Limited, November 2004

wind installation on the Molonglo Ridge would have produced an average 40 MW of electricity – sometimes it would have produced nothing, sometimes it would have produced close to its installed capacity of 120MW and this may or may not have coincided with demand.

The 45,000 home figure is calculated by dividing the total installed generating capacity by average household KWh usage. The problem with this calculation is that it includes electricity generated by the wind turbines at a time of a time of low electricity demand when there is already enough baseload generation available, such as the early hours of the morning.

It is not possible to simply shut off a coal-fired power station when the wind blows and electricity from a wind-farm comes on line. Instead, more efficient gas and hydro generators are displaced from the grid in favour of wind, while coal generators keep ticking away. The NEMMCO has confirmed that, where wind-farms are contributing to the grid in times of reduced demand, gas and hydro are the first to be displaced⁸.

There are also many times when there is peak demand and the wind is not blowing (or blowing too much, or it is over 40°C and the turbines must be shut down for safety reasons) and wind energy is contributing little or nothing to meet demand.

At best, all that wind energy can ever do is optimistically dump power into the grid. Whether this electricity is required at the time is entirely co-incidental. When human beings have discovered how to command the wind to blow on cue, wind energy will become a serious contender. Until then, it is a nuisance when connected to the grid.

Lack of greenhouse gas savings

The developers of the Molonglo Ridge proposal claim that once operational, it “could avoid the production of over 245,000 tonnes of greenhouse gas emissions per year”. To most people, this figures sound very impressive. However, Acciona have failed to point out that, because wind energy is unreliable, their energy production requires 90% back up from other (mostly coal) generating sources.

Once the “savings” figure is put into context of greenhouse emissions from other sources such as transport, agriculture and other forms of power generation, its insignificance becomes apparent.

This is not to suggest that we should do nothing about greenhouse gas emissions, but wind energy does not offer much “bang for the buck”. The inability of industrial wind farms to respond to demand and produce electricity when it is needed means that it will not replace any polluting coal fired power stations. The reality that other forms of power generation (primarily coal) have to provide spinning reserve capacity puts any purported greenhouse gas “savings” from wind generation into the realms of the hypothetical. Furthermore, if wind-farm operators were required to include the cost of

⁸ *Ibid*, The Age, 5 August 2006

providing this 90% back up into the cost of wind energy, their product would be seen for the inefficient, expensive option it really is. This hidden cost of wind energy is born by other electricity generators, and, ultimately, by the consumer.

Certain proponents of wind energy will argue that a combination of wind and gas can displace coal. However, assertions such as those espoused by well-known wind-industry proponent, Dr Mark Diesendorf, that geographically dispersed wind generation can substitute for reliable, base load coal fired power generation⁹ cannot be substantiated. In fact, they have been proven wrong.

For example, in a recent study was undertaken by weather analyst Andrew Miskelly and physicist Tom Quirk¹⁰ who tracked the performance of the wind farms across Victoria, South Australia, New South Wales and Tasmania for the month of June 2009 in five-minute intervals. They concluded that even though they are spread right across southern Australia, at sites allegedly chosen for their "windiness" all of the wind installations tend to produce or not produce at much the same time. The "wind will be blowing somewhere" claim is more wishful thinking than it is a sure bet. In light of Miskelly and Quirk's study, Dr Diesendorf's concession that "nevertheless, it [dispersed wind energy production] may require some additional back-up" is a monumental understatement. In plain words, Dr Diesendorf is proposing that wind energy can surge (or flutter) in and out of the grid depending on uncontrollable climatic conditions and another form of electricity generation can compensate, all without cost to the wind energy generator.

Wind's inability to meet growing demand

The wind industry is careful not to put any of their output in the context of actual electricity demand. In New South Wales alone, energy consumption is growing at approximately 4% pa, requiring additional 300 megawatts of electricity annually. Assuming that the wind co-operates and blows exactly when the extra energy is needed, it would require the building of hundreds of additional wind-turbines in New South Wales each and every year to meet this extra demand.

In a recently published article, Tom Quirk highlights the inability of wind energy to meet the growing demand:

The east coast Australian energy market is supplied with electricity by 45,000 MW of established coal, oil, gas and hydro power generators. In a "Statement of Opportunity for 2007" NEMMCO (now absorbed into AEMO - the Australian Energy Market Operator) projected new generator requirements out to the year 2017-18. Taking this and adding the extra years to 2020 indicates a need for 11,000 MW of new generation by 2020.

⁹ Diesendorf, M (2007) *The Base Load Fallacy*, fact sheet no. 16, <www.energyscience.org.au>

¹⁰ Miskelly, A and Quirk, T (2009) *Wind Farming in South East Australia* <<http://jennifermarohasy.com/blog/2009/08/a-windy-future/>>

The NEMMCO view was that the technology of choice would be gas turbine generators. Gas turbines, which have about one-third of the carbon dioxide emissions of coal fired generators, are most effective in supplying fast changing demand.

However the Government's objective for renewables should reduce the need for gas turbines. But the question is by how much? ...

Wind power cannot be relied on to supply peak demand power so it is most sensible to use it for replacing base load power with some contribution for peak demand times. Unlike thermal power stations or gas turbine generators which have the capacity to provide 100 per cent of their installed power for well over 90 per cent of the time, wind farms produce on average 30 per cent of their installed power. This is a consequence of the intermittency of wind. This means that to supply an average of 6,000 MW of power requires installing 20,000 MW of wind power, taking the average output to be 30 percent of installed power. This would be a building programme of 10,000 2 MW wind turbine towers. This is building three each day for ten years.

But again because of intermittency, at times of peak demand wind can only be relied on to deliver 10 percent of its installed power. So, for the target set by NEMMCO of 11,000 MW and wind only being good for 2,000 MW at peak demand times, a total of 9,000 MW of gas turbine generators will be needed.¹¹

The critical growth in demand is for peak load generation, currently increasing at 2.6% pa¹². NEMMCO attributes this increase in peak load demand to reverse cycle air conditioning units which are all switched on when the weather heats up on the hottest summer days. Unfortunately, this is exactly when wind energy goes out of the mix as turbines are shut down when the temperature reaches 40°C to protect electrical instruments¹³. In eastern Australia, hot summer temperatures, particularly inland, are generally accompanied by still days. At the very time that additional generating capacity is required, on the hottest days when demand peaks and every generating device called on to contribute to the grid, wind energy goes missing.

5 The problems of incorporating an intermittent source to the national grid

Inclusion of wind on the grid compromises the security of supply, grid infrastructure, and the efficiency with which other generators can operate.

¹¹ Quirk, T, *An unsustainable future*, 17 August 2009 <<http://www.quadrant.org.au/blogs/doomed-planet/2009/08/an-unsustainable-future>>

¹² *Renewable Energy*, Les Hoskings (NEMMCO), Vital Issues Seminar, Parliament of Australia, 27 February 2006

¹³ *Wind-turbine fire at South Australian Wind Plant*, Sunday Mail, 12 February 2006

The grid is not a 'battery' - electricity cannot be 'stored' in the grid

One of the technical problems facing wind energy is the problem of incorporating this highly variable and intermittent generation source into the national grid. The wind industry dismisses this important failing by saying there is "plenty" of back up capacity.

In making such assertions, AUSWind relies on the fact that the overwhelming proportion of the general public does not know how the electricity grid operates and will not question their assertions. For example, according to AUSWind, the national electricity grid is "effectively a huge battery into which electricity is injected to supply the load (demand) from across its length and breadth"¹⁴. This implies that electricity that is put into the grid – including highly variable wind output – is being stored for future use.

The national electricity grid is, in fact, is an extensive, electrical circuit that stretches the length of the east coast of Australia from north Queensland to Tasmania (Basslink) and through to South Australia (Murraylink). Rather than acting as a "huge battery", the grid is carefully managed to respond to demand:

Electricity cannot be stored for future use, so supply must vary dynamically with changing demand.¹⁵

Managing the grid

Electricity travels along the grid at close to the speed of light. The grid requires close management to keep the speed (or frequency or pulse) constant to avoid damaging the transmission line. The incorporation of a highly variable, intermittent electricity source, such as industrial wind, creates technical problems for the managers of the grid. These problems are:

- Issues around the variability of output from wind generators
- Uncertainty in managing transmission lines in terms of synchronizing the pulse from wind generation into the more stable pulse from coal-fired power generation.

Power consumption is not constant. Generators that provide power have adjustable generation so that if demand drops or rises slightly, the steam valves in the turbines can be slightly turned up or down to adjust to demand and to keep the rate of the pulse going to meet that demand. When there are large increases in demand, peak load generators – usually gas or hydro – are bought on line to address the increase in demand, and are dropped off as demand decreases.

¹⁴ *The Baseload Power Myth*, AUSWEA, March 2007
<www.auswind.org/auswea/downloads/factsheets/TheBaseLoadPowerMyth.pdf>

¹⁵ *An introduction to Australia's Energy Market*, NEMMCO, 2005, p.5

Attaching wind to the system creates problems because it is not possible vary the generation speed (or force) of the electricity coming out of a wind turbine. Quite simply, we cannot command the wind to blow at the right speed and at the right time. Therefore, all the regulation of the pulse of the power grid falls back to the coal fired generators. This cost is borne by the coal-fired part of the generating system while wind takes advantage of generating flat out when it can.

Compounding this problem is that wind strength is highly variable – flat out to nothing within minutes. Other electricity generators have to compensate for the fluctuating wind energy by keeping generating capacity in spinning reserve, a cost that is not worn by the wind generator but other generating sectors, and ultimately the consumer. In terms of CO² emissions, coal-fired generation is still emitting the same amount of greenhouse emissions even though it is not generating electricity at full capacity. Therefore, over any given cycle it emits more CO² per megawatt hour than it would without the wind.

The other area of major concern is with the large inter-connectors on transmission lines. These have defined limits as to how much power can be put across the lines – too much power going too fast will trip the lines. Regulators are incorporated to stop the lines tripping. Generators close to connection points along the transmission lines are the controllers of the flow of power. If wind generation is one of those generation sources, the ability to control the speed lessens because it is not possible to control the speed of the wind. Therefore, it is necessary to have some other form of power generation close to the connection point as the moderator of the flows of electricity.

Tom Quirk has estimated that the cost of upgrading transmission lines and associated infrastructure:

How well would the electricity network cope with this change in energy source [wind energy]. First the electricity grid systems would need substantial enhancement to cope with highly variable and dispersed sources of energy. At \$2 million per kilometre it could be further \$4 billions of new connections, transmission lines, transformers and controls.¹⁶

Synchronising output

The speed and frequency of the grid must always match the total consumption. All generators have to be in synch with other generators. NEMMCO have reported that incorporating large scale, variable wind into the stable, coal-fired grid causes varying power flows¹⁷. To facilitate those varying flows, some generators that would normally be achieving a better output are slowed down to accommodate variable wind speed. The cost of this inefficiency is borne by the coal fired generator, not the wind

¹⁶ Quirk, T, *An unsustainable future*, 17 August 2009 <<http://www.quadrant.org.au/blogs/doomed-planet/2009/08/an-unsustainable-future>>

¹⁷ *Renewable Energy*, Les Hoskings (NEMMCO), Vital Issues Seminar, Parliament of Australia, 27 February 2006.

generator. Perhaps this is why some fossil-fuel generators – e.g. Stanwell Corporation, AGL Limited – have established wind farms; to recover some of these costs through the generation and sale of Renewable Energy Certificates (RECs) and the sale of expensive wind power to energy retailers. The recently increased MRET (now the RET scheme) and the probable introduction of an Emissions Trading Scheme (ETS) and the establishment of a carbon credit marketplace makes the deployment of inefficient-but-lucrative wind turbines even more attractive. While they will do little to mitigate our reliance on coal based generation, they will provide the necessary paperwork to “offset” the carbon tally.

6 The role of MRET

Until the MRET was recently increased to 20%, the wind industry claimed that government policy was killing their industry. Despite these claims of impending doom, wind farm speculators continued to seek for approval of their developments. Why?

The motivation for seeking approval for their developments was not borne out of a concern for the environment, but a speculative, financial imperative. To move for early approval ahead of the anticipated increase in the Renewable Energy Target (RET) scheme and the establishment of an ETS has the additional advantage that there will be a lower cost of connecting to the national grid when the industrial wind farm gets built. In effect, proponents who ‘get in early’ with their grid connections, will have a free ride as the inevitable cost of grid upgrades will be borne by later developers (see Section 8 of this submission).

Fueling this “wind rush” mentality is the lure of the MRET scheme (and its replacement, the RET scheme) and the guaranteed income that can be generated by producing Renewable Energy Certificates (REC). In fact some industrial wind installations are only viable by signing up customers for their “green credits”, not the sale of their electricity.

A 63MW industrial wind farm constructed near Lake George was only viable because the NSW Government agreed to buy its “green credits” to offset the carbon emissions for the controversial desalination plant in distant Sydney¹⁸. The former NSW Premier, Hon Maurice Iemma, falsely described the deal as “[providing] all the electricity needs of the desalination plant” and the industrial wind farm developer, David Griffin recently claimed that 100% of the desalination plant’s power would be coming from the wind turbines near Bungendore. Both statements demonstrate the ease with which facts can be fudged and entirely discarded when it comes to talking up wind energy.

¹⁸ *Wind farm vow to power desalination*, Tadros, E and Robins, B, Sydney Morning Herald, 14 May 2008. <<http://www.smh.com.au/news/energy-smart/wind-farm-vow-to-power-desalination/2008/05/13/1210444436869.html>>

The previous and new MRET schemes are a blunt instrument. Neither distinguishes between renewable energy technologies that can actually displace highly polluting fossil-fuel electricity generation and wind-energy which does not respond to demand and requires 90% back up from other electricity generators. The MRET/RET enables industrial wind farms to generate a REC for every megawatt of electricity they put into the grid, regardless of when it is created. For example, a megawatt of electricity generated by a wind turbine at 3am is rarely required because there is (usually) excess electricity in the grid from baseload coal-fired power. The fact that the electricity generated by the wind turbine is not needed is of no consequence in the equation – a REC is created. This REC has a value of around \$40 – soon to be inflated to \$65 – and can be sold by the wind farm operator, thus the opportunistic dumping of wind energy into the grid is rewarded regardless of whether or not the electricity is required.

In this way, the MRET is propping up the otherwise unviable wind generator at the expense of other renewable energy sources which can respond to demand and therefore can actually displace fossil fuel electricity generation.

According to the *Explanatory Memorandum to the Renewable Energy (Electricity) Bill 2004*, by 2010 the previous MRET scheme was intended to result in greenhouse gas emission abatement of around 6.6 million tonnes per annum and contribute 10 per cent of the total greenhouse abatement measures designed to achieve Australia's 108 per cent emissions target¹⁹. However, the significant proportion of RECs generated by inefficient, intermittent and unscheduled wind energy (approximately 20% of the REC pool²⁰) cannot be guaranteed to have resulted in any greenhouse gas abatement since wind energy does not displace coal fired electricity generation but does displace more efficient gas and clean hydro.

The new RET scheme offers no improvement in its structure so a similar result can be expected – a cost to consumers with no gain in terms of decreased greenhouse gas emissions. The opportunity to revise the MRET scheme to restrict the benefits to renewable energy generation that can unequivocally demonstrate that it has resulted in a reduction of greenhouse gas emissions through the displacement of electricity generated by burning fossil fuels has all but been lost. Wind energy generation will continue to dump unwanted electricity into the grid at times of low demand and be rewarded with a REC.

¹⁹ *Bills Digest 109, 2005-06: Renewable Energy (Electricity) Amendment Bill 2006*, Parliamentary Library, Parliament of Australia, 27 March 2006
<www.aph.gov.au/library/pubs/bd/2005-06/06bd109.htm>

²⁰ *Ibid*, Parliamentary Library, Parliament of Australia, 27 March 2006

7 Impact of industrial wind farms on residential communities

Wind Industry denies impacts

It is our contention that the wind industry is fully aware of the impacts that industrial wind-plants have on people living in the areas surrounding a wind farm. However, rather than act responsibly by accepting their industry's negative effects and developing strategies to deal with them, they instead deny they exist.

There is currently NO COMPENSATION for any negative effects suffered by neighbours of a wind farm.

The effect most frequently complained of is noise from turbines and spinning blades. Reduction in property values are also a concern and result from the combined negative effects of noise, diminished landscape values and industrialization of the landscape.

Many of these impacts could be mitigated by the development and adoption of stringent guidelines for the siting of wind turbines. . As early as June 2002, the NSW Government published the '*NSW Draft Environmental Impact Assessment Guidelines for Wind Farms*'. The draft included guidelines on the siting of windfarms, however, that is as far as it went and the guidelines did not proceed past the draft stage. The Molonglo Landscape Guardians recommends that in light of its recent announcements that wind farm developments are to be fast tracked through the planning process, these guidelines be developed and implemented.

Noise

The wind industry and its supporters flatly deny that wind farms are noisy and instead claim that noise is not a problem. Yet the complaints from residents living near wind farms continue.

Reports from people living next to Australian wind farms are consistent in their complaints about unacceptable noise from modern wind turbines. Reports of unacceptable noise from wind farm installations in Toora (Victoria)²¹, Crookwell (NSW)²², and the Atherton Tablelands²³ (Queensland) have been documented and continue. More recently, residents in Bungendore (NSW)²⁴ and Waubra (Victoria)²⁵ have complained of excessive noise from wind turbines even though these turbines are using the latest technology. Even landholders hosting wind turbines on their land

²¹ *Residents rail against the wind*, Courier-Mail, 4 October, 2004

²² *Anger rides the wind*, The Land, 19 May 2005

²³ *Ibid*, Courier-Mail, 4 October, 2004

²⁴ Bungendore Mirror, 5 August 2009

²⁵ Pyrenees Shire questions wind farm noise, ABC website, 18 August 2009
<<http://www.abc.net.au/news/stories/2009/08/18/2659515.htm?site=ballarat>>

and receiving financial compensation confirm they are noisy.²⁶ The wind industry says these cases are exceptions to the rule. One noisy wind-plant might be an exception, two might be coincidence, but three (and more) looks like a trend.

The noise problem must be considered as part of the negative impacts on nearby communities and brought into the equation about the appropriateness of the technology. The denial of the wind industry about this serious problem cannot be accepted on face value.

A discussion paper which explores recent research in wind turbine noise is attached as Appendix A.

Property values

When wind farm proponents claim that there is no evidence that wind farms in Australia affect property values, they are relying on the findings of a qualitative study, 'Social Economics and Tourism' undertaken by Sinclair Knight Mertz, a consulting firm employed by wind-farm developers to assist in preparation of environmental impact assessments²⁷. The study found that, for highly sought after properties along Salmon Beach, Australia closer than 200 meters from wind turbines, the general consensus among local real estate agents is that "property prices next to generators have stayed the same or increased after installation." However, the study concluded that:

"...while properties with wind turbines on them may increase in value, other properties may be adversely affected if within sight or audible distance of the wind turbines".

In other words, every landowner in the vicinity of the wind turbine suffers apart from the few landholders who actually host turbines on their land (and receive an income from the activity). To cite this damning report as "proof" of their claim to the contrary is, unfortunately, typical of wind industry spin.

Real cases of loss of property value exist and have been reported. When Stanwell Corporation constructed a 12 turbine wind farm at Toora in South Gippsland, local residents, Kath and Terry Hurst were told by Stanwell that they would not be disturbed by the wind farm. Stanwell built two 50m turbines 750m and 810 m from the Hurst's house. However, the Hursts reported that they had trouble sleeping at night due to noise, and then when they decided to move, were unable to sell their property.²⁸ Mr Hurst said that while the local property market was booming, they lost

²⁶ *Not happy in hindsight*, Monaro Post, 9 May 2007 (attached as Appendix C)

²⁷ *Social Economics and Tourism*. Sinclair Knight Mertz, Environmental Effects Statement Supplement for the Pacific Hydro Limited Portland Wind Energy Project Volume C 2001

²⁸ *Ibid*, Courier-Mail, 4 October, 2004

money selling their house. A rates notice issued after the wind farm was built showed that the property dropped in value.²⁹

Bruce Richards, managing director of PBE Real Estate in South Gippsland, said that it was nearly impossible to sell a property within one kilometre of a wind turbine or a proposed wind turbine.³⁰ The Hursts wrote to Stanwell Corporation in 2003 asking for compensation for the mental, physical and financial trauma they received as a result of the Toora wind farm being constructed next to their home. They received no reply from Stanwell which has now sold the wind farm to another operator.

Wind industry proponents will claim that people who oppose wind farms do so only because they are jealous of the financial gains made by 'host' landowners. This fails to take into account that many wind farms are now proposed for relatively affluent areas close to cities, rather than remote rural locations. People in these areas value lifestyle more than a supplementary income from wind-turbines.

An approved but not constructed wind farm proposed for Taralga, near Goulburn has already affecting property values. Goulburn real estate agent, Graeme Welsh, said his experience was that properties within view of the proposed wind farm at Taralga were hard to sell.³¹

"We get a lot of people from Sydney wanting to buy hobby farms or retirement blocks around Taralga and Crookwell", he said. "A majority have told us they're not interested in looking at anything near an existing or proposed wind turbine. They're coming out here to get away from man-made structures"³².

A National Code for the Location of industrial wind Plants

The reality is that poorly sited wind-farms have devastating impacts on local communities, the landscape, environmentally sensitive areas, wildlife, heritage conservation areas and water conservation. A proper consultation process, in place of the current "tick-the-box" consultation approach favoured by the wind industry is urgently needed. This would ensure that negative impacts are properly considered and mitigated. Rural communities would not be disenfranchised from the process and left with Hobson's choice of giving up their lives to fight the proposal versus simply giving up.

Unfortunately for communities living in newly-declared wind farm zones outside the Sydney basin, the NSW Government has decided to ignore the serious problems that existing wind farms have already created for their citizens. Instead of taking steps to

²⁹ *How a dream was blown away*, The Age, 5 May 2003

³⁰ *Ibid*, Courier-Mail, 4 October, 2004

³¹ *Ibid*, The Land, 19 May 2005

³² *Squalls of dissent ruffle the wind harvesters*, Sydney Morning Herald, 14 June 2005

improve the consultation process, they have reduced the any meaningful input that communities might have. Wind farm development applications are to be “fast tracked”, a sure-fire way to remove any opportunity for community concerns to be addressed. Perhaps the worst aspect of the NSW Government’s enthusiasm for industrial wind farm developments is that public servants from the NSW Department of Planning are to be co-opted to work on behalf of the developer. What hope does any community have of an impartial assessment of developments in their neighbourhood? Would this approach be tolerated in any other form of industrial development?

Our views on the consultation process for the Molonglo Ridge wind plant were detailed in our submission to the Australian Greenhouse Office’s discussion paper on National Code for the Location of Wind Farms (May 2006).³³ A copy of this submission is attached as Appendix B.

We consider that finalisation of a National Code for the Location of Wind-Farms, in consultation with community representatives, is an urgent priority. Furthermore, we consider that all current wind-plant proposals should be put on-hold until the National Code is in place. The NSW Government should complete the process for establishing guidelines for Environmental Impact Assessment Guidelines for Wind Farms which was commenced in 2002³⁴.

8 Is there a right place for wind turbines?

What really decides the siting of industrial wind?

The MLG believes that industrial wind farms have no place near people’s homes. However, the absence of sensible planning guidelines for the siting of industrial wind installations that would keep them well away from human settlements means that any rural or rural residential community within striking distance of a transmission line is at risk of being picked off by a wind energy speculator.

Proximity to the grid

The assertion by the wind industry that defining factor in the choice of site for any particular wind energy development is that there is a good wind resource is not correct. In fact, the proximity of a site to a transmission line is the over-riding factor that makes a site “suitable”.

Wind developers pretend that this is some happy coincidence – a good wind resource and an existing transmission line. In fact, many of the best sites in terms of wind resource are not near an existing transmission line, so are disregarded. Quite simply, the industrial wind developer does not want to incur the cost of building a

³³ <www.greenhouse.gov.au/renewable/publications/wind-discussionpaper.html>

³⁴ *NSW Draft Environmental Impact Assessment Guidelines for Wind Farms* NSW Department of Planning, June 2002

transmission line. Instead, to cut costs they intend to piggy back on the existing infrastructure. This was described in by Simon Grosse in The Canberra Times as:

Windy sites tend to be some distance from suitable connection points to our national grid. Distribution and transmission companies have no obligation or incentive to provide those connections for power generators. Nor can they spread the costs of these connections across all power generators because the Australian Competition and Consumer Commission and state energy regulators do not allow it...

...The intermittent nature of wind energy generation also imposes costs on distributors who have to invest in infrastructure - called power conditioners - to manage that input. As the quantum of variable wind energy available to the grid increases, that cost increases...

Existing wind farms got in relatively cheaply because their impact on the grid was relatively minor, but Tasmanian and SA grid managers are now facing increasing costs of power conditioning as wind energy supply increases in those states...

...That is part of the motivation for wind farm developers to push for approval now, to get in as early as possible at lower cost. In the medium term, they expect the MRET to be raised, enabling a guaranteed market for their product for years, despite its higher cost. If they get subsidised connections to the grid, then all the better for the bottom line.³⁵

This deliberate strategy of looking for an existing transmission line as the main priority is problematic because transmission lines are invariably near human settlements. In the case of the Molonglo Ridge proposal, the fact that the site is surrounded by rural residential development of 1000 homes was ignored by the developer. A ridge and a nearby transmission line were the crucial factors that made the site "suitable".

The portability of inefficient industrial wind gives it an unfair advantage over other forms of renewable energy generation such as Geothermal "hot rocks" or tidal power generation. These renewable energy sources have true potential to displace coal-fired generation yet are put at a distinct disadvantage because the operators of those power plants will incur the cost of building a transmission line to get the electricity they generate into the grid. In the case of geothermal, the current exploration site in the Cooper Basin is hundreds of kilometers from the national power grid. The prohibitive cost of building a transmission line is factored into the cost of providing that power source while inefficient industrial wind enjoys a free ride.

³⁵ *Getting in on ground floor more about positioning than pioneering*; Simon Grose, The Canberra Times, Wednesday, 17 May 2006 <http://canberra.yourguide.com.au/detail.asp?story_id=480723>

9 Alternatives to large-scale industrial wind-plants

The focus of our group's opposition to wind farms is towards poorly located, large scale, industrial wind plants. Contrary to what industrial wind developers and their supporters say about us, this does not mean that we are opposed to all forms of wind energy. We believe that there is a place for small scale wind energy installations over a local grid network (i.e. not the national grid) and micro installations that are independent of any grid network.

Encouraging local ownership and control of wind technology

According to our research³⁶, wind turbines have a greater acceptance where the local community derives a direct benefit from the installation and the electricity it generates. For example, the township of Denham is 850 km north of Perth and gets its electricity from a wind/diesel installation. Previously, this remote community was previously reliant exclusively on diesel fuel for its electricity generation.

Commencing the project in 1998, Western Power contracted Powercorp to erect an Enercon E-30 wind turbine. The wind turbine subsequently supplied 20 per cent of the town's electricity requirements, saving around 150,000 litres of diesel each year. The success of this project led Western Power to work towards displacing more diesel generation with increased wind generation. This was very challenging as wind-diesel systems typically accommodate only about 10 to 20 per cent of wind capacity. Moreover, managing fluctuations in the wind has always been the greatest obstacle to providing a dependable electricity supply from wind energy. Wind turbine output can be highly variable, so enough diesel generators must always be running to supply the town's demand if the wind subsides³⁷.

A further two Enercon E-30 wind turbines were installed in late 1999 to form the Denham wind farm. Denham's electricity is generated by three wind turbines with one low load diesel system incorporating a boiler grid interface system and an advanced computer control system.

The Australian-designed intelligent computer control system will use the low load diesel system to help smooth out the variable output of the wind farm. The low load diesel system will provide the necessary system spinning reserve coverage of the wind farm and will absorb excess power from the grid when necessary using the boiler grid interface system³⁸.

³⁶ The source of this information is the Industrial Wind Industry body, AUSWind. In our experience, AUSWind, like the individual Wind Energy companies it represents, has a history of overstating the benefits of wind energy and community acceptance of their installations. Hence, further independent research may need to be undertaken to test the assertion that communities in Western Australia, Flinders Island and King Island fully accept their local wind installations.

³⁷ <www.greenhouse.gov.au/renewable/recp/wind/pubs/wind1.pdf>

³⁸ <www.greenhouse.gov.au/renewable/recp/wind/pubs/wind1.pdf>

According to the Western Power's 2004-05 Annual Report, one third of Denham's 4.7 GWh of electricity is generated by the three turbines³⁹.

The electricity generated by this power plant is used by customers over a limited geographical area, thus the input to the local grid by the fluctuating wind resource can be managed due to the design of the system. This is the reverse of the situation on the National Electricity Grid where the system is compromised by the retro-fitting of industrial wind Turbines into the network.

The incorporation of wind into diesel powered local networks has a number of measurable and actual benefits:

- It directly displaces a large proportion of fossil fuel (diesel) as the fuel source for electricity generation;
- The amount of fossil fuel displaced can be easily quantified and can be audited;
- Once installed, it is a cheaper form of electricity than diesel because there is less reliance on expensive diesel fuel;
- Less reliance on diesel fuel will reduce number of tanker deliveries, hence a reduction of heavy road traffic on remote and rural roads.

There are currently a handful of wind/diesel installations on the Australian mainland and Bass Strait islands. A further rollout of this technology that incorporates the computer control system to other remote communities and settlements which currently rely on diesel-only generation (or have no electricity at all) would provide immediate benefit to those communities and their local environment. Various forms of small scale wind turbines suitable for cyclone prone areas are available. Small scale, wind/diesel technology also has the potential to enhance the lives of citizens in developing countries, particularly our near neighbours in the Pacific who are reliant upon imports of expensive fuels to generate their electricity.

Not all "community" wind farm installations are so readily accepted by local communities. For example, a proposal in Denmark, Western Australia to erect and operate a community wind farm consisting of two turbines with an installed capacity of a meagre 1.6 megawatts was met with opposition by a large section of the community who objected to its location on a prominent headland near a popular and scenic beach.⁴⁰ The output from this industrial wind development will be put into the grid, thus making a financial return to its investors and an emotional "feel-good" dividend to the same cohort. The usual pattern of division in the community has arisen

³⁹ <www.westernpower.com.au/documents/annualReports/annual_report_2005/Operational_Report.pdf>

⁴⁰ Windfarm proposal dividing Denmark, Stateline, 11 March 2005 <<http://www.abc.net.au/cgi-bin/common/printfriendly.pl?http://www.abc.net.au/stateline/wa/content/2005/s1323896.htm>>; and, *Fears rezoning snub opens way for wind farm*, 30 July 2009, ABC online <<http://abc.gov.au/news/stories/2009/07/30/2641030.htm>>

simply because there will be no direct benefit to the whole community and like all industrial wind farm developments, it has created winners and losers. Approval for the development was resolved when the WA Planning Minister used call-in powers to approve the development – hardly a conciliatory resolution.

Likewise, a planned “community-owned” industrial wind farm in Daylesford, Victoria has generated opposition from residents⁴¹. The two-turbine, 4 megawatt installation is to be built on Leonards Hill, 10 km south of Daylesford, and connected to the national grid. Residents of Leonards Hill object to the development in their neighbourhood on the grounds that it will create problems including excessive noise, visual pollution and lower property values.⁴² The promoters of this industrial wind development – which they call a “park” – bend the truth about the benefits of the development by claiming that “[t]he renewable electricity produced by the wind park will be fed into the local grid thereby reducing the local demand from the wider grid”⁴³ This development suffers the same problems as all wind farm developments – the vocal supporters live far away from the problems (in many cases, interstate and overseas), knowingly overstate the benefits and understate the problems, and browbeat those directly affected to go quietly and bear the burden of the downside of the development “for the greater good”.

The largely hypothetical contribution these “community” wind farm installations make to reducing carbon emissions are, at best, token gestures. They may make their supporters feel good, but this is achieved at the expense of other people in their own community. The only real difference in this situation is that the unwanted industrial wind development is being foisted upon a neighbourhood by one of their own and not an outsider.

⁴¹ *Australia's first community owned windfarm faces hurdle*, Bush Telegraph (ABC Online), 5 April 2007 < <http://www.abc.net.au/rural/telegraph/content/2006/s1890593.htm> >

⁴² *Hepburn Wind extends share offer to locals*, The Advocate, 28 July 2009 <<http://www.hepburnadvocate.com.au/news/local/news/news-features/hepburn-wind-extends-share-offer-to-locals/1580077.aspx>>

⁴³ < <http://www.hepburnwind.com.au/faq.htm#realdifference> >