11 January 2010
The Director,
Major Infrastructure Assessments,
Department of Planning,
GPO Box 39,
Sydney NSW 2001

Dear Mr Osborne,

RE : Objection - Yass Valley Wind Farm proposal Application Number: MP08_0246

I wish this emailed letter to be considered as a further submission on the Yass Valley Wind Farm proposal, your Application Number: MP08_0246 .

I hereby lodge this further objection to this application and I object on the grounds that:

1) Table 3.1 Nearby Residencies P34 / 35 Marilba Hills

Further to my earlier statement that the number of involved Copabella Range landholders is inconsistent. So to is Marilba Hills where Table 3.1 lists 11 involved landholders, whereas Fig 3-6 states 13 landholders, which further raises the issue of whether these landholders actually have a lease agreement with Epuron.

2) Table 3.2 Ð Turbine Height

Siemens SWT107 height is 153.5m and maximum height is stated as 150m. Note 4 states that the maximum tip height will not exceed 150m if this turbine is used. How will this modification be achieved?

3) P70 Ð relocation of 250m

A comparison of Yass Valley WF with Taralga WF is completely unwarranted in the context of relocation of infrastructure, particularly with the close proximity of residences. This would have a significant impact on residents in terms of noise and visual amenity for example. Furthermore such relocations would impact on the biodiversity study and have the potential to encroach on otherwise unsurveyed native species.

4) Repetition of text P72/3

Clear evidence of repetition / cut and pasting is evident in the text, which is indicative of the poor standards used in the preparation of the EA. The first 3 paragraphs in "Concrete Batching" on p72 is repeated on p73

5) P79/80 & onwards : Energy context of the proposal

The statement on p79 that Yass Valley WF would "help secure reliable energy" is ridiculous. Wind energy is intermittent and offers no security of supply, as stated by the Australian Energy Regulator (AER) in the State of the Energy Market Report 2009, p65 : *"wind capacity depends on the weather and cannot be relied on to generate at specified times."* Has the proponent invented a reliable source of energy storage at a power station level? Is the proponent aware of the role of the AER? The function of the AER according to their website (http://www.aer.gov.au/content/index.phtml/tag/aerAboutUs/) is :

"The AER regulates the wholesale electricity market and is responsible for the economic regulation of the electricity transmission and distribution networks in the national electricity market (NEM). The AER is also responsible for the economic regulation of gas transmission and distribution networks and enforcing the national gas law and national gas rules in all jurisdictions except Western Australia."

& principle functions are stated here
http://www.aer.gov.au/content/index.phtml/itemId/659161

The principal functions of the AER in relation to electricity networks include:

- *making electricity transmission and distribution regulatory decisions*
- *developing and publishing service standards to be applied to electricity transmission and distribution networks*
- *making and amending guidelines for the ring-fencing of operations and information flows between activities, or within a business, of a regulated entity*
- *promulgating the regulatory test referred to in the National Electricity Rules (the Rules)*
- *enforcing the National Electricity Law (the Law) and the Rules made under that Law and investigating and bringing proceedings in connection with any breaches.*

The proponent again brings up Energy Reliability in section 4.5. How will the proponent ensure that the wind will blow at steady speed sufficient to generate electricity throughout the year 24 hours a day, 7 days a week, and without the requirement of a fossil fuel power station for backup?

The statement that Yass Valley WF will assist in reduction of GHG absolutely requires clarification. The proponent has failed to give any indication of the expected percentage of GHG reduction in any context. And later in section 4.3.4 the proponent repeats the incorrect statements regarding GHG reduction values, confusing the NSW Pool Coefficient with the true state of affairs. For some inexplicable reason the proponent is under the impression that base load coal fired power stations will be displaced by wind farms, when in actuality wind is shadow backed up by peaking gas plant. This further shows that the proponent

has no understanding of electricity generation or its operation within the NEM. The issues such as intermittency /variability/non -reliability of wind, use of gas for back up, and start up times for coal are clearly stated extensively throughout the AER's State of the Energy Market Report 2009 as shown by the following brief quotes :

Page 38 :

"Gas is likely to play an important role under climate change policies in complementing intermittent renewable electricity generation. Wind generation — the likely primary renewable technology to 2020 — has intermittent output and must be backed up by other generation. Open cycle gas plants can respond quickly when there is insufficient wind generation, but any new plant is likely to operate at relatively low capacity factors. There will also be an increased need for gas transmission and storage to provide gas at short notice."

Page 50 :

"The fuels that can be used to generate electricity each have distinct characteristi cs. Coal fired generation, for example, has a long start up time (8 Ð 48 hours), while hydroelectric generation can start almost instantly."

Page 55 :

"The extent of new and proposed investment in intermittent generation (mainly wind) has raised concerns about system security and reliability."

The intertwined nature of wind and gas generation is well known to AER, the AEMO, and the general public but again, inexplicably, even though the proponent has sold wind projects to Origin they seem to think that somehow wind and gas are mutually exclusive. Again this situation is clearly stated by the AER (2009):

Page 102:

"The three largest private energy retailers — Origin Energy, AGL Energy and TRUenergy — are moving towards portfolios more balanced between generation and retail assets. In 2007 AGL Energy acquired the 1260 MW Torrens Island power station in Sou th Australia from TRUenergy, in exchange for the Hallett power station (150 MW) and a cash sum. Origin Energy is quickly expanding its generation portfol io, commissioning the Uranquinty power station (650 MW) and expanding its Quarantine plant (130 MW) in 2008 Ð 09. It has also committed to a further 1250 MW of gas fired generation in Queensland and Victoria. All three businesses also have ownership intere sts in Australian wind farms."

As stated in my previous submission the Yass Valley WF will, at a most generous estimate, only provide 432,000 tCO2/year savings. To put this in context :

The **current installed wind capacity** in the NEM (NSW, Vic, Tas, SA) is 1609MW (1.6GW)

A generous 35% Capacity Factor (CF) gives :

0.35CF x 1609MW = 563.15MW

MWh per year :

563.15 x 8760 = **4,933,194MWh/yea r total for the NEM**

To obtain the GHG reduction I will again be generous and say it is displacing gas at 0.36tCO2/MWh. This is not taking into account Katzenstein and Apt's recent peer-reviewed scientific results which state that this is now an overestimatio n, and NOx emissions may also increase. See : Katzenstein, W & Apt, J, "Air Emissions Due To Wind and Solar Power", Environmental Science & Technology (2009) Vol 43 No 2 pages 253-258. Also not taking into account the latest research on wind & carbon emissions :
http://www.maste rresource.org/20 09/11/wind -integration -incremental -emissions-from-back-up -generation -cycling -part-i-a -framework -and -calculator/
http://www.maste rresource.org/20 09/11/wind -integration -incremental -emissions-from-back-up -generation -cycling -part-ii/
http://www.maste rresource.org/20 09/12/wind -integration -incremental -emissions-from-back-up -generation -cycling -part-iii-response -to-comments/

This work expands upon the work of Katzenstein & Apt, and others on carbon emissions due to wind. The summary from Part II states :

"In summary, relative to CCGT plants operating alone with the same capacity as the wind plants:
In the high range of possible annual capacity factors for wind, at 28 per cent, with the introduction of OCGT gas plants and reduced efficiency considerations for the wind shadowing/backup , the calculator shows that the presence of wind results in:
Almost zero gas savings; and an increase in CO2 emissions of 12 per cent.

In the low range of possible annual capacity factors for wind, at 20 per cent, the above results become:
An increase in gas consumption of 10 per cent; and an increase in CO2 emissions of 25 per cent."

So in a year for Australian wind farms connected to the NEM there would be 0.36 x 4,933,194 = 1,775,949 tons of CO2 saved per year.

According to UNFCCC
http://unfccc.in t/files/ghg emis sions data/appli cation/pdf/aus g hg profile.pdf
Australia's GHG emissions for 2007 without including LULUCF (Land Use, Land Use Change & Forestry) were : 541,178.7 GgCO2 equiv & Reuters have reported it at http://www.reute rs.com/article/i dUSSP11210320080 829 as being 576 million tons. If we include LULUCF the Australian annual figure rises to 825,884 GgCO2 equ iv.

Lets sit somewhere in the middle of this, ignore LULUCF, and round it to 550 million tons, and express current NEM connected wind farms contribution as a percentage :

(1,775,949 / 550,000,000) * 100 =

A grand total of 0.32% reduction of total Australian GHG emissions (not including emissions due to LULUCF) from ALL NEM connected wind farms.

If we include LULUCF :

(1,775,949 / 825,884,000) * 100 =

A grand total of 0.21% reduction of total Australian GHG emissions from ALL NEM connected wind farms.

How does that stack up globally for the NEM? According to this source :
http://www.nextg enpe.com/news/gl obal-co2-emissions/
the world total CO2 emissions in 2006 were 29,195,000,000 tons
(1,775,949.84 / 29,195,000,000) * 100 =

A grand total of 0.006% reduction of global CO2 emissions from ALL NEM connected wind farms.

GHG emissions figures can be obtained from ->
http://www.clima techange.gov.au/ en/climate-change/emissions .aspx

Also, even with those generous figures I gave above, the % GHG reductions that total wind farms connected to the NEM would achieve are not even lifted out of the "noise floor" of the +/-3% error of the Australian governments figures.
According to the section titled "Uncertainty Analysis" on Page 16 of "State and Territory Greenhouse Gas Inventories 2007" available at ->
http://www.clima techange.gov.au/ en/climate-change/emissions .aspx
this states that :

"Uncertainty is inherent within any kind of estimation. Uncertainty assessments at a sectoral level are reported in the National Inventory report. Overall, at the national inventory level, the uncertainty of the emissions estimates has been assessed at ±3%. While no quantitative estimates have been produced, the Department assesses that the uncertainties for emission estimates for these inventories, particularly the smaller states and territories, will be some what higher than for the national inventory. "

Putting the Yass Valley wind farm into this context we can see that :

(432,000 / 550,000,000) * 100 =

A grand total of 0.0007% reduction of total Australian GHG emissions (not including emissions due to LULU CF) from Yass Valley wind farm.

If we include LULUCF :

(432,000 / 825,884,000) * 100 =

A grand total of 0.0005% reduction of total Australian GHG emissions from from Yass Valley wind farm.

How does Yass Valley wind farm stack up globally ?

(432,000 / 29,195,000,000) * 100 =

A grand total of 0.000014% reduction of global CO2 emissions from Yass Valley wind farm.

Given the recent scientific research on carbon emissions due to wind energy referenced above these GHG reduction figures are extremely generous. Even using more generous figures and assuming a "grid-mix" of say 0.46t / MWh, the result would be a barely perceptible increase. The purported environmental benefit of reducing GHG emissions from this project is therefore negligible in the context of NSW, Australia and World emissions, and based on current scientific research may potentially result in increasing GHG emissions. How does the proponent expect the Yass Valley WF to have any measurable effect on GHG reductions now that we can see the energy context of proposal?

A number of relevant rannotated eferences to the extensive cost of wind and its poor GHG emissions reduction capabilities are given below.

* Apt, J (2009) "*Testimony of Dr. Jay Apt*" Testimony to U.S. House of Representatives Committee on Energy and Commerce Subcommittee on Energy and Environment's Hearing on The American Clean Energy Security Act of 2009 "Panel on Low Carbon Electricity, Carbon Capture and Storage, Renewables and Grid Modernization" available online from the U.S. House of Representatives Committee on Energy and Commerce :

http://energycommerce.house.gov/Press_111/20090423/testimony_apt.pdf

Prof Jay Apt's testimony covers the poor emissions reduction of wind and in particular his groups research which shows that **natural gas back-up for wind energy produces more CO2 and much more NOx than they do when run steadily. He also reports on wind farms affecting climate downwind and reducing precipitation**

* Katzenstein, W & Apt, J, "*Air Emissions Due To Wind and Solar Power*", *Environmental Science & Technology* (2009) Vol 43 No 2 pages 253-258

The most recent (2009) research paper in the scientific journal *Environmental Science & Technology* which goes into great detail on the poor greenhouse gas reduction capability of wind power, and also presents research results showing increases in NOx emissions due to wind.

* Katzenstein, W & Apt, J, "*Incorporating Wind into a Natural-gas Turbine BaseloadPower System Increases NOx and CO2 Emissions from the Gas Turbines*", (2008), Fifth Annual Carnegie Mellon Conference on the Electricity Industry, Future Energy Systems: Efficiency, Security, Control available on line at :

http://www.ece.cmu.edu/~electriconf/2008/PDFs/6-2%20Katzenstein%20and%20Apt.pdf

This presentation is an overview of their work detailed in the previous paper and makes particular note that :

- **1MWh of wind energy does not eliminate 1MWh of emissions**
- **Amount of emissions displaced by wind are overestimated**
- **Life Cycle Analyses does not account for wind's effect of decreasing the emission efficiencies of conventional fossil fuel generators**
- **Significant penetration of wind power will make it harder for Clean Air Interstate Rule (CAIR) to achieve emission reduction goals**

* Adams . T & Cadieux. F, (2009) *"Wind Power In Ontario: Quantifying The Benefits Of Geographic Diversity"* presented at the 2nd Climate Change Technology Conference, May 12-15 2009 which specifically looks at the aggregated output of multiple industrial wind power stations. Discusses poor smoothing of geographically dispersed wind. Available online at :

http://tomadamsenergy.com/?attachment_id=43

* Adams, T (2009) *"Transforming Ontario's Electricity Paradigm: Lessons Arising from Wind Power Integration"* Keynote Address for the Professional Engineers of Ontario Annual General Meeting May 9, 2009 Discusses grid failures due to wind, poor smoothing of gecgraphically dispersed wind and higher volatile output swings due to wind. Available online at :

http://tomadamsenergy.com/wp-content/uploads/2009/05/keynote-for-peo-may-2009-transforming-ontario_s-power-system.pdf

* Lave, L, (2009) *"Testimony of Dr. Lester B Lave"*, Testimony to U.S. Senate Committee on Energy and Natural Resources February 10. 2009 available online from the Carnegie Mellon University Electricity Industry Center at :

http://wpweb2.tepper.cmu.edu/ceic/pdfs_other/Senate_testimony_Lave.pdf

Prof Lester B Lave's testimony covers the problems of Renewable Portfolio Standards. He points out that because people oppose both transmission lines and wind turbines, the role out of large scale wind energy will likely face delays of up to 10 years, particularly for transmission. He states that attempting to integrate more than 15% wind will be costly and compromise reliability. Wind is generally not available when demand is highest, and intermittency poses a challenge to grid stability when it is above 5% of total generation and requires fossil fuel backup. He gives an example of a study in Texas that showed wind farms producing almost no power in the windiest months. **He also reports on wind farms affecting climate downwind and reducing precipitation**

* Apt, J, Lave, L & Pattanariyankool , S (2008) "*A National Renewable Portfolio Standard? Not Practical*" Issues in Science & Technology 25, pages 53-59. Published by the National Academy of Sciences

Details the reasons that the Renewable Portfolio Standard (RPS) is bad idea because there are several other practical and less expensive ways to generate electricity with low CO2 emissions. In addition renewable resources such as wind are far from demand centers requiring unpopular and expensive transmission lines, doubling the cost of delivered power, increasing the time for development by several years, and casting doubt on the feasibility of building such extensive transmission lines. They also point out that there is already an 18 month waiting list for wind turbines, and **manufactures of wind turbines are now reducing their warranties from 5 years to 2 years.** Also discussed are the poor greenhouse gas emission reductions from wind energy due to fossil fuel back up requirements, variability, grid problems due to wind energy and the lack of any energy storage systems for wind. **Problems with local climate effects are also mentioned such as drying of soil and increase in temperatures.**

* Dobesova, K, Apt, J & Lave, L (2005) *"Are Renewables Portfolio Standards Cost-Effective Emission Abatement Policy?"*, Environmental Science & Technology 39, pages 8578-8583.

Discusses the problems of RPS with some particular references to the problems of wind energy. For example in the Texas grid the rapid build of wind energy has caused grid congestion. This resulted in the Electric Reliability Council of Texas (ERCOT) to request wind producers to "curtail" (i.e. dump and not use) the electricity generated by wind turbines. They give the example of 2002 where ERCOT requested curtailment of 380,000 MWh, 13% of wind generated electricity. **ERCOT then had to compensate wind producers with payments of US$9.1million for "the value of lost tax credits and renewable energy credits" and these costs were passed on to consumers.** All this for electricity that was never even used and failed to deliver on its green promises. Consumers also paid extra costs due to new transmission lines to relieve congestion, as well as RPS administration. The curtailment fund was fully expended in both 2002 and 2003, and was fully expended in 2003 by April 2003.

* Liik, O, Oidram, R & Keel, M (2003) "*Estimation of real emissions reduction caused by wind generators*", International Energy Workshop 24-26 June 2003, IIASA, Laxenburg, Austria

Research paper investigating fuel economy and emissions reductions in power systems consisting of wind and thermal plant. Two notable quotes from the conclusions of the research :

"Participation of thermal power plants in keeping the reserve capacity for wind turbines and in compensation of the fluctuations of wind power increases the fuel consumption and emissions substantially."

"Estonian case study shows that the integration of considerable capacity of wind turbines would increase the fuel consumption and emissions of thermal stations about 8-10%, which will reduce the environmental effect of windmills substantially. There can be situations where probably no environmental gain can be achieved at all."

* White, D. (2004) "*Reduction In Carbon Dioxide Emissions: Estimating The Potential Contribution From Wind-Power*", Renewable Energy Foundation Report

http://www.ref.org.uk/Publicatio nDetails/27

Extensive report on the poor emissions reduction capability of wind energy commissioned by the Renewable Energy Foundation

* Oswald, J., Raine, M. and Hezlin, A., "*Will British weather provide reliable electricity?*" *Energy Policy* 36(8), August 2008, pages 3212-3225 available at : www.windaction.o rg/documents/184 80

This recent paper by Oswald et al into the effectiveness and reliability of industrial wind turbine power demonstrates the poor ability of wind to produce reliable electricity, poor smoothing of wind output due to geographic diversity, highly volatile output energy swings, and the need for better carbon cost calculations for wind due to fossil backup emissions.

* Oswald Consulting (2006) *"25GW of Distributed Wind on the UK Electricity System"* Engineering assessment carried out for Renewable Energy Foundation and overview of results presented in the Oswald et al 2008 paper mentioned above. Available on line at :

www.ref.org.uk/Files/ref. wind.smoothing.08.12 .06.pdf

* REF (2007) "Renewable Energy Data Technology Analyses: Wind 2006" Renewable Energy Foundation. Available on line at :

http://www.ref.org.uk/Files/wind .overview.2007.(ii).pdf

* REF (2008) "Renewable Energy Data Technology Analyses: Wind 2007" Renewable Energy Foundation. Available on line at :

http://www.ref.org.uk/Files/wind .overview.2008.p df

The Renewable Energy Foundation publishes an analyses of the UK wind energy production on a yearly basis. These are comprehensive reports for 2006/7 containing all data in an easily digestible form, with good overviews of wind technology in their introductions.

* National Research Council of the National Academies. (2007) *Environmental Impacts of Wind-Energy Projects* ; The National Academies Press: Washington, DC. Available on line at :

http://www.nap.edu/catalog.php?r ecord_id=11935

It is important to note also that since this National Research Council report was published in 2007 there have been a number of important papers published on the further negative environmental impacts of wind energy. The report also does not cover human health effects in depth. However, it is a comprehensive and wide ranging report to 2007. One of the National Research Council authors, Rick Webb, has made the pre-publication version of this important report available for free on line at :

http://www.vawind.org/Assets/NRC /NRC_Wind.htm

Webb has also summarized his personal concerns regarding lack of emissions

reductions in SO2 and NOx, and the cumulative impacts to wildlife, available on line :

http://www.vawind.org/Assets/Doc s/Perspective/Ke y_Points_About_W ind_Development.pdf

and

http://www.vawind.org/Assets/Doc s/Wishful -Thinking.pdf

* Poyry (2009) *"Impact of Intermittency : How wind intermittency could shape the electricity markets"* Summary Report, Poyry Energy Consulting .

This landmark study by Poyry Consulting has revealed for the first time how the electricity markets will be profoundly affected by the growth of wind energy and how ***"future markets with large amounts of wind will become completely dominated by the vagaries of the weather"***. It provides a unique insight into how the electricity sector in the UK and Republic of Ireland could look by 2030. The report findings have been presented to government organisations including the Department of Environment and Climate Change (DECC) as well as a number of high profile energy companies. Steering Committee members: Centrica, DONG Energy, EirGrid, ESBI, National Grid and RES. Data from the Meteorological Office and Met Eirann. The summary report is available on line at :

http://www.poyry.com/index_cases /index_cases_12. html

* Sharman, H (2009) "*Wind Energy: The case of Denmark*" CEPOS - Center for Politiske Studier

In depth study of wind energy in Denmark examining the real state-of-play, hidden costs and its effect on employment. The report shows that Denmark's special circumstances mean that its experience of wind energy is of little use in other countries. Denmark exports on average 57% of its wind generated electricity and their electricity is the most expensive in the European Union. The wind power exported saves neither fossil fuel consumption nor CO2 emissions. Substantial subsidies have resulted in a shift from more productive employment in other sectors to less productive employment in the wind industry. Available on line at :

http://www.cepos .dk/fileadmin/us er_upload/Arkiv/ PDF/Wind_energy_-_the_case_of_Den mark.pdf

* Hewson, T & Pressman , D (2009) *"Calculating wind power's environmental benefits"* Power Engineering, July 2009. Available on line at :

http://www.evain c.com/Publicatio ns/windpowerbenefit.pdf

* Hewson, T & Pressman , D (2009) "*Evaluation of Wind Power Avoided Emissions Benefits"* Energy Ventures Analysis, Inc. Available on line at :

http://www.northnet.org/brvmug/W indPower/Hewson. pdf

The above papers by Hewson and Pressman discuss lack of emissions reduction by wind energy.

* Lang, P, (2009) "*Cost and Quantity of Greenhouse Gas Emissions Avoided by Wind Generation*" available from Professor Barry Brook's site :

http://bravenewclimate.files.wordpress.com/2009/08/peter-lang-wind-power.pdf

* Lang, P (2010) Emission Cuts Realities Ð Electricity Generation : *Cost and CO2 emissions projections for different electricity generation options for Australia to 2050* available from Professor Barry Brook's site :

http://bravenewclimate.files.wordpress.com/2010/01/lang_2010_emissions_cuts_realities_v1a.pdf

Lang's papers are an analysis of the poor emissions reduction capability of wind energy and the extensive costs involved.

* Miskelly , A and Quirk , T (2009) "*Wind Farming in South East Australia*" available on line at :

http://marvellousmelbourne.org/drupal/sites/default/files/Wind%20Farming%20in%20South%20East%20Australia.pdf
and the page presenting this paper is at :

http://marvellousmelbourne.org/drupal/?q=node/884

Miskelly and Quirk's preliminary study in Australia on existing industrial wind power stations shows that intermittency is happening in Australia. Their analysis is based on 11 industrial wind power stations spread across 900km in South Australia, New South Wales, Victoria and Tasmania for the month June 2009. The data is obtained from the publically available *Non-Scheduled Generation Data* at the AEMO

Can the proponent comment on the above papers and explain how this wind farm development will not suffer from all of these well known problems?

6) P80 Section 4.3.1 Climate Change

Mention is made here of expected impact of climate change on water supply and other factors. The proponents have failed to research correctly the expected effects of climate change on energy infrastructure.

In Chapter 11 (Australia and New Zealand) of the IPCC Working Group II Contribution to the 4th Assessment Report *"Climate Change 2007 Ð Impacts, Adaptation and Vulnerability"* it should be noted from the following in Section 11.4.10 Energy on page 523 : "*Climate change is likely to affect energy infrastructure in Australia and New Zealand through impacts of severe weather events on wind power stations, electricity transmission and distribution networks*". Later in the same section an assessment of potential risks for Australia found, among other risks, that : "*increased peak and average temperatures are likely to reduce electricity generation efficiency, transmission line capacity, transformer capacity and the life of switchgear and other components* ". This potential for future failures coupled with the known unreliability of wind energy further diminishes the viability or usefulness of this wind farm.

Other studies have shown that there is also the potential for climate change to

impact directly on wind resource : Sailor, D.J., M. Smith, and M. Hart, 2008. "Climate change implications for wind power resources in the Northwest United States," *Renewable Energy*, 33 (11), pages 2393 -2406. This paper concludes that wind generated electricity in the area studied could be reduced by up to 40% through climate change. This research builds on their earlier study Breslow, P., and D.J. Sailor, (2002) "Vulnerability of Wind Power Resources to Climate Change in the Continental United States", *Renewable Energy*, 27 (4), pages 585 -598. In this work they estimate a 1% to 3.2% reduction in wind speeds in the area studied over the next 50 years, and a 1.4% to 4.5% reduction over the next 100 years. As is well known, turbine power output is greatly affected by any small change in wind speed on the power curve, so even small reductions in future wind speeds can have a significant effect on reducing electricity generation output.

How does the proponent propose to address these issues? In addition what are the operating temperature ranges of the proposed wind turbines?

7) p89 onwards / Section 5.1.9 Ecologically Sustainable Development

The proponent claims that the proposal is an "Ecologically Sustainable Development" and that it adheres to these principles. This is a completely ridiculous contention with no basis in fact. **The completely insignificant contribution to GHG reduction and mitigation of climate change by this project invalidates any appeal to the precautionary principle.**

Industrial wind energy development is not an ecologically sustainable landscape management practice in endangered grassy woodland ecosystems and does not meet these principles. Sustainable landscape management is presented in the CSIRO publication McIntyre, McIvor and Heard (2002), and this text also has a specific focus on endangered grassy woodland ecoregions. The most recent research on an 800,000 -ha section of an internationally recognised NSW endangered ecoregion is presented in (Fischer et al 2009). These two references provide key information on biodiversity and endangered species with calls for new policy supporting sustainable farming practices to turn the region from *"ecological decline to ecological recovery"*. There is no mention of installing industrial scale wind energy developments in this region as a sustainable landscape management practice from these key documents.

Fischer, J., Stott, J., Zerger, A., Warren, G., Sherren, K., Forrester, R. (2009) *"Reversing a tree regeneration crisis in an endangered ecoregion"*, Proceedings of the National Academy of Sciences USA 105, 10386 -10391. Available on line at : http://www.pnas. org/cgi/doi/10.1 073/pnas.0900110 106

Covers the current ecological crisis in NSW and examines an 800,000 -ha internationally recognised endangered ecoregion of NSW. Presents sustainable farming practices and calls for new policy supporting sustainable practice.

McIntyre, S., McIvor, J. and Heard, K (Eds), (2002) *"Managing and Conserving Grassy Woodlands"*, CSIRO Publishing .

Extensive CSIRO text on endangered grassy eucalypt woodland of Australia. Covers key areas such as biodiversity, **correct use of the precautionary principle**, sustainable practice, application principles and ecological concepts. This book is a key text for regional planning, landcare, land management, research and onground application. A key section of note in this book is on p178 "Adoption of new practices Ð some issues" which explains conflicts between new practices and sustainable land management. Web page relating to the book :

http://www.csiro .au/resources/ps 1fs.html

The precautionary principle as it relates to endangered grassy woodlands is clearly stated in McIntyre, McIvor and Heard (2002) in the glossary on in the Preface on Page X :

"If a particular action has consequences for the environment that are unknown, but which might be harmful, the precautionary principle dictates that the action should be avoided or limited."

The proponent should be aware of such issues as they quote the Taralga case on p70 where one of the key topics of great interest to the Court is the intent of the developer to vandalise one ridgeline (Turbine Row 6) and other rows on native grassland designated as containing an "endangered ecological community" known as "Tablelands Basalt Forest, Endangered Ecological Community" see:
http://www.threa tenedspe cies.environment .nsw.gov.au/tspr ofile/profile.as px?id=2 0074

In addition on Page 202 of McIntyre, McIvor and Heard (2002) Table 9.1 details sustainable principles. Note that they state :

" Maintain local native trees for the long-term ecological health of the property and catchment."

"Always favour natural regeneration of existing trees over planting and recreating habitat."

No mention of the CSIRO text of McIntyre, McIvor and Heard (2002) is contained within the EA. How can the proponent credibly be expected to develop such a proposal with such an ignorance of accepted sustainable land management practice and principles in endangered grassy woodland ecosystems?

I would further draw the Department and the proponents attention to some key research texts on wildlife issues related to wind farms, with some brief annotations.

* Fry, D, / American Bird Conservancy (2007) Testimony of Donald Michael Fry, PHD. *The House Subcommittee on Fisheries, Wildlife and Oceans Oversight Hearing on: "Gone with the Wind: Impacts of Wind Turbines on Birds and Bats."*

Extensive testimony from the Director, Pesticides and Birds Program of the American Bird Conservancy. States the failure of collaborative efforts to address impacts of wind projects on birds and wildlife. Draws attention to the virtually nonexistent federal and state monitoring of wind energy projects. States that bird populations are at great risk, especially birds of prey and grassland songbirds. Calls for greater research and the need to answer many unanswered questions. Calls attention to the fact that many of the birds affected are already declining species, **so mortality at wind farms is significant.**

* Carrete, M et al (2009) "*Large Scale Risk-Assessment of Wind-Farms on Population Viability of a Globally Endangered Long-Lived Raptor*", Biological Conservation doi:10.1016/j.biocon.2009.07.027

Recent research paper looking at effects of wind turbines on endangered long-lived raptors. Calls for more research on long term effects of wind farms on wildlife populations. Research in this particular study shows that wind farms decrease survival rates and hence **significantly increases extinction probability.** This research also suggests that short term monitoring of wildlife impacts is not adequate to assess actual impacts of wind farms on wildlife. The negative effects of wind farms could result in **major impacts** in a few decades and jeopordize wildlife conservation worldwide. **Requests that turbines in risk zones should be located further than 15km away from nests.**

* Baerwald et al (2008) "*Barotrauma is a Significant Cause of Bat Fatalities at Wind Turbines*" Current Biology Vol18 No.16 pages R695-R696

Confirmation that bats are being killed in large numbers from barotraumas caused by rapid air pressure reduction near wind turbine blades.

* Arnett, E, (2006) "*A Preliminary Evaluation on the Use of Dogs to Recover Bat Fatalities at Wind Energy Facilities*", Wildlife Society Bulletin 34(5) pages 1440-1445

Postconstruction carcass searches for bats are used to estimate fatality rates at wind energy facilities. Due to variation in detection by human searchers fatality rates can be underestimated. This study evaluated the use of dog handler teams at wind farms to conduct carcass searches. In the trials it was found that dog handler teams fared better than just humans at locating carcasses. This research recommends further study on the use of dogs to recover carcasses.

* Arnett, E, et al (2008) "*Patterns of Bat Fatalities at Wind Energy Facilities in North America*", Journal Of Wildlife Management 72(1) pages 61Ð78

Widespread and extensive fatalities of bats have caused increasing concern about the impacts of wind farms on bats as well as other wildlife. This paper presents an overview of the research in North America on bat fatalities to date.

* Kunz, T et al (2007a) "*Ecological Impacts of Wind Energy Development on Bats: Questions, Research, Needs, and Hypotheses*", Frontiers in Ecology and the Environment Vol 5 No:6 pages 315-324

Summarises evidence about bat fatalities at wind farms in the USA. Identifies future research needs to help minimize adverse effects of wind energy development. Calls for future research to identify sites with highest adverse environmental impacts. Calls for policy framework requiring owners and developers to provide access and research funds for research and monitoring.

* Kunz, T et al (2007b) "*Assessing Impacts of Wind-Energy Development on Nocturnally Active Birds and Bats: A Guidance Document*", Journal of Wildlife Management 71(8) pages 2449Ð2486

Guidance paper for researchers, consultants, decision -makers, and other stakeholders for methods and metrics for investigating nocturnally active birds and bats in relation to utility-scale wind-energy development.

* Kuvlesky, W et. al. (2007) "*Wind Energy Development and Wildlife Conservation: Challenges and Opportunities* ", Journal of Wildlife Management 71(8) pages 2487-2498

Covers many aspects of wildlife issues including; collision mortality, habitat loss, habitat alteration, and some of the future research needs.

Can the proponent comment on the above papers and explain how this wind farm development will not suffer from all of these well known wildlife problems?

8) P97 and onwards Section 6.2.2 Community Consultation

The EA states that follow up correspondenc e and face to face meetings with community stakeholders has taken place. Given the paucity of community consultation information present in the EA and poor correspondence I have received (my friends in Binalong have received the same poor treatment), what proof can the proponent give to show that this has taken place beyond a token gesture? I make particular note that the open house occurred on 10th Dec 2008 between 2pm and 7pm. As this is just before Christmas the majority of people did not have time to spare to attend, and in addition most of this "open house" would have occurred during working hours.

The proponent claims on p98 that at the open house there was "a larger degree of misinformatio n about various environmental impacts, gained from word of mouth and anecdotal information from the internet". Can the proponent provide evidence relating to this purported misinformation?

On p99 the proponent states that the Australia Institute report was given to people attending the landcare meeting. As this report is woefully out of date, was not peer-reviewed science, is poorly researched and mainly contains repeated claims from the wind industry, this represents misinformation on the part of the proponent. Can the proponent demonstrate that it has provided any independent and unbiased up to date information during its so-called Community Consultation process?

I would also point out that as of the date of this letter the Epuron website (www.epuron.com.a u) still contains no information whatsoever regarding the Yass Valley WF other than the 08/10/2008 press release announcing it has commenced investigations. Epuron's "current" newsletter is still Issue 2, dated July 2008. This is pathetic. How can this be seen as valid community consultation or keeping the community informed? As of the date of this letter I have still received no further communication from Epuron regarding the Yass Valley WF.

Why has the proponent only given the public a 30 day exhibition period, again just before Christmas, which has made it practically impossible for anyone in the region to put read the EA and submit a submission? It is useful to work out the amount of time this would give an average member of the community to read the EA, research the issue and write a submission. Ignoring the photomontages the EA and the Appendices total 1,693 pages. Assuming that a member of the community works 5 days per week and has the weekend off, and is prepared to generously put in say 5 hours per evening (unlikely) e.g. 7pm until midnight, this would equal 30 days Ð 4 weekends = 22 days x 5 hours = 11 hours or 6,600 minutes.

This gives the total time for reading, researching the issue and writing a submission as 3.89 minutes per page, for a document the proponent has spent more than a year putting together. And based on the barely legible dates on the barely legible maps & images could have consulted with the community on some of these issues.

How can the proponent possibly think this is an adequate amount of time for members of the community to research such a complex issue while managing their daily lives?

9) P45 & onwards Section 3.3.3 Wind Turbine Layouts

The turbine layouts completely violate the SEDA (2002) planning 5r-8r spacing rule which for the example turbine given, REPower MM92, would require the following spacing's :

5 x 92m = 460m
8 x 92m = 736m

For the worst case given the turbines under consideration this is the Vestas V112 which would require the following spacing's :

5 x 112m = 560m
8 x 112m = 896m

Can the proponent redo the layout based on the correct spacing? This of course will reduce the number of turbines, and hence also reduce the amount of electricity generated and GHG emissions reduction even further. There is no mention of this key planning text in the EA, and I can only assume the proponent is unaware of this important text :

SEDA (2002) "NSW Wind Energy Handbook 2002" published by Sustainable Energy Development Authority of NSW, ISBN 0-7313 -9191 -8

10) P107 to p110 Seen Area Analysis

The Seen Area Analysis images contain no place names, and again the legibility of these images are extremely poor. It is possible however to make out the date

that these images were made, 25/11/2008. This shows that proponent had all the turbine layouts finalised before the wind monitoring phase. In relation to the turbine layouts in Section 3.3.3 the dates for that drafting are 24/07/2009, which is EIGHT MONTHS AFTER the Seen Area Analysis was made. This curious sequence of dating is further compounded by the Substation and Control Building locations, which were drafted on 07/04/2009 (before the turbine layout draft), and the access road diagrams where drafted on wha t appears to be 24/07/2009. How can the proponent claim to have done a valid Seen Area Analysis when the presented turbine layouts are dated after this analysis was made? In addition, why did the proponent not show these layouts and the Seen Area Analysis to the community, as part of the consultation process? What was the date of erection of all of the wind monitoring masts at Yass Valley WF and when did data recording begin for each mast? Can the proponent provide any credible wind resource data and wind rose for each mast to show that the claims made are justifiable?

11) P256 Section 8.13 Life Cycle Analysis (LCA)

On p256 the proponent states that LCA is *"based on a careful accounting of energy and material flows associated with a system or process"*. After making this statement the proponent then merely states the results from 3 overseas studies which bear no resemblance to the project in question. This is even more baffling as later in the EA on p268 the proponent states that : *"A detailed LCA is presented in Section 8.13."* However, no such analysis / careful accounting has been presented.

The proponent begins by quoting Schleisner (2000) and the results of a study published in 2000. No mention is made however of the assumptions in this study or its con text. All energy sources were assumed under Danish conditions, i.e. coming from Denmark for a wind farm in Fjaldene, Jutland. The wind farm in this study consists of 18 x 500kW turbines for a total installed capacity of 9MW. The wind farm sensibly uses a high spacing between turbines of 580m between rows and 188m between turbines. The turbine height is mere 41.5m to give an idea of how well separated they are.

In terms of the disposal of elements at the end of the Fjaldene wind farms life, the energy use is not calculated for oil and other products. Due to lack of data, energy consumption & emissions are estimated only for the manufacture of glass & polyester, not for fibreglass. Due to the nature of Danish electricity plants calculated emissions for these items have been reduced by a factor of 50%

The proponent then jumps to Martinez et al (2009) which refers to a wind farm in Munilla in Spain, although no indication as to which wind farm in Munilla is given. This is because this analysis also makes a num ber of assumptions that the proponent neglects to mention, and is not an LCA of a "wind farm", but an LCA of a wind turbine.

In fact the proponent also makes no mention of the study by Martinez and colleagues in the International Journal of Life Cycle Assessment (14):52 -63, in their paper *"Life-cycle assessment of a 2-MW rated power wind turbine: CML method"* again note the use of the term wind turbine, rather than the term wind

farm. Note that in this journal an energy payback time of 0.58 years was sugge sted for the 2MW turbine in question.

In the Martinez studies mentioned above a number of assumptions were made as detailed in their papers and I will outline some (not all) of these below.

For that study the turbine (a Gamesa G8X) was manufactured in Sp ain and shipped to its final destination in Spain a sum total of 156km. Can the proponent provide information pertinent to an LCA relating to the transport of materials to the manufacturer, composition of materials, manufacturing location of the turbines, method/distance of transportatio n to the shipping port, shipping distance and also method/transport ation from shipping to their final destination at Yass valley WF?

No account was made in referenced LCA's of the associated access roads on the wind farm site, new powerlines, transmission, substations and infrastructure, this represents a significant addition given the size of the wind farm being proposed. Can the proponent provide an LCA for these important items?

No account has been taken in the reference d LCA of environmental damage e.g. to human health & welfare, noise, ecosystem health, water systems, wildlife impacts etc. in an LCA context. Can the proponent provide an LCA for these important items?

Maintenence operations only pertaining to this parat icular wind farm in Spain were accounted for. Can the proponent provide an LCA for these important items?

Possible emissions from concrete foundations during project lifespan have not been considered & it is assumed the foundation will be removed at the end of its useful life. As the proponent states on p76 that all below ground structures will not be removed these must be accounted for in the LCA. Can the proponent provide an LCA for these important items?

The referenced LCA assumes that decommissioning will take place, however as the proponent has stated incorrectly that scrap value will cover decommissioning this remains an outstanding issue of critical importance. See my previous submission for details. In addition the proponent states on p256 that *"the value of materials able to be sold for reuse can be used to offset the cost of decommissioning the wind farm..."* which contradicts the proponents claim that scrap value will cover the decommissioning cost. Can the proponent come up with as realistic decom missioning plan and bond to cover these costs?

Blade size in the referenced LCA study is 39m, modern turbines are getting larger and blade size is increasing. The blades are made of environmental ly unfriendly prepreg and are sent to landfill or burnt when at the end of their useful life, these represent a significant part of the LCA figure. The entire fleet of Suzlon blades (1251 blades) in the USA had to be replaced recently due to a fault in the design. Can the proponent provide an LCA for these importan t items?

Wind turbine lifetime is assumed to be 20 years or greater however no manufacturers warranty is mentioned, which are apparently about 2 years. Can the proponent state what the manufacturers warranty periods are and what they relate to?

One replacement generator assumed in turbines lifetime, however, according to Allianz insurers, gearboxes in wind turbines are often replaced within the first 5 years. Wind turbines can stand idle for up to 18 months waiting for replacement parts, this can affect LCA. Jan Pohl of insurance firm Allianz in Munich, who faced about 1000 claims in 2006 stated : "an operator has to expect damage to his facility every four years, not including malfunctions and uninsured breakdowns." The Capital wind farm at Bungendore is suffering many problems relating to its installed turbines, many of which are not working properly, as the Department will be aware. Can the proponent provide a realistic estimate of maintenance issues for the LCA?

The referenced LCA does not take into account the emissions generated by fossil fuel power stations required for backup. This has been acknowledged recently as having a significant effect on LCA. See for example the peer-reviewed papers :
Katzenstein, W & Apt, J, "Air Emissions Due To Wind and Solar Power", Environmental Science & Technology (2009) Vol 43 No 2 pages 253-258
&
Katzenstein, W & Apt, J, "Incorporatin g Wind into a Natural -gas Turbine BaseloadPower System Increases NOx and CO2 Emissions from the Gas Turbines", (2008), Fifth Annual Carnegie Mellon Conference on the Electricity Industry, Future Energy Systems: Efficiency, Security, Control available on line at :
http://www.ece.c mu.edu/~electric onf/2008/PDFs/6 - 2%20Katzenstein% 20and%20Apt.pdf

The Martinez LCA paper itself calls for further research. In other words, its a first effort LCA for a Gamesa G8X 2MW wind turbine manufactured 156km from its final destination, but in terms of this translating to an LCA for wind farms in general around the globe, it has limited use.

The proponent then continues on in this section to quote figures from Vestas / Elsam Engineering A/S (2004) regarding LCA of the V80 and V90 turbines. Firstly they quote the LCA of a V80 at Tjaeborg wind farm, but fail to mention that this is actually a "test site" in Denmark and that the assumptions and caveats mentioned above also exist in this study, and that the turbines in question are also manufactured and installed in Denmark (**not half way around the planet which would also require modification to the LCA figures**). Indeed in the document itself it states for example in the summary on pages 4 & 5 of Elsam Engineering A/S (2004) :

"The LCA does not include the financial and social factors, which means that the results of an LCA can not exclusively form the basis for assessment of a product's sustainability.

It also means that an LCA does not give detached, scientific and final answers as to the environmental properties of a product, as an LCA does not include all the impacts on the surroundings caused by a product in connection with use (e.g. noise, use of area, impact on animal life, etc.) To obtain a more complete environmental description, LCA must be combined with other environmental assessments as for instance environmental consequence assessments (e.g. Assessment of Impact of the Environment, AIE), risk assessment and environmental management.

Some of the most essential limitations of LCA are:

• Many selections and assumptions are to be made (e.g. selection of system boundaries and datasources), which might be subjective.
• The accuracy of an LCA will depend on the access to or the existence of relevant and liable data.
• Models used for mapping or assessing the environmental impact are restrained by their conditions and will not necessarily be acce ssible for all potential impact categories or applications."

The se same caveats stated by Vestas apply to the Danish made V90 turbine LCA which is then mentioned by the proponent.

What the proponent has presented as an LCA in this EA is meaningless. Can the proponent provide a credible and detailed LCA of this project in its entirety?

12) p20 Appendix 1 Landscape Topography Turbulence Issues & their relation to Noise Issues

The terrain where the proponent has located turbines is steep (greater than 10 degrees), as evidenced by the topographic layout on p20 of Appendix 1. Noise levels are certified by the wind turbine manufacturer assuming optimal operating conditions; a perfect linear intersection velocity with the surface area of the blade. Once the blade incorporates turbulence (from either a sudden increase in gradient Ð also known as shear, tall tree plantations, inadequate spacing or atmospheric turbulence), then extreme variances in pressure over the surface area of the blade are created. This results in vibration and therefore operating inefficiencies, the potential for blade damage and noise issues. Noise level certification becomes invalid when operating conditions are breached.

The Vestas V90 wind turbine specification document (Vestas 2009) recommends that turbines not be placed on slopes greater than 10 degrees within 100m of a turbine (see Section 1.3 Terrain Conditions). A spacing of 5 rotor diameters is recommended at Section 1.4 Climatic Conditions. At Section 2.1 Wind Climate, it also mentions that the turbulence % maximum is 20%. The wind speed data for the Victorian Government's recently approved Winchelsea Wind Farm, one of the few sites at which wind speed data was ordered to be released by VCAT, showed a night time turbulence patter n of over 20% for 75% of the time over a 12 month period and slopes greater than 10 degrees. Other industrial wind power stations have been built on slopes greater than 10 degrees and spacing issues

are very much apparent. Basic manufacturer specifications are not taken into consideration by the proponent and noise standards deliberately exclude low frequency noise. This problem of turbulence is well known and is discussed in the freely available CSIRO publication on wind resource assessment, Coppin, Ayotte and Steggel (2003).

Coppin, P. A., Ayotte, K.A. and Steggel, N. (2003) "Wind Resource Assessment in Australia Ð A Planners Guide, CSIRO Publishing. Available on line at :

http://www.csiro .au/resources/pf 16q.html

This is a key text for wind resource assessment in Australia and for some reason the proponent is completely unaware of its existence, as I can find no mention or reference to this text.

The Vestas document I refer to above is :

Vestas (2009) "*General Specification V90 Ð 1.8/2.0 MW 50Hz OptiSpeed Ð Wind Turbine",* Vestas Wind Systems A/S

A specification document from Vestas for the V90 1.8/2.0MW wind turbine. The V90 also has an operating temperature range from -20C to only +30C as detailed in this document. Why is the proponent not aware of these important issues?

13) Noise Assessment

The Capital wind farm at Bungendore and the Cullerin Range wind farms are suffering noise problems , as the Department will be aware. The sections on Noise Assessment use the same fundamentally flawed methodo logy. Research demonstrating these flaws is presented in Kamperman & James (2008), and also in James' Statement of Evidence in 2008 regarding the development at Mills Creek, NZ. Both are listed below. Kamperman and James examined a number of noise assessme nts in Europe, Canada and USA which had received noise complaints after construction. Some important excerpts from their Noise-Con 2008 conference paper :

"After reviewing the materials in the tables; we have arrived at our current understanding of wind turbine noise and its impact on the host community and its residents. The review showed that some residents living as far as 3 km (two (2) miles) from a wind farm complain of sleep disturbance from the noise. Many residents living one-tenth this distance (300 m. or 1000 feet) from a wind farm are experiencing major sleep disruption and other serious medical problems from nighttime wind turbine noise. The peculiar acoustic characteristics of wind turbine noise immissions cause the sounds heard at the receiving properties to be more annoying and troublesome than the more familiar noise from traffic and industrial factories. Limits used for these other community noise sources do not appear to be appropriate for siting industrial wind turbines."

"The common method used for establishing the background sound level at a proposed wind farm used in many of the studies in Table 1 was to use

unattended noise monitors to record hundreds often (10) minute measurements to obtain a statistically significant sample over varying wind conditions or a period of weeks. The measured results for daytime and nighttime are combined to determine the statically average wind noise as a function of wind velocity measured at a height of ten (10) meters. This provides an enormous amount of data but the results have little relationship to the wind turbine sound immission or turbine noise impact in nearby residents. The purpose of this exhaustive exercise often only demonstrates how much noise is generated by the wind. In some cases it appea rs that the data is used to 'prove' that the wind noise masks the turbine's sound immissions."

The most glaring fault with this argument is shown during the frequent nighttime conditions with a stable atmosphere when the wind turbines generate the maximum electricity and noise while the wind at ground level is calm and the background noise level is low. This is the condition of maximum turbine noise impact on nearby residents. It is the condition which most directly causes chronic sleep disruption. Further more, this methodology is usually faulty, as much of the wind noise measured by unattended sound monitors is the wind noise generated at the microphone windscreen resulting in totally erroneous results."

* James, R (2008) "*Testimony before Wellington City Council RE: noise at Meridian Energy wind project proposal*" Available on line at:

http://www.winda ction.org/docume nts/18014

Expert testimony of Richard James to Wellington City Council on 2nd September 2008 in regard to modeled noise predictions for a Meridian Energy Ltd. wind energy facility in New Zealand. Covers real measurements, computer modeling, dBA and dBC, WHO, Appendix includes some of his co-authored papers including his Noise-Con 2008 paper with Kamperman.

* Kamperman, P & James, R (2008) "*The 'how to' guide to criteria for siting wind turbines to prevent health risks from sound*", V2.1 published by Industrial Wind Action. Available on line at:

http://www.winda ction.org/docume nts/17229

Community noise experts George W. Kamperman and Richard R. James present guidelines for siting industrial wind turbines. This paper focuses on preventing health risks due to sound emissions from the turbines. This paper offers important background information that should be read by all those involved in the siting and approving of wind energy facilities.

* Kamperman, P & James, R (2008) "*Simple guidelines for siting wind turbines to prevent health risks*", 2008 International Noise Conference (Noise-Con), Dearborn, Michigan. Available on line at:

http://www. windaction.org/d ocuments/17095

Reviews sound studies conducted by consultants for governments, wind turbine owners, and local residents for a number of sites with known health or annoyance problems. The purpose is to determine if a set of simple guideline s using dBA and dBC sound levels can serve as the 'safe' siting guidelines.

In addition the ray tracing software used to predict sound propagation is also fundamentally flawed.

* Frank H. Brittain, F & Hale, E (2008) "*Some limitations of ray-tracing software for predicting community noise from industrial facilities*", 2008 International Noise Conference(Noise -Con), Dearborn, Michigan. Available on line at:

http://www.winda ction.org/docume nts/18087

This paper covers limitations and problems with the sound propagation standard (ISO 9613 -2). **A key point with relation to wind energy developments is that the ISO 9613 -2 model can give no estimation of its own accuracy beyond 1km, yet it is routinely used for distances exceeding 1km.**

* Van den Berg, G. P. (2006) "*The Sounds of High Winds: the effect of atmospheric stability on wind turbine sound and microphone noise*" PhD thesis available online :

http://dissertat ions.ub.rug.nl/f aculties/science /2006/g.p.van.de n.berg/

* Van den Berg G.P. (2004) "Effects of the wind profile at night on wind turbine sound", *Journal of Sound and Vibration* 277 (4-5), pages 955-970.

* Van den Berg G.P. (2007) "Wind profiles over complex terrain." *Second International Conference on Wind Turbine Noise, Lyon, France*.

The research of van den Berg shows that there are significantly higher levels of noise pollution at night than are experienced in the daytime, and the effects of complex terrain such as hills are different to flat terrain. Sound levels can be up to 15dB higher at nigh t relative to the same reference wind speed in daytime. These papers also discuss the flawed methodology of wind induced microphone noise during background sound monitoring.

I request that the Noise Assessment be redone by the proponent to take these effects into account. Myself and a number of other people pointed out these issues at the recent NSW Rural Inquiry into Rural Wind Farms, and the recommendation on p117 states :

Recommendation 17

That the Minister for Planning ensure that the Environmental Assessment process for wind farm development applications requires comprehensive assessment of potential noise impacts. Both day and night time noise modelling and noise modelling in relation to temperature inversions and the van den Berg effect should be taken into account.

In the Appendix 2 Noise Assessment and its associated Appendices there is also further evidence of strange dates on images :

Appendix K Noise Maps for Copabbela 1 & 2 are both dated 31 March 2009
Appendix M Surrounding Road Network for Yass Wind Farm is dated 29 / 02 / 2009

The same applies for the Marilba Hills Appendices. The Appendix doc itself was drafted on 2nd April 2009, and the report was issued to the client, Epuron, on 22 April 2009. All of these images show the turbine layout. How were these noise modelling studies achieved when the date of the turbine layout as mentioned in Note 10 (above) was several months later the same year? Why were the results of the noise modelling study not presented to the community as part of the consultation process?

In both of the Noise Assessments and in the main EA the hub height of the Vestas V90 3MW turbine is incorrectly stated, and both figures are also different. The proponent is clearly confusing the hub height of the offshore V90 3MW with the onshore V90 3MW. The height is clearly stated as 105m in Table 1 of Page 9 in the LCA document of the V90 3MW available at :

http://www.vesta s.com/Files/File r/EN/Sustainabil ity/LCA/LCAV90_j uni_2006 .pdf

THIS CLEARLY INVALIDATES THE NOISE STUDY AND THE EA COMPLETELY.

On Page 35 Section 6.7 of the Noise Assessment reference is made to Vibro Acoustic Disease and a claim that no reputable study has been made. The proponent is clearly unaware of the following peer-reviewed research :

Pathologist Nuno Castelo Branco MD has been conducting extensive research on Vibroacoustic Disease (VAD) since 1980, including in relation to wind turbine generators. VAD is detailed in Castelo Branco NAA, Alves-Pereira M. (2004) "Vibroacoustic disease", *Noise & Health* 2004; 6(23): pages 3-20. VAD specifically related to industrial wind turbines is reported in Castelo Branco NAA, Alves-Pereira M. (2007) "In-Home Wind Turbine Noise Is Conducive to Vibroacoustic Disease *", Second International Conference on Wind Turbine Noise, Lyon, France*. The VAD study in relation to wind turbines discusses a rural property in an agricultural area occupied by 2 adults and a 10 year old child, with four 2MW wind turbines which began operation in Nov 2006. A section from the paper follows, note that ILFN stands for Infrasound and Low Frequency Noise, and WT stands for Wind Turbines :

"ILFN levels contaminating the home of Case 2 are amply sufficient to cause VAD. This family has already received standard diagnostic tests to monitor clinical evolution of VAD. Safe distances from residences have not yet been scientifically established, despite statements by other authors claiming to possess this knowledge. Acceptance, as fact, of statements or assertions not supported by any type of valid scientific data, defeats all principles on which true

scientific endeavor is founded. Thus, widespread statements claiming no harm is caused by in-home ILFN produced by WT are fallacies that cannot, in good conscience, continue to be perpetuated. In-home ILFN generated by WT can lead to severe health problems, specifically, VAD. Therefore, real and efficient zoning for WT must be scientifically determined, and quickly adopted, in order to competently and responsibly protect Public Health."

Can the proponent comment on the above papers and explain how this wind farm development will not suffer from all of these well known noise problems, which still require further research? Is the proponent planning to instigate a research program for these ongoing noise issues?

14) P253 Section 8.12.3 Local Climate Impact

The proponent appears to be vaguely aware of the important issue of local climate change effects from wind farms, but inexplicably plays down this effect when incorrectly referencing the results of Baidya Roy, S, & Pacala, S. (2004). According to this paper warming and drying effects are "most intense in the early hours", and in general the papers results have "significant implications" in the authors own words. The results showed that wind farms significantly slow down the wind at turbine hub-height and create additional turbulence. The effect leads to a warming and drying of the surface air. The paper also calls for further research.

Keith, D et al. (2004) is another peer-reviewed research paper examining the effect of industrial scale wind turbines on changing global climate due to "slowing" the wind by extracting kinetic energy. This paper also reported on the effect of wind producing local climate change, and the need for more research on these effects.

David W. Keith, Joseph F. DeCarolis, David C. Denkenberger, Donald H. Lenschow, Sergey L. Malyshev, Stephen Pacala and Philip J. Rasch (2004). *"The influence of large-scale wind-power on global climate."* Proceedings of the National Academy of Sciences, **101**: 16115-16120.

Professor Keith has stated on his website that : "significant *local* climate change could occur in areas where wind farms are concentrated even if wind supplies a small fraction of global electricity demand." (his emphasis)

Kirk-Davidoff & Keith (2008) in their latest peer-reviewed research paper further demonstrate that "large-scale deployment of wind power may alter climate through alteration of surface roughness".

Kirk-Davidoff, D & Keith, D. (2008) *"On the climate impact of surface roughness"*, (2008). Journal of Atmospheric Sciences, 65: 2215-2243.

Such research into significant changes of local climate includes:

i) temperature
ii) wind speed and direction
iii) cloud cover
iv) rainfall
v) wake turbulence

Further research in this area is ongoing and the full range of implications on local climate effects as yet are unknown. What peer-reviewed scientific evidence can the proponent provide to support their unsubstantiated claim on p254 that :

"This impact would be ongoing but negligible"

&

"No adverse climate change impacts related to the operational phase of the wind farm would result"

Can the proponent comment on the above papers and explain how this wind farm development will not suffer from all of these well known research problems, which still require further research? Is the proponent planning to instigate a research program for these ongoing scientific issues?

15) Health Issues

Regarding the proponents glossing over of health issues, I would direct attention to the following references and comments:

* Health Canada (2009) "*Health Canada's response to the Digby Wind Power Project Addendum, Digby, Nova Scotia*", Safe Environments Program, Regions and Programs Branch, Health Canada. Available on line at :

http://www.wind-watch.org/documents/health-canada's-response-to-the-digby-wind-power-project-addendum-digby-nova-scotia/

Document requested by Nova Scotia Department of Environment for Health Canada to review the project with respect to human health. Health Canada reviewed the project report and commented on noise and health issues, and highlighted misleading statements by the developer. In particular regarding health effects they specifically remark :

"The final sentence in Appendix B states that "there is no peer-reviewed scientific evidence indicating that wind turbines have an adverse impact on human health". In fact, there are peer-reviewed scientific articles indicating that wind turbines may have an adverse impact on human health. For example, Keith et. al. (2008), identified annoyance as an adverse impact on human health that can be related to high levels of wind turbine noise. In addition, there are several articles by Pedersen (and others) related to wind turbine annoyance (as referenced below). The relationship between noise annoyance and adverse effects on human health is also further investigated in the manuscript by Michaud et. al (2008).

∞ *Health Canada advises that this statement be revised to indicate that there are peer-reviewed scientific articles indicating that wind turbines may have an adverse impact on human health.*

References:

Howe Gastmeier Chapnik Limited (HCG Engineering). 2006. Environmental Noise Assessment Pubnico Point Wind Farm, Nova Scotia. Natural Resources Canada Contract NRCAN-06-00046.

Keith, S. E., D. S. Michaud, and S. H. P. Bly. 2008. A proposal for evaluating the potential health effects of wind turbine noise for projects under the Canadian Environmental Assessment Act. Journal of Low Frequency Noise, Vibration and Active Control, 27 (4): 253-265.

Michaud, D., S. H. P. Bly, and S. E. Keith. 2008. Using a change in percentage highly annoyed with noise as a potential health effect measure for projects under the Canadian Environmental Assessment Act. Canadian Acoustics, 36(2): 13-28.

Pedersen, E., and Halmstad, H. I. 2003. Noise annoyance from wind turbines Ð a review. Swedish Environmental Protection Agency, Report 5308.

Pedersen, E. and Persson Waye, K. 2008. Wind turbines Ð low level noise sources interfering with restoration? Environmental Research Letters, 3: 1-5.

Pedersen, E., and Persson Waye, K. 2007. Wind turbine noise, annoyance and selfreported health and wellbeing in different living environments. Occup. Environ. Med. 64: 480-486.

Pedersen E. and Persson Waye, K. 2004. Perception and annoyance due to wind turbine noise Ð a dose-response relationship. J. Accoust. Soc. Am. 116: 3460-3470.

World Health Organization (WHO). 1999. Guidelines for Community Noise. Eds. B. Berglund, T. Lindvall, D. H. Schwela. WHO: Geneva.

Van den Berg, F., Pedersen E., Bouma, J., and R. Bakker. 2008. Project WINDFARMperception. Visual and acoustic impact of wind turbine farms on residents. FP6-2005-Science-and-Society-20 Project no. 044628: 1-99

Can the proponent comment on the above references supplied by Health Canada and explain how this wind farm development will not suffer from all of these well known problems, which still require further research? Is the proponent planning to instigate a research program for these ongoing health issues?

Some further annotated references on health issues are :

* Pedersen, E, (2007) "*Human response to wind turbine noise - perception, annoyance and moderating factors*", Doctoral Thesis (Medicine) Inst of Medicine. Dept of Public Health and Community Medicine, Göteborg University. Sahlgrenska Academy, Sweden. Available on line at :

http://gupea.ub.gu.se/dspace/han dle/2077/4431

The PhD thesis of Dr. Pedersen is a culmination of a number of papers including those cited above by Health Canada and reports key findings on negative health risks of

industrial wind turbine noise.

* Minnesota Department of Health Environmental Health Division (2009) "*Public Health Impacts of Wind Turbines*" Report requested by Minnesota Department of Commerce Office of Energy Security May 22, 2009. Available on line at :

http://www.windaction.org/documents/21436

Health report "white paper" evaluating possible health effects associated with low frequency vibrations and sound arising from large wind energy conversion systems (LWECS).

* McMurtry et.al. (2009) "*Community-based health survey, Ontario*" Report for Wind Concerns Ontario. Available on line at :

http://www.windaction.org/documents/22261

"This community based surveillance activity was conducted under the guidance of Dr. Robert McMurtry, the Former Dean of Medicine at the University of Western Ontario. The health survey revealed that out of 76 respondents, 53 people now living near different wind power facilities in Ontario reported that industrial wind turbines were having a significant negative impact on their lives. The adverse effects range from headaches and sleep disturbance to tinnitus (ringing in the ear) and depression."

Some excerpts from the abstract of the report gives a summary of the responses to the survey :

"It is now emerging that whenever industrial wind turbines have been located near peoples' homes, family members are reporting adverse health effects. Some of these families have been forced to abandon their homes in order to protect their health. This phenomenon is occurring world wide, not just in Canada."

"Researchers and victims have reported altered living conditions, loss of enjoyment of homes and property, and ill health as a result of industrial wind turbines. The adverse health reports are consistent globally and across 3 continents."

"Major wind turbine projects were launched in 2006 in Ontario and within a short time, reports about ill health started to appear. In January, 2009, Wind Concerns Ontario solicited volunteers to conduct a health survey. Distribution of the community-based self reporting health survey started in March 2009.

The findings of the health survey were presented on April 22, by Dr. Robert McMurtry, former Dean of Medicine at the University of Western Ontario, to the Ontario Government's Standing Committee while it was examining Bill 150, the Green Energy Act. With the efforts of volunteers and a nominal budget from donations, the health survey revealed that out of 76 respondents, 53 reported at least one adverse health effect they suspect is related to industrial wind turbine exposure. The average number of symptoms per individual reported was 5.

The health survey is ongoing and as result the number of 53 victims has since risen to 86 as responses continue to be submitted.

Sleep disturbance was the most common complaint. Other health complaints include inner ear problems, mood disturbances, cardiac arrhythmias, and headaches. Several suffered acute hypertensive episodes which are most serious and worrisome.

Comments provided by respondents are both revealing and disturbing. No authority or compassionate member of our society can ignore the moving descriptions of the victims' experiences. They describe disturbed living conditions, loss of quality of life and enjoyment of their home and property, financial loss and the negative impact to the health of their families, including children. These comments are included in this report.

This community-based self reporting survey fills a void regarding the lack of a Canadian vigilance and surveillance program for industrial wind turbines. The willingness of the victims to participate in the survey serves to reinforce the critical need for a robust vigilance program which encourages victims to self report suspected adverse health effects from these industrial wind turbines. In addition, long term surveillance is required. There are unanswered questions about infants, children, and the unborn whose mothers are exposed, family members and workers such as farmers and technicians who live and work in close proximity to the wind turbines.

When uncertainty exists and the health and well-being of people are potentially at risk, it is appropriate to invoke the precautionary principle. Until these authoritative guidelines are put in place based on the best available evidence, the Province of Ontario ought not to proceed with any further development of industrial wind turbines.

The development of these guidelines must be based on a rigorous epidemiological evaluation of the adverse health effects of industrial wind turbines."

* Pierpont, N, (2006) "*Wind Turbine Syndrome*" Testimony before the New York State Legislature Energy Committee March 7, 2006. Nina Pierpont MD, PhD has done extensive research into the health effects of industrial scale wind turbines. This work has received world wide attention. Available on line with numerous other papers / reports and a draft of her forthcoming book :

http://www.windturbinesyndrome.com

* Nissenbaum, M (2009) *"Affidavit of Michael A. Nissenbaum, M.D."* State of Maine Board of Environmental Protection re : Record Hill Wind Project. Available on line at :

http://www.windaction.org/documents/23332

Affidavit by Dr. Michael Nissenbaum submitted in support of an appeal filed with Maine's Board of Environmental Protection against a proposed project that will include 22 industrial scale turbines sited in Roxbury, Maine. Dr. Nissenbaum asserts that industrial wind turbines can cause adverse effects on human health.

* Northern Maine Medical Center (2009) "*Health Concerns and the Need for Careful Siting of Wind Turbines*" Press Release March 4, 2009

Medical Staff of Northern Maine Medical Center unanimously approved this press release and requested a moratorium on "wind farm" developments. Three excerpts from this press release :

"We echo the concerns of the Medical Staff of Rumford Community Hospital as regards an increasing body of literature and reports from Canada, the USA, and particularly from Europe suggesting that the deployment of industrial wind facilities in close proximity to places where people live, work or attend schools results in negative health effects, including and especially sleep deprivation and stress."

"These effects arise not only from audible noise frequencies but also from persistent inaudible low frequency noise waves of a cyclical nature which are felt, but not heard. There are a growing number of scientific observations and studies suggesting that people living up to 2 miles away from these industrial wind farms may be affected."

"In light of these growing, serious medical concerns, we propose a moratorium on the building of any such "wind farms" until more research is done on the health impact that such facilities will have on the communities surrounding such technology. These communities and the Maine DEP and Health Services must be allowed time to study and learn from the European and Canadian experiences, as well as from the many affected families in Mars Hill, Maine, and put into place appropriate regulations and ordinances, prior to expanding the wind industry in the State of Maine."

* Hanning, C, (2009) "*Sleep Disturbance and Wind Turbine Noise*" Self published (June 2009) available on line at :

http://www.windaction.org/documents/22602

Hanning's is one of the most recent health reports pertaining to sleep disturbance from industrial wind turbines. Dr Christopher Hanning MD founded, and until retirement, ran the Leicester Sleep Disorders Service, one of the longest standing and largest services in the United Kingdom, and has 30 years of experience in the field.

* Phipps, R (2007) *"Evidence of Dr Robyn Phipps in the matter of the Moturimu wind farm application"*, Testimony before the Joint Commissioners in the Matter of the Moturimu Wind Farm Application, New Zealand. Available on line at :

http://www.windaction.org/documents/14619

Extensive testimony by Dr Robyn Phipps and evidence presented of a **peer reviewed** survey of visual and noise effects experienced by residents living near the Taraua and Ruahine ranges wind farms. **Of the households surveyed in the analysis 80% considered that the wind turbines were intrusive and 73% thought that they were unattractive. Over 52% of households located between 2 to 2.5km and 5 to 9.5km heard wind turbine noise, and 25% could hear wind turbine noise greater than 10km from the wind farm.** There are many more disturbing findings in this survey.

* Harding, G, Harding, P and Wilkins, A (2008) "*Wind turbines, flicker, and photosensitive epilepsy: Characterizing the flashing that may precipitate seizures and optimizing guidelines to prevent them*" Epilepsia 49(6) pages 1095-1098

* Castelo Branco NAA, Alves-Pereira M. (2007) "*In-Home Wind Turbine Noise Is Conducive to Vibroacoustic Disease*", Second International Conference on Wind Turbine Noise, Lyon, France.

The definitive paper on Vibroacoustic Disease (VAD) as a result of exposure to low frequency wind turbine noise pollution.

* Castelo Branco NAA, Alves-Pereira M. (2004) "Vibroacoustic disease", *Noise & Health* 2004; 6(23): pages 3-20

* Alves-Pereira, M & Branco, N (2007) "*Industrial Wind Turbines, Infrasound and Vibro Acoustic Disease (VAD) PRESS RELEASE*", May 31, 2007 Center for Human Performance, Portugal. "*The Center for Human Performance is a civilian, non-profit organization dedicated to research in vibro-acoustic disease. CPH was founded in 1992*

and has been the organization which coordinates all the different teams that work on vibro-acoustic disease research, and that include (in Portugal) the cardiology and pulmonary departments of the Cascais Hospital, the neurophysiol ogy department of the National Institute of Cancer, the department of human genetics of the National Institute of Public Health, the department of speech pathology of the School of Health Sciences of the Polytechnical Institute of Setúbal, among several others over the past 25 years."

A brief excerpt from the VAD press release :

"*These results irrefutably demonstrate that wind turbines in the proximity of residential areas produce acoustical environments that can lead to the development of VAD in nearby home-dwellers."*

Can the proponent comment on the above papers and explain how this wind farm development will not suffer from all of these well known problems, which still require further research? Is the proponent planning to instigate a research program for these ongoing health issues?

16) Concluding comments

The poor quality of this Environmental Assessment beggars belief and I am shocked the NSW Department of Planning has even accepted this EA for consideration. **It is particularly alarming as such a project will contribute practically nothing whatsoever to the mitigation of climate change or the reduction of GHG emissions.**

If such a series of documents were submitted at a university for assessment as part of professional training I doubt an examin er would have got past the Executive Summary before sending it back for a complete re-write.

The importance of Critically Endangered Box-Gum Grassy Woodlands and its biodiversity deserves more research and consideration than this shoddy piece of work has put forward. I have not the time to comment in detail on the Biodiversity report at the present time, but this section is appalling. In particular : What possible use are the "offsets" put forward by the proponent if they are in the middle of the wind farm, where no sane species of wildlife will be choosing to live should this proposal be built?

The communities of Harden / Yass Shire's and the Australian people deserve better also. The photomontage's are extremely poor and violate all planning requiremen ts for clarity, many of them having cloudy backgrounds in an attempt by the proponent to disguise the true impact. I request that all photomontage's be redone. What is most alarming is the impossibly small amount of time that the public has to research and comment on such a ridiculous proposal , especially given the extremely poor community consultation by Epuron .

I reserve the right to provide to the Department further detailed comment on these and other aspects of the Yass Valley Environmental Assessment

subsequent to today. I strongly urge the NSW Dept of Planning to reject this proposal.

[redacted]

21 December 2009
The Director,
Major Infrastructure Assessments,
Department of Planning,
GPO Box 39,
Sydney NSW 2001

Dear Mr Osborne,

RE : Objection - Yass Valley Wind Farm proposal Application Number: MP08_0246

I wish this emailed letter to be considered as a further submission on the Yass Valley Wind Farm proposal, your Application Number: MP08_0246.

I hereby lodge this objection to this application. I object on the grounds that:

1) The stated GHG reduction figures are incorrect and inconsistent, re p15 to 17 of the main EA document.

The Capacity Factor (unstated by Epuron) works out at 36% based on their MWh / year figure : 1,200,000MWh / (380MW x 8760hours). Although this CF is highly optimistic I have calculated the CO2 reduction estimates based on displacing peaking gas plant at this CF, which is what will occur in the case of Yass Valley wind farm. I have provided figures also for coal, even though this won't be displaced, to give an example of how Epuron's figures are significantly over estimated.

0.86t coal = 1,032,000 tCO2/year
0.36t gas = 432,000 tCO2/year

Compare this with Epuron's claim of 1,160,000 tCO2/year, and it appears that this wind farm would deliver a third of their claim at best.

Epuron worked it out as 0.96t tCO2/year, which is the NSW Pool Coefficient and has nothing to do with estimating wind farm GHG reduction figures. Epuron repeatedly mentions coal fired power stations during the EA, but this has no relevance to this application as NO coal fired power stations or their generation output will be displaced by this development.

P17 : CO2 reduction figure diff to page 15, p17 claims : 1,140,000 tCO2/year

Homes powered / cars removed is a misleading claim and should be removed, these are not recognised scientific physical units, and bear no relation to the reality of security of supply that the electricity system produces, nor does it state how much of the power produced is divided between residential and business/industrial use.

I would also point out to the Department that recent research in the USA has identified that peaking gas plant paired with industrial scale wind power stations

do not deliver the C02 reductions that are currently assumed by policy makers, and in some cases NOx emissions can increase. It is highly likely that the GHG reduction figure for industrial scale wind power stations will be reduced further, as well as a re-adjustment of Life Cycle Analysis (LCA) figures as a result of this scientific research :

Katzenstein, W & Apt, J, "*Air Emissions Due To Wind and Solar Power", Environmental Science & Technology* (2009) Vol 43 No 2 pages 253-258

The most recent (2009) research paper in the scientific journal *Environmental Science & Technology* which goes into great detail on the poor greenhouse gas reduction capability of wind power, and also presents research results showing increases in NOx emissions due to wind.

* Katzenstein, W & Apt, J, "*Incorporating Wind into a Natural-gas Turbine BaseloadPower System Increases NOx and CO2 Emissions from the Gas Turbines*", (2008), Fifth Annual Carnegie Mellon Conference on the Electricity Industry, Future Energy Systems: Efficiency, Security, Control available on line at :

http://www.ece.cmu.edu/~electriconf/2008/PDFs/6-2%20Katzenstein%20and%20Apt.pdf

This presentation is an overview of their work detailed in the previous paper and makes particular note that :

- **1MWh of wind energy does not eliminate 1MWh of emissions**
- **Amount of emissions displaced by wind are overestimated**
- **Life Cycle Analyses does not account for wind's effect of decreasing the emission efficiencies of conventional fossil fuel generators**

2) Lack of community consultation.

I enclosed my correspondence with Epuron below. I also enclose the sum total of the information I have received, which was supplied in one of those emails. I have heard nothing more from Epuron since April 9th 2009. This has severely affected my ability to write this submission to my satisfaction. My discussions with other affected residents and friends in the Harden / Binalong / Bookham have revealed a similar lack of contact and information. It seems that most people are now only just becoming aware of this, and of course the 30 day exhibition period is now over, so they cannot lodge a legal objection and submission to the developer. To my knowledge the developer Epuron has not sent anyone a community newsletter stating the date for exhibition. This is unacceptable and contravenes Best Practice.

3) Illegibility of Figures & Diagrams :

Most of these are practically unreadable throughout the document and Appendices. E.g. Fig 2-1, Fig 3-2, 3-3, 3-4, 3-5... in fact to name all the illegible figs and diagrams would take far too long, all figs should be checked and redone for this document at a resolution that is readable. From the dates that I can make out on the figures, these images have been made many months previous to the

on-exhibition date, no community consultation has taken place regarding the turbine layout or any other matter.

4) Number of landholders is inconsistent

P28 of main EA states 15 involved landholders for Coppabella, on P30 this is stated as 13. The image on P30 contains a section that is not shown on any other map that I can find, compare it with p29 layout. This is the section at the north east, an olive green colour to the right of the purple section. As the key, road names and any other useful information is illegible I cannot state the names of these blocks. In addition it has been brought to my attention by neighbouring landholders and other residents that some of the properties listed as "participating landholders" have not yet signed contracts. How can this be a credible application without such landholder lease agreements being in place?

5) Decommissioning

From our meetings with other NSW landholders who are or have been coerced by industrial wind energy companies it is evident that they are under the impression that they will benefit from the "scrap value" for turbines when they are no longer in service. Governments, on the other hand, are being given the false impression by the wind industries project application documents that decommissioning costs will be covered by scrap value. **This is not true and represents a significant problem for the future and further demonstrates that industrial wind energy developments are NOT environmentally responsible or Ecologically Sustainable Development (ESD).**

For example, the false assumption of scrap value covering decommissioning costs is stated by the developer Epuron (http://www.epuron.com.au) in their current Harden / Yass
Preliminary Assessment document Chapter 4, Page 13, Section 4.5.3 :

"It should be noted that the scrap value of turbines and other equipment is expected to be sufficient to cover the majority of the costs of their dismantling and site rehabilitation."

The final Environmental Assessment document for the now approved Conroy's Gap site, Chapter 1, Page 42, Section 3.4.3 :

"The scrap value of turbines and other equipment is expected to be sufficient to cover the majority of the costs of their dismantling and site restoration."

These are incorrect assumptions and highlight that decommissioning plans are a more recent problem the wind industry and the NSW Government should now be addressing. **All industrial wind energy developers are making exactly these same claims in their planning applications which are being systematically approved in NSW without question.**

Decommissioning is a very expensive, industrially intensive process.

A recent USA study on public record was independently commissioned regarding realistic decommissioning costs for a currently proposed 124 turbine project in West Virginia. This study, by Energy Ventures Analysis Inc (EVA), found that the wind energy companies engineering decommissioning report stating that costs would be covered by scrap were incorrect. **EVA found that the decommissioning costs for that particular**

124 wind turbine development were underestimated by US$10million. The final decommissioning estimate was US$100,000 per turbine, resulting in an up front bond estimate of US$12+million at the start of the project. It is becoming more likely that future industrial wind energy projects will now require an up front bond, without inclusion of any scrap value due to the fluctuating nature of the scrap metal market. Should such large bonds be required by any future government legislation, these would be an additional financial burden that may halt a project after a lease has been signed, potentially leaving the landholder tied to an onerous long term lease agreement without income. The potential problem should decommissioning not be underwritten is that this financial burden reverts to the landholder and/or the community. **However, nowhere in the project approval documents for Conroy's Gap is there any requirement for a bond to cover decommissioning costs.**

Hewson, T & Stamberg, J, (2008), "*Beech Ridge Energy LLC Financial Assurance Needs",* Energy Ventures Analysis, Inc. Available on line at :

http://www.windaction.org/documents/23450

This document us the full Energy Ventures Analysis (EVA) decommissioning report on the **USD$10million** underestimate for the 124 turbine Beech Ridge development in the USA. All NSW developers are claiming that decommissioning is covered by scrap value, this report shows that this is not the case and a serious underestimation of the realities of decommissioning/site restoration. Cost estimates per turbine for decommissioning were **US$100,000** and ultimately the landholder is liable should funds not be available by the wind energy company. (Please refer to section 6 of our submission) The summary from EVA :

"Tom Hewson of Energy Ventures Analysis, Inc. ("EVA") was hired by the citizen's group, Mountain Communities for Responsible Energy, to evaluate a Decommissioning Cost Report prepared for the Beech Ridge Energy Project - a 124-turbine project proposed for Greenbrier County, West Virginia.
The project wind developer, Invenergy, had argued that the scrap value of the wind turbines would far exceed the cost to decommission the wind project and thus, bonding only $2,500 per turbine that would slowly escalate to $25,000/turbine by year 16 would be more than adequate.
The applicant's consultant estimated that its salvage value credit would reach $12.64 million ($101,900/turbine) in their decommissioning fund study based upon application of general scrap factors and prices. This scrap value credit would more than offset their estimated demo costs ($8.68 million: $70,000/turbine).
EVA completed an independent assessment of the salvage value of the Beech Ridge Wind turbines by first contacting the major regional scrap yards directly and obtaining current scrap prices for steel, copper and transport. From these data, EVA developed a Beech Ridge project-specific salvage credit estimate of only $2.63 million, i.e., $10.01 million less than the original applicant study. They also uncovered several major flaws in the applicant study methodology and pricing. The developer not only used old scrap prices but failed to take into account costs related to transporting scrap to a yard. In addition, to obtain the posted scrap price, they would need to break down the tower into 3-4 ft length pieces else the quoted price would be significantly less. In addition, the copper materials must also have their insulation stripped and/or copper pieces separated to obtain their posted copper price. If not, their scrap value would be far less than the common posted price. Given the large drop in scrap prices in recent years (>40%), EVA found that scrap value would no longer cover decommissioning costs.
EVA also compared the estimated demolition costs to another decommissioning report for another wind project developer that had contained detailed cost breakdowns. The

other study estimated demo costs of $97K/turbine vs. $70K/turbine by Beech Ridge. Using the demolition costs from the other wind turbine project decommissioning study would translate to a Beech Ridge demo cost of $12.03 million, i.e., $3.35 million more the applicant's $8.68 million estimate. (Note: In another very recent project EVA had reviewed, the decommissioning costs were again severely underestimated by more than 50% by not taking into account recent crane rental rates, assuming extremely low earth moving costs, and assuming high productivity rates (6 turbines/wk).)
The bottom line is that even if the permitting agency allows the salvage credit, the total net cost of decommissioning the Beech Ridge project today would be $10.4 million ($83,900/turbine). EVA's analysis quantified the large scrap price and demo cost escalation risk being assumed by the local community. To protect the community, the permitting agency should require a bond of a minimum $100K/turbine ($12.4 million) to capture demolition cost escalation risk. If the wind developer can convince the bonding company of the high salvage value, then they should be able to negotiate a lower rate for the bond. If they were right, there would be very little price difference for a larger $12+ million bond. EVA encourages shifting the risk to the bonding company.
The developer and bonding company should assume the price risk and not the community."

* Brown, R (2009) "*Appeal of Maine final order, Record Hill Wind LLC*", State of Maine Board of Environmental Protection re : Record Hill Wind Project. Available on line at :

http://www.windaction.org/documents/23278

Appeal filed by the Concerned Citizens to Save Roxbury ("CCSR") regarding the 22 industrial scale turbine proposal in Roxbury, Maine. The full appeal includes testimony filed by sound expert, Richard James. Also includes objections to the **Decommissioning Plan** and makes note of the fact the fact the **Deerfield** ruling disallowed a deduction for scrap value, see pages 31 to 33 in part 2 of the PDF documents.

* Comfrey Wind Energy, LLC, (2007) "*Docket Number: IP6630/WS-07-318 Decommissioning - Estimated Cost and Funding Analysis for Comfrey Wind Energy – REVISED, page 31a*", Minnesota Dept. of Commerce. Energy Facility Permitting, Siting and Routing

This decommissioning report submitted on 1st August 2007 is the estimated costs by Comfrey Wind Energy for fifteen Suzlon S88 2.1MW wind turbines, hub height 80m and rotor diameter 88m. Total estimated cost to dismantle & remove turbine per unit without scrap value is **US$154,000.** No other infrastructure dismantling costs were submitted in this report.

* State Of Vermont Public Service Board (2009) *"Docket No. 7250, Section VI Decommissioning Fund",* pages 91-96. Available on line from Government of Vermont website at :

http://www.state.vt.us/psb/orders/2009/files/7250finalorder.pdf
Some excerpts from the ruling relating to decommissioning:

Finding 331. *"The establishment of a fund to decommission the Project is necessary in the event the Project does not succeed, or to ensure its timely and permanent removal at the end of its useful life."*

Finding 331. *"Salvage value for scrap is vulnerable to market price volatility and thus should not be considered a reliable funding source for decommissioning the Project. The amount placed in the decommissioning fund should represent the full estimated costs of decommissioning without netting out estimated salvage value."*

Epuron have not given any indication that they have secured funds to cover any decommissioning costs associated with this or any other project.

Note : The recent findings / recommendations on decommissioning of the NSW Rural Inquiry into Rural Wind Farms :

P75-76

5.145 The Committee notes with concern the apparent lack of policy regarding decommissioning of wind farms in NSW. The importance of managing the 'whole of life' of utility scale wind farm developments should not be underestimated. Without adequate foresight during the planning process, wind farms may present a public health and safety risk once they cease operating. They may also adversely affect the environment and have socioeconomic ramifications such as burdening NSW taxpayers to fund their removal.

5.146 The Committee further notes that under their lease agreement host landowners may have responsibility to remove wind turbines from their property once the wind turbines stop operating. Due to the enormous size of wind turbines, the Committee is not confident that current decommissioning arrangements will in fact result in wind turbines being adequately removed from the landscape.

5.147 The Committee believes that effective wind farm planning should take responsibility for the whole life of a wind farm, including decommissioning and it is unclear whether this is currently occurring. There is a risk that rapid planning and construction of wind farms is being prioritised over adequate whole of life planning. This could present problems in future years.

5.148 The Committee notes that decommissioning requirements are identified as conditions of consent in development approvals. The Committee further notes that these responsibilities *may* be passed on to host land owners in their lease contracts with wind farm developers. As host land owners may not be able to afford to remove wind infrastructure, there is a level of uncertainty regarding wind farm decommissioning.

5.149 The Committee believes that improved clarity and assurance is required for wind farm decommissioning to ensure that the requirements identified as conditions of consent are adhered to. The establishment of a system that guarantees funding for wind farm decommissioning is also supported by the Committee.

5.150 The Committee notes that the decommissioning information provided in the Auswind *Best Practice Guidelines for Implementation of Wind Energy Projects in Australia* should be applied to wind farms in NSW. The Committee further notes the need for NSW policy to make this information obligatory in wind farm planning. The Committee believes that additional information is required to be included in the development of the *NSW Planning and*

Assessment
Guidelines for Wind Farms to identify responsibility, the time period after operation in which turbines must be dismantled and how dismantling will be funded, including the option of applying a bond.

Recommendation 9
That the Minister for Planning address decommissioning of wind turbines in the *NSW Planning and Assessment Guide for Wind Farms*, including responsibility for decommissioning, the time period in which turbines should be dismantled and removed and how decommissioning will be funded. And that the Government consider requiring the developer to pay a bond.

I reserve the right to provide to the Department further detailed comment on these and other aspects of the findings in the Yass Valley Environmental Assessment subsequent to today.

Yours sincerely

[redacted]

BELOW : Correspondence with Epuron

From: J.Kasby@epuron.com.au
Subject: **RE: Harden / Yass wind farm**
Date: 7 April 2009 4:40:56 PM
To: [redacted]

Dear [redacted],

Thanks for your email, I will be sure to add you to the mailing list for our next newsletter.

Unfortunately these documents are not available on the website, we are currently working on creating a website for the Yass Valley Wind Farm. Once the Environmental Assessment has been submitted to the Department of Planning they will be available to view online along with all newsletters and media releases.

The current status of the project (using the flow chart in community update 1 page 2) is that Epuron is currently preparing the Environmental Assessment for submission to the Department of Planning. This will contain the full specialist reports as well as give a full description of the proposal.

Community Update 1 is in relation to the Yass Wind Farm development and makes reference to Conroy's Gap due to its proximity to the current project. The Conroy's Gap project has been sold to Origin Energy as with Cullerin Wind Farm which is currently under construction. There is currently no update on the Conroy's project as a start date for construction has not been determined to the best of my knowledge.

Once the EA has been reviewed by the Department of Planning it will be displayed for the public. I cannot say when this will be exactly, however, if I were to guess I would say that this could be June or July at the earliest. An update will follow the submission of the EA with details of the public exhibition dates.

The project may take on a financial investor to fund the project, however, it is our intention to remain involved in the project through the construction phase.

Epuron has been monitoring the wind conditions in the area over the passed five years and are very confident in the wind resource at these sites. We have installed monitoring masts on site over the passed 12 months will continue to monitor the conditions. This data will not be made publicly available.

I hope that this is helpful in answers all of your questions.

Kind Regards,

Julian Kasby

From: [redacted] **Sent:** Wednesday, 8 April 2009 8:18 AM **To:** Julian Kasby **Subject:** Re: Harden / Yass wind farm

Dear Julian

Thank you for sending the community update information.

I did try to find these on Epuron's website but I could not see them anywhere, or a web section relating to this proposed project. Will this information be put on the website?

Also could you tell me what is the current stage of the process of this proposed development, as the community update No 1 is dated Nov 2008, the specialist studies progress report is Dec 2008 and we are now at April 2009. Is Community Update No.1 - Nov 2008 also the first community update for the approved section at Conroys Gap, as well as the remaining 3 proposed sections?

When will the proposal and assessments for the other proposed 3 sections be placed on public exhibition?

Is this project also planned to be onsold?

How long was the wind monitoring phase for the 3 proposed sections (start and end dates), and also can you give me the same details for the approved Conroy's Gap section? Will the wind monitoring data be publicly available? Was the wind monitoring phase conducted by Epuron or another company?
Please add me to your mailing list for future newsletters :

[redacted]

[redacted]

On 07/04/2009, at 4:40 PM, Julian Kasby wrote:

Dear [redacted],

Thank you for you email in relation to information regarding the Yass (Valley) Wind Farm.

I have attached a copy of two newsletters that we have distributed in the past as well as a summary of the specialist studies completed and a feedback form. All of these documents were available at the open house event that we held in Binalong in December.

We are currently preparing an Environmental Assessment and you will be able to view this once it has been submitted to the Department of Planning for review. It will be displayed for public to review and provide comments on, later in the year. This document will contain significantly more detail regarding the proposal, the assessment process, the potential impacts and mitigation measures recommended.

If you have any specific questions regarding the project I would be more than happy to answer them for you either over the phone, via email or in person.

Additionally if you would like to be added to our mailing list for future newsletters, could you please send me your preferred mailing address?

Kind Regards,

Julian Kasby

From: [redacted] **Sent:** Monday, 6 April 2009 3:17 PM **To:** Julian Kasby **Subject:** Harden / Yass wind farm

Dear Julian,

Please could you email me a copy of the community consultation documents, and any other publicly available documents for the proposed wind farm development at Black Range, the Coppabella Hills and Carrolls Ridge.

[redacted]

<161846.PDF><MRL CAR COP - Community Newsletter Nov08.pdf><Specialist studies summary.pdf><Community feed back form.pdf>

Marek Cholinski - Online Submission from [redacted] (object)

From: David Burraston [redacted]
To: Marek Cholinski <marek.cholinski@planning.nsw.gov.au>
Date: 30/11/2009 8:48 PM
Subject: Online Submission from [redacted]
CC: <assessments@planning.nsw.gov.au>

I object to the Harden / Yass wind farm Application Number: MP08_0246. I have only just found out that the EA is on exhibition and will be away until the exhibition closes on Dec 14th. I expressly asked Epuron to add me to their mailing list and when the documents would be placed on public exhibition, but have not received any communication from them since 9th April 2009. I will submit these emails as part of my submission.

As I will not have time to fully read the EA until I return my main concerns so far are :

1) Poor greenhouse gas reduction
2) Decommissioning
3) Negative environmental impacts
4) Negative health impacts
5) Property devaluation
6) Visual impacts
7) Unsustainability
8) Noise pollution
9) Project lifespans
10) Considerable research still required for industrial wind energy generation
11) Local meteorological and climate impacts
12) Turbulence
13) Community consultation
14) Rural community divisions
15) Negative impact on local tourism and business

[redacted]

Address:
[redacted]

IP Address: optussatellitebinta.22bjipb002.optus.net.au - 59.154.24.147

Submission for Job: #2765 Project Application- Wind Farm
https://majorprojects.onhiive.com/index.pl?action=view_job&id=2765

Site: #1741 Yass Wind Farm
https://majorprojects.onhiive.com/index.pl?action=view_site&id=1741

Marek Cholinski

P: 02 9228 6284
E: marek.cholinski@planning.nsw.gov.au

Hard Copy has been sent in the mail.
M.C 04/12/09.

[redacted]

Fax

[redacted]

TO: Major Infrastructure Assessments

Fax Number: 02 9228 6366

Date: 4/11/2009

From: [redacted]

Number of pages including cover: 5

Regarding: YASS VALLEY WIND FARM

Please find attached two letters regarding our concerns and opposed position to the proposed Yass Valley Wind Farm.

The original copies will be posted in to today's mail.

Kind regards,

[redacted]

(24)

[redacted]

3rd December 2009

Major Infrastructure Assessments
Department of Planning
GPO Box 39
SYDNEY NSW 2001

To Whom This May Concern;

YASS VALLEY WIND FARM

I am writing to you today regarding the proposed Yass Valley Wind Farm as we are in the 3 - 8.5 km zone and on behalf of Redbank North Pty Ltd our concerns with this project.

Epuron's community update No. 3 dated November outlines three project direct benefits that the proposed 152 turbines offers.

1. The first benefit mentioned is that there will be 'clean, renewable energy, with no water used in generation providing enough renewable electricity for the average consumption of 150,000 homes over a typical year'. I have been led to believe the electricity generated is very irregular and in Denmark (the world's most wind-intensive state) carbon emissions rose 36% in 2006 from 2005. 'The Danish grid used 50% more coal-generated electricity in 2006 than in 2005 to cover wind's failings. The quick ramping up and down of those plants has increased their pollution and carbon dioxide output.' (Wind power: is it a realistic option? – Money Week)

   I am also led to believe the Danish electricity costs are the highest in Europe. Therefore I consider this proposed wind farm will be inefficient, not so clean and renewable and possibly expensive electricity for local residents.

   If this proposed wind farm is built in the Yass Valley and the outlook is that they are not viable or cost efficient, the land owner is then at great risk of having a product that requires to be removed.

2. The second benefit mentioned is that there will be a 'better environment for future generations through reduced pollution and reductions in greenhouse gas emissions'. The land where the turbines will be positioned will not be properly managed for control of weeds, feral animals and erosion. Land management could be compromised as the

land owner could rely on the income from the wind turbines rather than efficient management of the land.

3. The third benefit mentioned it that there will be 'income, employment and investment opportunities for the local and regional areas'. Employment opportunities on farms where the wind turbines will be positioned will cease, as the farming of that land has been replaced, which will also affect rural enterprises. I can not see how the jobs created by these wind farms offset the jobs that could be lost due to increased electricity costs and the diversion of tax money to subsidise these farms. It appears to me that the investment opportunities are available to wealthy investors for a tax scheme.

As a local resident and Managing Director of properties in the Yass Valley Shire I am concerned with the noise and light pollution that each wind turbine could create.

On behalf of [redacted], I am opposed to the proposed Yass Valley Wind Farm and can not see how the 'direct benefits' listed in the Epuron community update No. 3 – Nov 2009 are valid or outweigh the consequences of such a project. However, I do not object to nuclear power and why can this not be an option for energy in the Yass Valley Shire?

[redacted]

2a

[redacted]

3rd December 2009

Major Infrastructure Assessments
Department of Planning
GPO Box 39
SYDNEY NSW 2001

To Whom This May Concern;

YASS VALLEY WIND FARM

I am writing to you today regarding the proposed Yass Valley Wind Farm as we are in the 3 - 8.5 km zone and on behalf of [redacted] our concerns with this project.

Epuron's community update No. 3 dated November outlines three project direct benefits that the proposed 152 turbines offers.

1. The first benefit mentioned is that there will be 'clean, renewable energy, with no water used in generation providing enough renewable electricity for the average consumption of 150,000 homes over a typical year'. I have been led to believe the electricity generated is very irregular and in Denmark (the world's most wind-intensive state) carbon emissions rose 36% in 2006 from 2005. 'The Danish grid used 50% more coal-generated electricity in 2006 than in 2005 to cover wind's failings. The quick ramping up and down of those plants has increased their pollution and carbon dioxide output.' (Wind power: is it a realistic option? – Money Week)

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As a local resident and Managing Director of properties in the Yass Valley Shire I am concerned with the noise and light pollution that each wind turbine could create. I also would like advice of the effects the proposed Yass Valley Wind Farm will have on the 80 hectare subdivision of the property Fairview.

On behalf of Old Bundemar Pty Ltd, I am opposed to the proposed Yass Valley Wind Farm and can not see how the 'direct benefits' listed in the Epuron community update No. 3 – Nov 2009 are valid or outweigh the consequences of such a project. However, I do not object to nuclear power and why can this not be an option for energy in the Yass Valley Shire?

[redacted]

[redacted]

From: [redacted]
To: Marek Cholinski <marek.cholinski@planning.nsw.gov.au>
Date: 08/12/2009 20:17
Subject: Online Submission from [redacted]
CC: <assessments@planning.nsw.gov.au>, Neville Osborne <Neville.Osborne@planning.nsw.gov.au>

Environmental Assessment: Proposed Wind Farm, Yass NSW(08_0246)

[redacted]

Our objection is the night lighting for the towers and that serious consideration is being given to the management of water and erosion.

We find it unacceptable that your assessment concludes there were no areas where the wind farm would create unacceptable visual impacts. I am unable to find an area in the report where you define unacceptable, in our view the visual impacts from Viewpoint RVP5 (House #C34) will be unacceptable if the towers are to be lit in the same fashion as the Gunning towers. A flashing red light on the top of each tower is not acceptable across our complete horizon with no compensation offered when large payments are made to those who own the land and not have their lifestyle impeded upon.

It is noted that Civil Aviation Safety Authority (CASA) guidelines for aviation warning lighting for a group of wind turbines are currently being reviewed, currently guidelines do not state that flashing lights have to be installed, we would request that this, no flashing lights, be part of the construction and management conditions of the proposal. The photos used in your EA are very deceptive when the Gunning lights can be very clearly seen by the naked eye at very substantial distances. Te impact of the red flashing lights will be considerably greater than Gunning because of the greater number of turbines. Gunning has 15 turbines and the impact of 15 red flashing lights at night time is substantial. We point out that this DA application proposes up to 200 turbines and that number of red flashing lights spread across such a large area will have an enormous impact. Anyone living within a line of sight of these turbines will be forced to have special window treatments to block out these lights if installed, no mention of support or compensation for this action.

Community Consultation ? open house forum proved to be highly uninformative, the format presented a number of maps with very little explanation, I notice that it was decided to use this format be it ?is helpful in avoiding potential conflict in a public meeting for contentious issues? however, this format doesn?t present information to the uninformed any understanding of what issues maybe of concern and therefore they are not addressed or explained.

Newsletters ? mentioned in the EA, as an adjoining landholders we have never received a copy of this newsletter, it would appear only one has been produced, I am wondering who they were supposed to be keeping informed or what was their purpose, (I point out that we are 4.6km from nearest tower)

Where water is to be sourced for the construction of the towers and supporting infrastructure. Please be aware of the Jugiong Creek Community monitoring project and note that the streams monitored in this area where regularly dry over the past four years, and we would request that no surface water be removed from the existing water courses as

The riparian environment is very fragile due to low water levels and any reduction can only cause difficulties to the riparian populations and river health across the catchment (page 200).

The soil is a fragile granite base, highly erodible; we would request that very stringent guidelines be put in place to ensure that gully and surface erosion is not the result of the road ways being constructed to bring the towers to the site. Will there be a clause that requires rehabilitation should erosion unexpectly occur from storm events?

Request that we be part of the monitoring program for loss of television signal strength and radio.

Has consideration been given to the health impacts these lights will have on those living in line-of sight. Our understanding is studies have shown impacts including sleep problems, noise of pulsation and flickering makes it hard to sleep and causes frequent waking, headaches due to low constant noise and tinnitus (ringing in the ears) leading to exhaustion, irritability and depression to name a few. I am not sure what the flickering effect would be under night lights, seems to be plenty of evidence that this has a day effect that may precipitate seizures

The night sky in the country is particularly beautiful due to the lack of artificial lights allowing one to enjoy some spectacular night skies. This simple pleasure will be lost if 200 red flashing lights are introduced, one of the very few benefits that is gained from living in isolation.

I hope you will give serious consideration to all the above issues when granting the terms and conditions for this development

[redacted]

[redacted]

Submission for Job: #2765 Project Application- Wind Farm
https://majorprojects.onhiive.com/index.pl?action=view_job&id=2765

Site: #1741 Yass Wind Farm
https://majorprojects.onhiive.com/index.pl?action=view_site&id=1741

Marek Cholinski

P: 02 9228 6284
E: marek.cholinski@planning.nsw.gov.au

[redacted]

PCU001261

9th December 2009

[redacted]

Department [redacted]
Received
10 DEC 2009
[redacted]

The Director , Major Infrastucture Assessments ,Dept of Planning , GPO Box 39 , Sydney NSW 2001

To Whom It May Concern ,

Epuron have ignored and not followed up discussions with us here at [redacted].

Epuron have not provided information they had promised us .

We request that Epuron not build 10 of the 180 proposed wind turbines .

These 10 wind turbines will have a serious impact on our existing tourism business [redacted], [redacted] and our proposed tourism educational eco sustainable village for 800 people , our architect [redacted] u .

Green energy is being given total government support overriding many concerns . Our clear request is to not build 10 turbines that will affect our night sky for the next twenty five years with red flashing lights , noise and flickering on the landscape in the late afternoons .

I spoke to our architectural firm yesterday , Richard Smith in Peter Stutchbury's office , he agrees that a tourist sitting on a verandah of one our tourism villas , watching the afternoon sunset and then night sky with a glass of wine will be totally put off by flickering shadow and then red flashing lights from the wind turbines , for the next twenty five years .

Epuron will employ 167 people to set up all the turbines and then , in the end , it employs only 34 people permanently and only eight to a dozen land holders will financially benefit .

Our proposed tourism village "CRISPs" , is to allow all world technologies to showcase their technologies here , to link in with Universities all around the world and bring tourism dollars back into rural Australia .

"CRISPs" is a 60 million dollar project , with a very conservative 20 million dollar annual turnover , it will have 200 permanent employees and money is distributed within the region .

We have met with Mr Adam Badenoch , Head of Staff , of the former NSW Minister Mr Ian Macdonald MLC , at Parliament House Sydney and had gained their full support for our project "CRISPs" .

On a simple long term monetary , employment , environment , distribution of wealth level , "CRISPs" far out weighs Epuron at every level .

Our next immediate development here at "The Crisp Galleries" is a woollen mill , and educational centre , construction January 2010 "Armour Crisp Pty Ltd" and the housing of one of the largest geranium collections in Australia , construction starting this month December 2009 .

"CRISP's" , please find attachments Peter Stutchbury Concept Report , Hydrologists Report , CBRE Richard Ellis Town Planning Report , Yass Valley Council amendment for new LEP , Curriculum Vitae , Sandy Crisp's Letter .

Epuron will destroy our current tourism development , our life time's work if 10 turbines are built across the Maribla Hills and Conroys Gap and then destroy the opportunity to develop our $60 million Eco Tourism Village employing 200 people on a permanent basis .

[redacted]

4a

[redacted]

[redacted]

9th December 2009 ,

The Director ,
Major Infrastructure Assessments ,
Department of Planning ,
GPO Box 39 ,
Sydney NSW 2001

To Whom It May Concern:

In writing this letter we are not against wind farms however they are being put in places that affect peoples lives. Everyday people like you and I.

The already approved wind farm between the villages of Bowning and Bookham has affected 880 acres of our property and we have no say in the matter.

This new proposed wind farm along the Marilba Hills (which also includes another section of Conroys Gap) will directly affect our tourist complex which we started in 1986.

Please see our website :-

As you can see from our website we are well established. It has been a lifetime's work for our family to get it to this stage.

We have bus group luncheons, concerts, weddings in the garden. People picnic in the gardens and can be here most of the day enjoying what we have to offer. Our business attracts a lot people to the Yass Region which in turn puts money back into the region. For example there were 140 people here in the gardens at a recent wedding. The majority of these people stay in Yass at the Motels. They all have to eat. Alcohol is bought locally for the wedding etc.

We met with Epuron here at the galleries to express our concerns. They took photos from our gallery promising us they would superimpose these wind turbines onto photos so we could be given an idea on how they would look. Never heard from them again !

When you drive to Goulburn from Yass you can see the new wind farm that they have already constructed. When you see how close our galleries are judging on the distance they will totally dominate our galleries and property totally destroying what we have already achieved. Not to mention the red flashing lights at night.

There are 10 turbines that will affect us.

What we are asking for is that these 10 turbines are not built here.

[redacted]

[redacted]

Special Consideration

- We are one of the main tourist attractions that Yass has.
- We have put a life time's work into this tourist attraction
- Home of [redacted] (world renowned glass artist)
- Gift Gallery run by [redacted]
- We have just secured one of the largest Geranium Collections in Australia . (900 to 1000 varieties). This will create another great tourist attraction for the district These plants will be grown by us and sold to the public in the Nursery area we already have – this will be managed by Sandy Crisp.
- Woollen Mill – The [redacted] family and the [redacted] family have bought a Woollen Mill which will be re- located here at the Galleries. We are rebuilding the old Gwondobin Woolshed starting in January 2010 all going well. This building will house the Mill which will be a totally operational. Promoting wool and re – educating people about the great properties wool has to offer. People will be able to see the mill operating and will be able to buy the end product.

We have proposed a new Tourist Village here on our property. This new project is called:

[redacted]
The location of this development is ideally situated on the Burley Griffin Way will also also have access to the Hume Highway which is a commercially registered entrance. Good access to country areas Binalong, Harden etc close to Canberra and the New Airport

Please see attached information

We are planning to build 200 villas with the potential of attracting 400 – 800 people to the Yass area a night. We are looking at supporting every established business with in approx. 150 km radious including Canberra . Not to mention the new business opportunities it would create for Yass. This Development will create potentially up to 250 full time jobs not to mention the other jobs and activities it would bring to the district. It potentially could inject 40 to 60 million dollars a year into the district. (this would be ongoing)

The wind farm on the other hand would create in the short term 167 full time jobs and 34ongoingjobs after it has been built. It is said that the wind farm would inject 75 million into the local economy in the short term.

TO ALLOW US TO BUILD OUR VILLAGE WE ARE ONLY ASKING EPURON NOT TO BIULD SEVEN TO TEN TURBINES.

We have incurred quite a lot of expense already with our new project before the EPURON project was announced.

Please find attachments ; Peter Stutchbury Architect Concept Plan , Hydrologists Report , CBRE Ricahrd Ellis Town Planners Report , Yass Valley Council's new amendment for LEP

We already have potential investors for this development which will be done in stages. Before we can proceed we have to wait for the new Local Enviroment Plan (LEP) to be completed.

The location of these turbines would totally destroy the attmosphere we are trying to create. You would not come from overseas to country Australia to look onto a wind farm with the night sky taken up with red flashing lights.

Epuron also took pictures from our proposed development site for CRISPs which they were meant to supper impose for us. Have not heard a thing back !

This is a bit of a battle like David and Golliath

WE WOULD NOT PROCEED WITH OUR VILLAGE [redacted] IF THESE TEN TURBINES ARE BUILT.

We have the full backing of the Yass Valley Council and have proven ourselves in the tourism business since 1986.

We would appreciate your help in this matter to allow us to build our village and also keep the magical presence that everyone talks about at our existing Galleries by stopping the constuction of these seven to ten turbines.

[redacted]

5.

Marek Cholinski - "Yass Valley Wind Farm (08_0246)"

From: [redacted]
To: <Marek.Cholinski@planning.nsw.gov.au>
Date: 14/12/2009 10:01 AM
Subject: "Yass Valley Wind Farm (08_0246)"

Dear Sir,

We are objecting to the above proposed wind farm development for the following reasons.

1. The company Epuron Pty Limited has not provided us with detailed enough photos of the area in view of turbines from the south side of our property just outside of the village of Galong.
2. They have not been able to confirm the number of turbines on view from the rear of our garden.
3. This property is going on the market within the next two years and the development will have a negative impact on the selling price. We do not accept the explanation quoted in the Environmental Assessment Report regarding property values.
4. The development will directly impact on the scenic views of the hills in this region.
5. Noise is still an issue.
6. Find another site – the wind is not constant enough in this area.
7. It is not going to contribute much to reducing Australia's green house emissions.

[redacted]

 (6)

Neville Osborne - Submission forwarded to you on hearing Mr Cholinski is on leave.

From: [redacted]
To: <neville.osborne@planning.nsw.gov.au>
Date: 11/12/2009 08:10
Subject: Submission forwarded to you on hearing Mr Cholinski is on leave.

[redacted]

Major Infrastructure Assessments
Department of Planning
GPO Box 39
Sydney NSW 2001

Dear Director-General

Re: Yass Valley Wind Turbine Development 08_0246

We thank you for the opportunity to present a brief submission on the industrial development proposed for the Coppabella Hills and Marilba Hills west of Yass.

As a family, farming and living on two properties in the vicinity, we object to the proposal.

The hills on which these turbines are proposed to be built are typical of the south west slopes landscape comprising grazing country and woodlands. The entire area is zoned as rural. The proposal would transfer the ridgelines of this rural landscape into an industrial zone. The aesthetic beauty of the area would be lost.

Neighbours most effected receive no compensation or consideration whatsoever, and are forced to suffer huge reductions in the value of their properties and quality of life.

A quality of life which we in this region have worked hard to maintain will be severely impacted by: the noise of these industrial giants; the visual impact; immense shadows; effect on physical health – known to cause migraine, anxiety, depression, and tinnitus; despoiling the night sky - red lights on the wind towers at Cullerin 77kilometres in a direct line to our east are visible at night from our property – the thought of another 152 lights on our doorstep is horrible.

The effect on the district's flora and fauna too, and as importantly, would be detrimental.

The environmental benefit of wind turbines is highly questionable. Studies overseas and in Australia show appallingly low rates of efficiency.

We implore your department to dissuade the opportunistic developer from this proposal and encourage instead solar power for which Australia is ideally suited. If each home in Australia was fitted with solar panels, green energy requirements would be met and landscape scarring industrial wind turbines, the construction of which creates huge levels of pollution, would be completely unnecessary.

Please, for the sake of our community, our land values, our flora and fauna, and our environment, reject this and any future wind turbine applications in the area.

Neville Osborne - Yass Valley Wind Farm [redacted].

From: [redacted]
To: <marek.cholinski@planning.nsw.gov.au>
Date: 11/12/2009 18:47
Subject: Yass Valley Wind Farm Coppabella Hills and Marilba Hills Precincts.
CC: <neville.osborne@planning.nsw.gov.au>

Dear Mr Cholinski

I am writing to object to the proposed development of the above wind farm. I think we all agree that clean, green energy is the way to go, but my understanding is that wind energy is not particularly productive. However, no doubt this project will be approved no matter what objections are raised. Unfortunately, I have not attended any of the community meetings as I assumed they were for the benefit of those who will be leasing out their land, so my objections are raised in haste as only one month was given for them to be put in after the project was put on public display.

Number of turbines: The proposed number of turbines could be as high as 152. Consideration should be given to lowering that number which would lessen the impact of the development on surrounding properties and towns. Despite the surveys undertaken for the environmental assessment which all indicated that the majority of those surveyed were positive about these developments, there are still a large number of people who do not want this project approved in its present form. They accept that a wind farm will no doubt be approved, but would find it more acceptable if the total turbine numbers were reduced drastically. This area cannot be the only one with reliable wind speeds in NSW. The Yass Valley will be host to the largest wind farm built so far, maybe sharing it out to other areas would be a good idea so everyone gets a share.

Height of turbines: Turbines could reach 150 metres in height. Could the height be reduced to make the visual impact on surrounding areas less obvious. They are all to be built along ridgelines, if some could be located below the top of the ridges and hills they would be less obtrusive. As it is only the fans that are catching the wind, there does not appear a necessity for them to be located on the highest points, as the fans could catch the wind, whilst the towers could be lower down the ridgeline making them far less obvious. Can they be painted a more acceptable colour, white make a definite statement, a more subtle colour to blend in with surrounding landscape could assist in making their presence less overwhelming.

Visual Impacts: The house where I live was built in 2000 to take in the views towards Bookham. This sweeping panorama will now be littered with turbines, totally ruining the views. The visual impact will be very high and very disturbing. On page 18 of the environmental assessment were the following comments "...the assessment concluded there were no areas where the wind farm could create unacceptable visual impacts.....overall impact was found to be acceptable." I wonder who found it acceptable I certainly do not.

Existing environment: Throughout the assessment there are constant references to the degraded environment, meaning, I suppose, that more degradation is acceptable. Maybe the authors are unaware that this area has been in drought since 2000, and that it is under stress, but it has been a productive and important source of food and crops for many years, so it was not always as it now appears in 2009, ready for takeover by a wind farm.

Effect on local wildlife: Quote ".....impacts will not be significant or unacceptable". With the number of turbines proposed, I cannot believe that, there is no way that birdlife in particular will not be affected. For example there are wedge tail eagles all around this area and no doubt will be killed in large numbers.

Aircraft warning lights: Apparently 50 turbines at least will need these lights. The assessment states that "if obstacle identifying lighting is required by CASA, visual impact would be low as the area already contains multiple night light sources". I didn't know that this area contains multiple night light sources, what are they, where are they. There are certainly a number of towns around, but they don't flick on and off constantly with a bright and penetrating light. The visual impact at night with these lights is unacceptable. At this stage there is no certainty how many would be required, it could be more than 50, it would be disturbing and intrusive and those making a decision on this matter should view other wind farms just to see how overwhelming these lights in the countryside at night are. Again with a lower number of turbines this effect would be mitigated.

TV, radio and mobile reception: The assessment is not certain of the effect on TV, radio etc. If this occurs, who will bear the cost of upgrading or whatever is required. I think that this is a matter that should be

addressed prior to any work being undertaken, as it could affect a large number of people.

Construction: Apparently during construction of this project, it is estimated that 16.23 megalitres of water would be required for building work etc. The proposal is that it be sourced from Jugiong Creek and Burrinjuck Dam. I don't know about Jugiong Creek, but Burrinjuck Dam is presently at a low level, and having being in drought for nearly 10 years with no prospect of rain, doesn't look like filling up any day soon. Groundwater bores are another option apparently, again with the drought this is probably not very environmentally friendly.

Decommissioning and taking down turbines: How can there be a guarantee that these turbines will be taken down when they reach the end of their life span in 30 years or whenever. Epuron will no doubt sell on the wind farm as soon as it is constructed, are there any undertakings demanded by planning authorities that in 30 years that this will be done. In the USA there are old wind farms left rotting away, having reached the end of their lifespan, and no one is doing a thing about them. What is there to prevent this happening here?

Thank you for the opportunity of putting forward my objections, I would appreciate acknowledgement that this email has been received and would welcome any updates on the outcome of the planning approval.

(8)

Neville Osborne - Online Submission from [redacted] (support)

From: [redacted] [redacted]>
To: Marek Cholinski <marek.cholinski@planning.nsw.gov.au>
Date: 12/12/2009 08:34
Subject: Online Submission from [redacted] (support)
CC: <assessments@planning.nsw.gov.au>, Neville Osborne <Neville.Osborne@planning.nsw.gov.au>

I feel this is amove in the right diretion for Yass

[redacted]

[redacted]:
[redacted]
Yass NSW 2582

[redacted]

Submission for Job: #2765 Project Application- Wind Farm
https://majorprojects.onhiive.com/index.pl?action=view_job&id=2765

Site: #1741 Yass Wind Farm
https://majorprojects.onhiive.com/index.pl?action=view_site&id=1741

Marek Cholinski

P: 02 9228 6284
E: marek.cholinski@planning.nsw.gov.au

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(9)

Neville Osborne - Online Submission from [redacted] (object)

From: [redacted]
To: Marek Cholinski <marek.cholinski@planning.nsw.gov.au>
Date: 14/12/2009 13:42
Subject: Online Submission from [redacted] (object)
CC: <assessments@planning.nsw.gov.au>, Neville Osborne <Neville.Osborne@planning.nsw.gov.au>

To NSW Planning Department

I have lived and farmed at Yass all my life.I am a forth generation farmer who up until the proposals of the wind turbines had planned to live and farm here for the rest of my life.

I object to the wind turbines for the following reasons:
- noise and visual impact.
- Aviation lights.
- property devaluation.
- Health issues
- Ecology
- Lack of consultation from the company erecting the turbines.
- social impact. the dividing of the community.
- decomissoning of the towers.

These issues and in particular the aviation lights will have a detrimental impact on the way we live. It will have a dramatic effect on our land values. Who wants to live under a wind turbine.

Could you please take into consideration these issues when making your decision as you are dealing with our livelyhoods.

If these towers go a head it will make the decision of continuing to live in this area very tough.

Thankyou for your time

Yours Sincerely

[redacted]

[redacted]

Address:
[redacted]
Yass

[redacted]

Submission for Job: #2765 Project Application- Wind Farm
https://majorprojects.onhiive.com/index.pl?action=view_job&id=2765

Neville Osborne - Online Submission from [redacted] (object)

From: [redacted]
To: Marek Cholinski <marek.cholinski@planning.nsw.gov.au>
Date: 14/12/2009 15:06
Subject: Online Submission from [redacted]
CC: <assessments@planning.nsw.gov.au>, Neville Osborne <Neville.Osborne@planning.nsw.gov.au>

[redacted] arts / science organisation strongly objects to the Harden / Yass wind farm Application Number: MP08_0246.

Via other concerned citizens we discovered that the EA is on exhibition and closes on Dec 14th. Firstly we take issue with the short exhibition period and it being during an extremely busy time of year. It is extremely unfair to local citizens and community groups to be expected to respond to the enormous document that Epuron has had a much longer time to consider and produce by its paid staff and consultants. Such 'fast track' processes are procedurally biased to the benefit of the developers, and are not in the interests of adequate community consultation and social justice. Epuron's web site contains no information about this proposed development at all. The last ?Australian News? is dated October 8, 2008, the current company Newsletter is Issue 2, July 2008. A search on Epuron's website using the keywords ?Yass? resulted in no further information. A search on their website using the keywords ?Harden? resulted in NO information at all. There are NO ?Community Newsletters? on their website relating to this Project Application. As can be seen in the EA there was a mere 7 Days notice of the ?Community Information Day? at Binalong, which was just before Christmas in 2008.

We have a number of concerns regarding the Harden / Yass industrial wind development. The impacts of the proposed development are wide ranging in topic and will be geographically far-reaching across the south-west NSW districts.

Due to prior work commitments we do not feel we have adequate time to respond to the EA. Below we will briefly summarise how this industrial wind energy development will infringe upon the research, art/science residential, tourism, community cultural development activities of our organisation, and the future business, environmental and lifestyle activities of rural residents.

We object to the following negative impacts that will directly hinder our organisation and our surrounding communities.

1) Decommissioning of this industrial development is not adequately guaranteed.

2) Negative environmental impacts to endangered and vulnerable Box Gum Grassy Woodland habitat and its unique flora and fauna. Can Epuron provide peer reviewed evidence, scientific or historical that the mitigation strategies cited in the EA will counter the substantial negative impacts of this industrial development? The negative environmental impacts of industrial scale wind turbines is well documented overseas. Attention was drawn to such studies in the recent NSW Inquiry into Rural Wind Farms. Epuron and The NSW Government must not ignore these studies.

3) Numerous negative health impacts to humans, flora and fauna from noise pollution during construction and upon completion. Low frequency sounds (audible and inaudible) emitted by industrial wind turbines. Stress too from noise pollution, community divisions, disempowerment via unfair government and corporate planning processes that are lacking social justice, and result in blatant industrialisation and vandalism of the landscape.

4) Property devaluation, such developments will devalue our property and those in the district.

5) Loss of visual amenity during day and night times (due to aircraft warning lighting). We will see the proposed

turbines from where our organization is based and we object to this intrusion

6) Unsustainability, based on our research the ?green? outcomes cited by Epuron are dubious generalisations that are unsubstantiated.

7) Noise pollution will hinder our quality of life and the research activities of our organisation.

8) Industrial scale wind turbines will present increased fire danger and risks to a large geographic area. The hills and ridge lines need aerial fire control during bush fires and the turbines will interfere with these activities as has been documented in the recent NSW Inquiry into Rural Wind Farms.

9) Local meteorological and climate impacts. Scientific research demonstrates that industrial scale wind turbines can affect local climate change, and further research has been called for.

10) Unnecessary divisions in rural communities that were previously harmonious. Such divisions have already had hugely destructive social impacts, which will be felt well into the future.

11) Obstruction to the future development of local eco and agri tourism. Both of which are growing in our districts, and noted for their potential development and long term employment opportunities, much of which is related to the beauty of our landscape and its rare fauna and flora.

Generally, we also wish to object to other negative impacts related to industrial wind turbines and their placement in NSW include:
12) Considerable objective research analysing negative environmental and social impacts is required for industrial wind energy generation.

13) There has been no community consultation by the NSW government with the people of NSW regarding renewable energy priorities and strategies.

14) Poor greenhouse gas reduction capacity of industrial scale wind turbines - we particularly object to wind farms on these grounds, as they will make practically no difference in this regard.

15) Poor efficiency and predictability of wind as an energy resource, in NSW we have much better and less negatively impacting alternatives, such as domestic solar.

[redacted]

[redacted]

[redacted]

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https://majorprojects.onhiive.com/index.pl?action=view_job&id=2765

Site: #1741 Yass Wind Farm
https://majorprojects.onhiive.com/index.pl?action=view_site&id=1741

(11)

Neville Osborne - Online Submission from [redacted] (object)

From: [redacted] [redacted] [redacted]>
To: Marek Cholinski <marek.cholinski@planning.nsw.gov.au>
Date: 14/12/2009 15:48
Subject: Online Submission from [redacted] (object)
CC: <assessments@planning.nsw.gov.au>, Neville Osborne <Neville.Osborne@planning.nsw.gov.au>

YASS VALLEY WIND FARM
APPLICATION NO.MP08-0246
I am a farmer in the Binalong area and my family own land within 5 km of the Coppabella Range.
Firstly I am a strong advocate for our need to find alternative energy resources to reduce our dependance on coal, but I am far from convinced that wind turbines are the answer.

I therefore support alternatives to coal as an energy resource but I STRONGLY OBJECT to this proposal by Epuron to industrialize our landscape for a short term benefit.

I firmly believe that the potential negative impacts of a proposal of this nature far outweigh any positive impacts and I will attempt tp breifly outline those which are of most concern.

VISUAL IMPACTS: people choose to live in the country for various reasons but top on most lists would be the lack of infrastructure surrounding where we live and/or work.
An interesting point to note is that a number of participating landholders in this proposal either do not reside on the land where the turbines are to be located or will not be able to see them from their residence.
Another area of concern is the flashing beacons required by CASA, how will this affect our night sky ?
As I mentioned earlier it is industrializing our landscape in which we choose to live because of it's natural state.

IMPACT ON PROPERTY VALUES :according to Epuron representatives the proposed wind farm will not have an impact on land values. I myself will be conducting my own research into that by having land valued by an indepent real estate agent. Pending on the outcome of this proposal I will then have the same land valued again.
Apart from the possible impacts on the value of the land, the mere presence of wind turbines on the ridgeline will reduce potential buyers of the land.

ENVIROMENTAL IMPACTS: these are many but the main concerns being the removal of trees, the removal of topsoil , construction of roads, constuction of foundation pads, the source of water required for all this constuction.The Coppabella Range is a very steep, very fragile part of our landscape.There is absolutely no way a project of this scale cannot have a significant impact on that group of hills.
A side note to these concerns is the impact of bushfires on the landscape and also that direct impact on peoples lives.This thought came to mind just recently as a bushfire in the Harden/Wallendbeen area was burning out of control, planes and helicopters were used in the effort to fight the fire.Aerial water bombing plays a major role in controlling and/or reducing the devastating impacts a bushfire can inflict.No mention was made in the Enviromental Assessment about the inability to utilise aircraft in the event of a fire within a set area around a wind farm.

DECOMMISSIONING: who is responsible ?
who finances it ?

SOCIAL IMPACTS: as hard as we may try to keep our close community together this project will inevitably cause friction between people.These will not be short term impacts either as these turbines will dominate our landscape for a minimum of 25 years.

PUBLIC CONSULTATION:Initial consultation with the community was good when the majority of people had little or no knowledge of wind farms.As peoples knowledge and understanding of wind farms increased so did their need for questions to be answered but there was no one to ask.I have spoken to at least 3 people who requested to be on

the mailing list of Epuron but have received no correspondence since making that request.I myself only became aware of the Enviromental Assessment being on public exhibition through our Catchment Management Athority officer more than 8 days after it was made available.

QUALITY OF THE ENVIROMENTAL ASSESSMENT:For a project of this scale I thought that the quality of detail in this assessment was very poor.
Of particular concern was the quality of the maps outlining the location of: access roads, transmission lines, sub stations.
Also the lack of detail regarding earthworks,erosion control,sediment run-off.

I have many other concerns regarding this proposal but time has been a very limiting factor for people to make their submissions.

Thankyou for taking the time to hear our concerns

[redacted]

[redacted]

[redacted]

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Site: #1741 Yass Wind Farm
https://majorprojects.onhiive.com/index.pl?action=view_site&id=1741

Marek Cholinski

P: 02 9228 6284
E: marek.cholinski@planning.nsw.gov.au

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(12)

Neville Osborne - Online Submission from [redacted] of Personal Submission (object)

From: [redacted]>
To: Marek Cholinski <marek.cholinski@planning.nsw.gov.au>
Date: 14/12/2009 16:04
Subject: Online Submission from [redacted] of Personal Submission (object)
CC: <assessments@planning.nsw.gov.au>, Neville Osborne <Neville.Osborne@planning.nsw.gov.au>

14 December 2009
The Director,
Major Infrastructure Assessments,
Department of Planning,
GPO Box 39,
Sydney NSW 2001

Dear Mr Osborne,

Objection - Yass Valley Wind Farm proposal Application Number: MP08_0246

I wish this emailed letter to be considered as a submission on the Yass Valley Wind Farm proposal, your Application Number: MP08_0246.

I hereby lodge an objection to this application.
I object on the grounds that:
1.The claimed greenhouse gas (GHG) emissions offsets are grossly exaggerated.
2.The noise impact assessment is totally inadequate

My objections to these aspects are briefly summarised below.

Greenhouse gas emissions offsets claims

My limited preusal of the claims by the proponent re electricity generation and GHG abatement in Section 1.5, and repeated in the Conclusion, indicate to me that these are not only grossly exaggerated but demonstrate what would seem to be a complete lack of understanding of the operation of both the electricity grid and the electricity market.
Section 4.3.4 is a repeat of the nonsense that the same proponent wrote in the EA document for the Gullen range wind farm. The use of the NSW Pool Coefficient indicates that the proponent is still of the view that a wind farm offsets GHG production from a coal-fired powerstation. To illustrate, there is no indication in the EA document that the Applicant has taken any account of the need for significant fast-acting backup generation required to support the erratic, intermittent, and entirely unpredictable nature of the electricity supplied by a wind farm. Coal-fired powerstations are entirely unsuited to this role, a matter that is well understood by the Australian Energy Regulator (AER). If the proponent was aware of the intermittent, highly variable, totally unpredictable nature of the output of a wind farm, then perhaps the temptation to use the ridiculous sentence at the end of Section 4.5 of the EA: ? Additional stable and reliable renewable energy projects in NSW are required to help meet this aim.? might have been avoided.

Noise

I note that in Section 6.8 of Appendices Vol 2 (2.2), the Noise Impact assessment, the comments on the phenomena known to the consultant as the ?van den Berg Effect? and ?Temperature Inversions? are an almost word-for-word copy of those provided in Section 8.10 of the Gullen Range Nose Impact Assessment, prepared by the same consultant. In my initial objection to the latter proposal I stated:

?I have taken the time to peruse the
"GULLEN RANGE WIND FARM NOISE IMPACT ASSESSMENT"
Report No. 2007265SY 001 R02
prepared by Marshall Day Acoustics for the Applicant.

?In my opinion, section 8.10 Meteorological Assessment has been prepared by persons who have no understanding of meteorology whatsoever. Clearly, the authors did not attend any of the presentations by Dr Frits van den Berg when he was in Australia
in 2006, otherwise they would have been rather less likely to give his findings the airy
dismissal shown in this report. Also, clearly, they have limited understanding of the likely
effects of "Temperature Inversion Sound Enhancement" as it is called, and discussed at length, in the NSW Industrial Noise Policy.
In my opinion this noise impact assessment is flawed.?

That quoted statement of mine is equally valid in this current objection.

The claim in Section 1.6.5 that a turbine might be retrofitted ?with acoustic insulation? to mitigate noise at nearby residences simply beggars belief. This is indeed fairyland stuff.

The summary of the Noise Mitigation methodology mentions (on page 121 of the EA document) the NSW Industrial Noise Policy, but nowhere in the document is there reference to noise testing being carried out against its criteria.

Planning NSW is no doubt aware that there is a noise problem for non-associated residents adjacent to the Capital Wind Farm. Planning NSW is no doubt aware that the noise problem does seem to vary with the particular meteorological conditions prevailing
at the time. Perhaps Planning NSW might request that the applicant for this proposal might be prevailed upon to conduct further noise and detailed meteorological assessment. In this respect the recommendations made by Mr Geoff Clark, meteorologist, in his expert evidence before the L&EC in the matter of the Modification to the Taralga Wind Farm (Proceedings11216 of 2007) are very pertinent. As a Party to that matter, Planning NSW would hold a copy of that expert evidence within its Legal Branch.

I reserve the right to provide to the Department further detailed comment on these and other aspects of the findings in the Yass Valley Environmental Assessment subsequent to today (being the closing date for receipt of initial submissions).

[redacted]

[redacted]

[redacted]

[redacted]

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Site: #1741 Yass Wind Farm
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Marek Cholinski

P: 02 9228 6284
E: marek.cholinski@planning.nsw.gov.au

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(14)

13

Neville Osborne - Online Submission from [redacted] (object)

From: [redacted]>
To: Marek Cholinski <marek.cholinski@planning.nsw.gov.au>
Date: 14/12/2009 16:33
Subject: Online Submission from [redacted] (object)
CC: <assessments@planning.nsw.gov.au>, Neville Osborne <Neville.Osborne@planning.nsw.gov.au>

To whom it may concern

We are residents of Yass and are very concerned with several elements of the Environmental Assessment (EA) and the manner in which certain elements of the EA were conducted. We do not want our personal information to be passed onto the proponents.

The executive summary describing the proposal provides a leading statement that a wind farm of some 182 turbines is proposed near Yass. Unfortunately the detail of the proposal described on the Yass Valley Council web site describes the proposal consisting of 152 turbines. The question must be asked, is it 182 or 152 turbines.

Further discrepancies identified within the EA relates to the location. Evidence submitted through mapping demonstrates the proposal is some 15 kilometres from the Yass township, however the executive summary states the closet wind farm precinct being located some 20 kilometres west of the township.

These discrepancies in detail are very significant in terms of the level of professionalism carried out during the Environmental Assessment process. It does not reflect highly on the perception of the professionalism of the proponents' and Yass Valley Council. The nature of the proposal demands the highest level of professionalism from the proponents' and Yass valley Council.

It raises several concerns over the review of detail over the project. It also raises concern that potential errors have misrepresented the severity of impacts and worse still, not allowed a thorough and complete picture of the impacts to be identified.

The evidence submitted demonstrates a clear lack in the level of consultation carried out with the people of Yass and ability to participate in identifying the socio-economic impacts and therefore ability to define the scale and location of the proposed Yass wind farm.

The Environmental Assessment did not assess the ongoing carbon dioxide emissions from the proposed wind farm. Given the current awareness of and endeavour to reduce Australia's carbon dioxide levels, this is a major element that requires further detail and community consultation - which is lacking within the EA.

The Wind Farm Impact Study - Southern Tablelands provides studies and assessment of the impacts of existing wind farms around the Crookwell area and as stated within the EA, to also include some residents within proximity of the Yass wind farm. The findings of this report in assessing and measuring potential Yass community concerns and concerns of the impacts from wind farms are inappropriate and invalid.

As stated within the EA, the Crookwell 1 wind farm is significantly smaller in turbine numbers and size. It logically leaves to reason that the impacts, therefore concerns of the community and impacts to the community will also be significantly smaller. Further assessment and consideration is required with comparable wind farms proposal to demonstrate a thorough and complete investigation, identification and mitigation of impacts has been provided.

The numerous number of potential options for proposed turbines provides too great a variance in the potential scale of proposed turbines, therefore leaving the potential impacts also greatly undefined as to impacts that individual turbine types may have. The EA does not detail the type of turbine that is likely to be used, therefore negating the

community to make an informed appraisal of potential impacts objectively.

The evidence on reduced land values submitted within the EA abundantly demonstrate that wind farms have both a real and perceived reduction in the value of landowners residential properties. The proposed location of the Yass wind farm is required to respond to this evidence appropriately. It is noted that the Lake George wind farm is located some 30 kilometres from the township of Bungendore. The proposed siting of the Yass wind farm some 15 kilometres from the township demonstrates a lack of consistency in relation to the planning and therefore impacts of the proposed wind farm on the Yass township.

The impact on land value as stated in the EA is related to the visual and noise impacts that wind farms have on surrounding communities. The response to identifying the impacts on the health of individuals from constant noise has not been addressed within the EA. Considering the potential severity of these noise impacts on the health and capacity for individuals to sleep cannot be ignored from a professional planning perspective.

I trust the matters raised above will be considered and identify that further consideration is required in regard to impacts and siting of the proposal.

Yours faithfully

[redacted]

[redacted]

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Site: #1741 Yass Wind Farm
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[redacted]

Major Infrastructure Assessments
Department of Planning
GPO Box 39
SYDNEY NSW 2001

13 December 2009

Ph: 02 9228 6337
Planner: Neville Osborne

Dear Mr Osborne

Re: Project Application: Yass Wind Farm (Application MP08_0246)

Attached is a submission in relation to the above application.

It is recommended that the project is not approved in its current form and that it does not proceed. Grounds for the rejection of the project are detailed in the submission and include:

- the unprecedented size and scope of the project in NSW and the consequent impact on the hosting district, including 90 non-involved residences within 5 km of the proposed wind farm precincts, several villages, two towns and the visual gateway to the Yass Shire along the Hume Highway from the Riverina
- flawed analysis of the pervasive cumulative visual impact, especially relating to poor presentation of visual impacts of giant wind turbines at close viewing distances along public roadways
- insufficient information given in relation to obstacle lighting, preventing assessment of the adverse impact of night obstacle lighting on traffic, and in causing degradation of the night sky
- adverse impact on the habitat of key species, including endangered species
- adverse impacts on tourism and traveler amenity and on potential for rural residential development
- inadequate community consultation.

- increasing concern amongst the general public regarding the proliferation of wind farms

I note that my views concerning wind technology are broadly in line with those of Yass Valley shire Mayor Nic Carmody and members of his council, in that a positive role is seen for wind technology in the area if appropriately balanced with other usages and development potential.

Yours faithfully,

[redacted]

[redacted]

[redacted]jor Infrastructure Assessments
Department of Planning
GPO Box 39
SYDNEY NSW 2001

13 December 2009

Ph: 02 9228 6337
Planner: Neville Osborne

Dear Mr Osborne

Re: Project Application: Yass Wind Farm (Application MP08_0246)

I hereby make my submission in relation to the above review.

A. Excessive size and scope of project

The proposed wind farm complex extends over 30 kilometres west to east from the village of Jugiong (Beremangara locality) to the village of Bowning in the east. Most of the proposed development is located north of the Hume Highway, but some 20% of the total number of wind towers are intended to be located south of the Hume Highway at Conroy's Gap, running south down the range. The complex covers a distance of more than 37 kilometres via road (Hume Highway).

The proposed construction comprises installation of 150 m (400 foot) 2.5 MW wind turbines spaced at distances between 250 to 500 metres on almost every hill and ridgeline of around 600 m in altitude between Jugiong and Bowning; and southwards on the ridgelines from the Hume Highway at Conroy's Gap to Black Range. The construction comprises a total of 152 turbines in all.

An installation of 15 wind turbines south of Conroy's Gap was approved by the NSW Dept of Planning in 2007. Following approval the project was sold by Epuron to Origin Energy. I am not aware of the current status of the first Conroy's Gap project.

I believe that the 152 turbines in the current Yass Valley wind farm proposal would be additional to the first Conroy's Gap installation if approved. Furthermore, the proponent intends to request planning permission for 30 turbines at Carroll's Ridge, north-east of the Burrinjuck Reserve.

The total number of turbines proposed for the area, including the intended Carroll's Ridge proposal and the approved first Conroy's Gap project, comes to 197. This proposed complex is more than three times larger than the recently opened 67-turbine wind farm near Bungendore, described as "massive" in the media (18/11/ 2009).

The Yass Valley wind farm is to date to my knowledge the largest proposed wind farm complex in eastern NSW. A 500-turbine project has been put forward by Epuron to be located at Silverton in western NSW.

I also note that Epuron project manager Simon Davey could not rule out further wind farm proposals for the district, by Epuron or others, based on the wind resource and power grid available(EA p 350 Planning Meeting Oct 2008).

The enormous and unprecedented size, scope, density of turbines, and placement of structures on all the most visible points of the western region of Yass LGA, puts the Yass Valley Wind Farm complex in uncharted territory in respect to cumulative impacts on

- nearby townships (Bowning, Bookham, Binalong, Galong),
- towns (Yass and Harden-Murrumburrah)
- homesteads and dwellings within and adjoining the proposed precincts, (up to 90 non-involved i.e. non-compensated residents within 5 km),
- public roadways including the Hume Highway, Burley Griffin Way and Illalong Road
- nearby tourism-reliant businesses and tourism generally
- fragile regenerating environments and native fauna and flora habitats
- property values and future for rural residential development
- community relationships and social cohesion.

In relation to wind plant size comparisons, it should be noted that as at December 2009, no existing British wind plant was larger than is proposed here. The British Wind Energy Association lists 262 operational plants, the majority of which held fewer than 30 turbines in number. The largest plants were Eaglesham Moor in East Renfrewshire (140 turbines) and Llandinam P&L in Powys (103 turbines).

The British government hoped to meet much of its highly ambitious proposed energy renewable target of 10% by 2010 with wind energy, heading for the EU target of 20% by 2020. However, increasing public disquiet in Britain in relation to the deployment of massive wind turbines throughout valued rural landscapes in the face of community opposition, and increasing realisation of the erratic, unreliable and diffuse nature of wind energy, has led to serious reassessments of the value and future of wind technologies in Britain.

Scientists have estimated that for the UK to meet its ambitious targets with wind energy, an area roughly the size of Wales would need to be converted to wind farms (Professor David MacKay, report Daily Telegraph UK 22/11/08).

The House of Lords Select Committee Report on the Economics of Renewable Energy (November 2008) concluded that,

'Wind generation should be viewed largely as additional capacity to that which will need to be provided, in any event, by more reliable means; and the evidence suggests that its full costs, although declining over time, remain significantly higher than those of conventional or nuclear generation.'

The implication for the Yass Valley Wind Farm development is that this should not be seen as a routine decision. Conversion of 7000 hectares of Yass Valley and Harden Shire hilltops and ridgelines to enormously obtrusive industrial plant, in the face of serious concerns from residents, local councils, government departments and local members of parliament, is a decision whose consequences will irrevocably impact the local government areas for a generation or more. Decision making should be responsible, pragmatic, long-sighted, and based on the benefits to the local community and to the Australian nation as a whole, and not on the slogans of taxpayer-supported wind farm proponents.

The proponent for the Yass Valley Wind Farm claims an energy output of 455 MW. This figure is constructed from the rated maximum output of the wind turbines (2.5 MW) multiplied by the number of turbines (182).

In fact the maximum output of the turbines will only be reached on the rare occasions that winds are blowing at the optimum speeds for best turbine performance. Measurements of actual wind farm output invariably show that capacity factor (the average performance over a period of time such as a year, including times when the wind is not blowing, or is blowing so hard that turbines must be turned off for protection), is in the realm of 20 percent to 30 percent. The energy output actually expected is more than a factor of three below the figure presented.

Presentation of wind farm output, without including the capacity factor which accounts for the relative inefficiency of wind power, is a routine practice for the industry but is misleading for the general public and decision makers.

Due to the erratic nature of industrial wind farm output, wind power must be backed up by high-capacity reliable base load energy sources (in NSW, currently mainly coal-fired plants and hydroelectric electricity). The wind may blow only lightly for days at a time, and during this time backup power must take over. This means that wind power can never replace more stable sources, (such as coal, gas, hydroelectric, or – elsewhere in the world - nuclear power) and can only ever be seen as a small or supplemental component in a mix of energy sources. Wind power in itself can never replace fossil-fuel plants. This

conclusion is borne out borne out by reviews of the energy economy of Denmark. Denmark is still primarily reliant on coal and gas for electricity production (Danish Energy Mix Fact Sheet 2007) and has not reduced CO_2 emissions, despite having the highest penetration of wind power in the world.

Furthermore, electrical output from wind farms is extremely erratic and 'spiky'. It needs to be continually compensated and balanced by fast-reacting forms of other energy source such as gas turbine plants to prevent adverse impacts on the electrical grid. This is implicitly conceded by the proponents when they advise that the 'Yass Valley substation…is one of the strongest nodes in the transmission network outside of Sydney" (EA p 18)

The electrical grid works in real-time and cannot store wind energy so as to smooth out the inherent variability. Research is continuing internationally on potential storage technologies, but no realistic solutions are expected to be available before 2020 (House of Lords Select Committee 2008). Also, the need for rapid balancing of the wind farm output reduces the efficiency of the conventional sources doing the balancing, which is believed to lead to increases in CO_2 emissions. Hence figures for reductions in CO_2 emissions quoted by wind energy companies are believed to be overstated when the load-balancing CO_2 emission costs are included (House of Lords Select Committee Report 2008).

Proposals for industrial wind farms in NSW, typically issuing from foreign energy and wind prospecting companies, have been subject to intense proliferation in very recent years, driven by generous government support schemes and mandated green-energy requirements for power companies. Sizes of proposed developments have also increased markedly (in the Yass Valley region, by a factor of 10 in just two to three years).

Weather patterns across southeastern Australia can be highly correlated (for example, the lengthy unseasonable heat wave in early November 2009 was associated with a highly stable still high pressure system across NSW and eastern SA) It is important to realize that if enormous industrial wind plants are installed throughout the NSW high country, at significant environmental cost and cost to local communities, there will nonetheless be days at a time when these highly expensive and obtrusive plants are producing no electrical power at all.

The then premier Bob Carr stated in 2005 'You can 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.' (ABC RN PM 3/6/05)

Further, the typical operating temperature range for industrial wind turbines is (-20) to 40 degrees Celsius. Standard model turbines may need to be paused for protection at a temperature of 40 degrees Celsius and above. At the same time that a peak of electrical consumption is caused by NSW towns and cities turning on their air conditioners for relief from hot weather, and a supplemental energy source would be of value, wind power output could vanish.

I believe that there is a place for wind farm technology in the Harden and Yass shires. I suspect that limited numbers of turbines, sensitively sited, may be an economic asset to individual landowners and to the district. However, there is significant potential for cumulative adverse impacts on the hosting shires of Harden and Yass with a project of such inordinate and oppressive size as is currently proposed.

It is imperative that energy conservation schemes and alternative sources of renewable and low-carbon energy are more thoroughly explored before enormous swathes of the high country of rural NSW are lost to industrial wind plants. I consider that this is a good time for state and federal governments to take stock and quantify the real value and relative merits of differing approaches to conversion to a low-carbon economy.

B. Loss of visual amenity and rural character

The wind turbines shortlisted for the project include some of the largest turbines available in the world today. Each turbine is 150m from base to top rotor tip (400 feet) in height. This is equivalent to the height of a 28-storey building. Any one turbine is significantly taller than the height than of any man-made structure in the Yass region, including the largest communication/radar towers. Turbine rotor arms diameters are much larger than the length of a Boeing 747 (70 m).

Other size comparisons of large modern industrial size wind turbines with large elements in the landscape of the Capital Region are as follows:

- Black Mountain Tower – 195m – turbines are 75% the height of the Tower, which dominates the north Canberra skyline and Canberra's northern surrounds.
- Lovett Tower (formerly the MLC tower) - 93 m, 26 storey – dominates the Woden Valley in Canberra's south since it was built in the early 1970s. It is still the tallest skyscraper in Canberra; but is only 64% of the height of a 2.5 MW wind turbine
- Low to medium-sized rolling hills in the Marilba and Coppabella precincts. Typically rise 100 – 200 m over the surrounding terrain. Turbines will appear 50-100% of the height of the hills and ridgelines.

Due to the relatively low winds in the Yass area (around 6 m/s average [NSW Wind Atlas] compared to optimal winds of typically 13 m/s for operation of wind stations), turbines must be placed exclusively on the highest points. In the mountains or in the open rolling cleared rural hills of the type to be used, wind turbines sited on ridge lines, ranges, hilltops and highway cuttings will be visible for many miles.

It is an axiom of town and landscape planning that the skyline has a major role in generating the overall feel and character of the situation. Canberra's reputation as "the bush capital" is partly brought about by the importance placed on retaining where feasible, natural, partly and fully forested skylines on hills and ridges throughout the Canberra basin.

I believe that people find it difficult to comprehend the imposing size and scale of a modern industrial wind turbine in the landscape. I noticed that unconsciously I was projecting a structure the height or perhaps double the height of the tallest objects in my immediate environment (large trees 20-30m in height) whereas in reality the turbines are five times this height. This perception issue occurred even when I was fully aware of the true size, up to 150m. The perception issue goes to challenge the informed nature of the consent (contractual or assumed) provided by hosting landowners and their neighbours to the wind turbine devices.

It is unlikely that a structure of the dimensions of a wind station would be permitted under any normal planning regulations, much less deployed in close arrays of 60 to 80, due to the enormous cumulative visual impact. It would certainly not be permitted along a skyline.

It is inevitable that there will be a large cumulative visual impact on the immediate vicinity (in particular, at distances under 5 km) due to the high number of wind stations proposed. The turbines are inherently conspicuous structures that have been intentionally located in prominent positions. The visual effect of the wind turbines will be pervasive in the district to the south of Binalong, along the Hume Highway, along NSW state road Burley Griffin Way to Harden, minor sealed roads (Illalong) and numerous unsealed routes.

The project proponent effectively requests rezoning of 7000 hectares from rural to industrial purposes. The 7000 hectare precinct will present as a light industrial power plant to all residents, visitors and through-travelers in the area. At all points where a significant skyline, hill, ridge or range is visible to the south or south-west of Burley Griffin Way, north of the Hume Highway between Jugiong and Bowning, or south of Conroy's Gap, it is likely to be covered with wind turbines spaced as closely as technically possible (typical spacing 3-5 rotor diameters as shown in indicative turbine layouts). Long ridges will appear as a "wall" of turbines.

It should be noted that Figs 4.1 and 4.2 "Zones of Visual Influence" do not show the Bowning by-pass section of the Burley Griffin Way, open since 2007. They appear to incorrectly highlight the Bowning Red Hill Road as the major road, thus overestimating the distance from the wind farm.

My qualitative assessments of visual impact are borne out by the contour maps prepared by the proponent.

I concur with Table 7-2 (EA) which indicates that wind towers will be;

- 0-1.5 km: visually dominant from most viewing locations
- 1.5 – 3 km: Highly visible and will tend to dominate the landscape
- 3 – 8.5 km: may appear significant in the landscape
- 8.5 -17 km: potentially noticeable but would not dominate the landscape.

Seen Area Analysis maps (Figs 7) demonstrate that:

- on the Burley Griffin Way between the Hume Highway and Illalong Rd, up to 50 turbines may be visible at most locations

- The leg of the Burley Griffin Way between the Hume Highway and Illalong Road is at or within the 3km visual contour line along its length. The landscape to the south and south-west of Burley Griffin Way will therefore tend to be dominated by the visual impact of up to 50 turbines. The effect will be that of a light industrial precinct. This is a significant alteration to the current character of the landscape, which is a partially cleared rolling rural landscape.

- on the Burley Griffin Way between the Hume Highway and Illalong Rd, portions of up to 100 or 150 turbines may be visible at some locations, especially just prior to the Illalong Rd turnoff westbound

- there will be very few locations within a radius of10 km south of Binalong where portions of up to 50 wind turbines are not visible (Zone C)

- Binalong itself is situated in a hollow in the landscape, so views of turbines will probably be well-controlled in the centre of the village (although this cannot be fully verified due to the low resolution of the map provided). However on the ridges and hills around Binalong, containing some established homesteads, up to 185 turbines may be visible in part or whole (Zone C).

- All sealed roads in the locality will be pervaded by views of wind stations along their lengths.

Critique of visual impact assessment – public roadways

The proponent presents useful Zone of Visual Influence and Seen Area Analysis maps but fails to make effective use of them in the assessment of cumulative visual impact.

Instead, the proponent generates a selective shortlist of locations and uses photomontages with an unusual choice of aspect ratios, camera lens angles, and printing formats to support its arguments that the visual impact is "low to medium" at every viewing location in the affected district.

I have compared the view from some sites with the photomontages provided by the proponent. I also took reference photographs with a standard camera set as close to a standard focal length (50mm) as possible for comparison.

I believe that the photomontages understate the probable visual impact of the wind turbine arrays in several ways:

1. Shots are disproportionately taken with a full cloud cover so that computer-generated turbine images are hard to distinguish against the clouds. The wind stations are inserted with the aid of computer, so it should have been possible to render the sky clear so that true assessments of impact could be made.
2. Photomontages are presented and printed with very unusual aspect ratios. Some are printed out on A0 paper in landscape format, 120 degree field of view, with a full horizontal spread of 1.1 metres, and a height of approximately 15 centimetres. Although I acknowledge that the compressed-vertical panoramic shots give a useful idea of the horizontal extent of the wind farm complex, I think they significantly understate the vertical impact at turbine distances below 5 km. I suspect that if a photograph of an imposing monument (for example, St Peter's Basilica or the Statue of Liberty) were taken and printed under those conditions, it would appear small to the viewer and the true vertical impact could not be judged.
3. I recommend strongly that for correct viewing of vertical visual impact the photomontages with the suffix 'Full' should be ignored, and the photomontages with the suffix 'Left' and 'Right' (60 degree field of view) should be set to near full screen view (on a 14 inch computer screen, zoom of about 250%), rather than the default of 97%. At a standard viewing distance from computer this gives a cropped view with a standard aspect ratio, which can be scrolled left and right. Comparison with photographs from a conventional camera suggests that this gives a more accurate rendition of what a person sees at the location.
4. Locations chosen are highly selective and sometimes hard to understand. The visual impact over more than 20 kilometers of Burley Griffin Way is represented by only a few photomontage locations. Why choose as one of these the entry to Carter's Lane (SVP11 Right, Left, Full), where the highway swings away from the hills and three turbines can be seen at a distance of 8.8 km only, when just before the Illalong Road turnoff earlier up to 100 or so turbines can be seen at a distance of a few kilometers to the closest structure? In assessment of visual impact, it seems conservative and reasonable to select locations where the impact is greatest, especially where resources are too limited to provide a fuller review.
5. Wide angle lens photographs are well known to distort apparent perspective, pushing distant objects further into the background. This is a staple technique of dramatic panoramic art photography (e.g. Ansel Adams), and of some less reputable real estate photography.
6. The proponent appears to be using some aspects of methodologies from the Draft National Guidelines on Windfarms (EPHC 2009). The Draft Guidelines also suggest that a good way to show the visual impact along public roadways is to

generate a computer-rendered virtual drive. The proponent has not chosen to do this, instead relying on a limited number of photomontages of varying quality and relevance. I recommend that a much fuller visual assessment toolkit for wind farms be mandatory in future. In today's world, computing power and CAD skills are relatively cheap. A multimillion project should be able to provide more useful materials to assist the community and decision makers.

Various arguments in the text are used to support final assessments of acceptable visual impact, as follows:

- "man-made structures exist in the landscape, therefore the impact is low to medium". I believe it is unreasonable to assert that because there is a powerline and an old shearing shed in view, there will be no additional visual impact to residents or passers-by from deploying multiple 400 foot wind turbines on a ridge.

- 'the landscape is of low sensitivity, therefore the impact is medium" . I acknowledge that much of the land around the Hume Highway consists of cleared rural land on low rolling hills and does not have obvious uniqueness. However, the placement of large numbers of extremely large structures mounted closely along the most prominent hilltops and ridgelines of the Coppabella Hills, Conroy's Gap, Black Range and the Marilba Hills and the availability of long clear views means that the wind towers will be the dominant features of the landscape for many miles and will be expected to alter significantly the character of the surrounds and the travelling experience.

- "Residents can add landscaping to reduce unacceptable impacts". Trees take up from 10-20 years to reach mature sizes of 5 – 20m. Shrubs take 3-5 years to reach 3 - 4 m. In any case, the only usefulness of vegetation in this instance is to screen out views entirely.

- "Landscape will be dominated by wind farm but people find wind turbines attractive" (EA App 1.1 p18). If industrial wind plants are invariably an improvement to any landscape, why do a visual impact assessment at all? One hundred and eighty turbines will be one hundred and eighty times better than one turbine. Also, the poll respondents referred to are not always fully informed about all the costs as well as benefits of wind farms.

I suggest that these arguments are not consistent with an appropriately nuanced and accurate assessment of cumulative visual impact. <u>If there are no conditions under which visual impact would be unacceptable, a genuine judgment cannot be made.</u> I believe that community standards require that there are places where wind farms cannot and should not be placed, and places where in reasonable numbers and at appropriate density and viewing distance they can be tolerated. It is important that the methodologies used are

capable of making the distinctions involved. I believe that the impartiality of the studies in relation to the cumulative visual impact must be judged as suspect.

Night Lighting

CASA have advised the project that about 50 aircraft obstacle lights may be needed to fulfil its safety requirements. This is roughly one strobing high-powered obstacle light for approximately every third wind station.

This will have a significant impact on the quality of the night sky across a large region. It is difficult to assess fully the impacts of night lighting on degradation of the night sky because the project has not finalised decisions on the type and specifications of the obstacle lighting to be installed.

By definition, aircraft obstacle lighting is designed to be seen from a long distance and to convey an urgent warning to a human observer. In rudimentary experiments the proponent has determined that some types of obstacle lights can be seen brightly from 25 km and appear "eerie" .

The proponent suggests that if local residents nearest the wind farm precincts "close the curtains" they will be unaffected by night lighting.

Traffic safety - Hume Highway

A personal anecdote: I traveled back from Sydney along the Hume Highway on a foggy night last year. In the Goulburn vicinity I was startled by numerous large flashing red lights apparently suspended high in mid air (rather like UFOs) and signaling in a random sequence. As traffic was light and the road is wide and well made I was in no danger of losing control of the vehicle but I slowed considerably and took approximately a kilometre to resolve the lights as a wind farm. A friend told me of having the same experience.

Traffic safety – Burley Griffin Way

The Burley Griffin Way is a two-lane NSW state road that was last surveyed as carrying about 1660 vehicles per day (RTA 2006). Since the opening of the Bowning bypass in 2007, allowing B-Doubles to use the highway, traffic has increased noticeably. Burley Griffin Way is the main road between Yass and the Hume Highway out to the Young, Cootamundra and Temora areas via Binalong and Harden-Murrumburrah. It serves to convey agricultural produce, coach services, commuters, casual visitors, local workers, tourists, touring parties, et al.

Information provided to Yass Valley Council (2008) by the RTA warned that in four prior years there were 108 crashes on the Burley Griffin way between Yass and Harden,

resulting in 79 injuries and 2 fatalities. Speed, animal encounters and reckless overtaking are often factors, with many drivers losing control at curves. The Burley Griffin Way has a curved and undulating route, which in combination with limited verges and lighting and poor overtaking opportunities, can create a dangerous situation for those not very familiar with the road. It is common at night to encounter a vehicle coming in the opposite direction that suddenly emerges from a dip in the road with lights at full beam when the vehicle had been completely invisible only a short distance away. Also, at times during winter nights and mornings, hollows in the road are filled with fog.

I am concerned that aircraft obstacle lighting in the proposed Marilba Hills precinct will act as an additional, sudden and highly confusing distraction to drivers, especially in the section between the Hume Highway and the Illalong Road. This may have the effect of increasing the frequency of accidents and injuries on the route.

The curved and undulating nature of the route and the adjacent ridges and hills mean that large strobing red lights and groups of lights, probably up to 10 or more in number, mounted at 150m in the air, and less than 3 km away, may seem to emerge and disappear in the driver's view and mirrors. Drivers may not know what kind of action to take and are likely to remove attention from the road whilst trying to determine the nature of the lights and the warning. In combination with one or more other factors such as fatigue, speed, poor weather, animal encounters or encounters with an unexpected vehicle from the other direction, consequences could be severe.

Adverse impact on threatened or iconic species

Wedgetail eagle

There is a population of Wedgetail eagles in the region, occasionally to be seen over Burley Griffin Way, but often seen in the vicinity of the steep Conroy's Gap Hume Highway cutting. Raptors use slopes to gain and maintain altitude by flying in the updraft produced by wind blowing up the face of a steep slope. Slope soaring requires a hill, ridge or escarpment, and a wind that is blowing against the slope, causing lift. The wind creates a region of rising air directly above the slope which may extend some distance upwards and outwards from its face as the airflow follows the contour of the hill.

The proposed development situates giant wind turbines at 3 turbine blade diameters apart over the entire length (at least 10 km north/south) of the Conroy's Gap range and Black Range.

I believe that the population of Wedgetail eagles in the area must inevitably be exterminated. At some point all birds will fall foul of a turbine blade in attempts to gain altitude and hunt, given that all hills, ranges and ridgelines will be populated with turbines. The EA also cites one scientific opinion that the installation has the potential to be a "mortality sink" for the Wedgetail eagle.

Superb Parrot

There are fewer than 5000 of these beautiful iridescent green birds believed to be left in the wild. They have a restrictive preference for feeding and breeding in mature yellow box habitat. They also have relatively poor adaptation to co-existence with humans; for instance, whole groups of Superb Parrots have been seen as roadkill after feeding on grain dropped from grain trucks.

The southwest slopes contain one of their main breeding habitats. Parrots are found in the woodlands of the southwest slopes and are the official emblem of Boorowa Shire (located adjacent toYass Shire in the north). They gained the classification as a threatened species due to the widespread clearing of their habitat. Superb Parrots are particularly threatened by removal of hollow bearing trees and clearing of other remnant woodland vegetation. The poor levels of natural regeneration of the habitat add to the pressure of habitat loss.

Since September 2000, Bushcare volunteers from North Sydney have been working alongside Landcare volunteers from Boorowa in planting trees, shrubs and groundcover to create native wildlife corridors to help to restore breeding habitat for the threatened Superb Parrots.

In 2004 North Sydney Council received funding from the Environmental Trust to open the program to participants across Sydney. Over 130 volunteers from 19 Council areas in Sydney travelled to Boorowa during the three year project to assist with habitat regeneration. The program is ongoing and planning is underway for North Sydney Bushcare's 10th visit to Boorowa in 2010.

Leading conservation group Conservation Volunteers also features a program to rebuild a substantial area of viable habitat for Superb Parrots. Their work with the Superb Parrot around Koorawatha (located between Cowra and Young) has been assisted by generous support from the United States of America Embassy in Canberra.

The proponent identified Superb Parrots in the area of the proposed wind farm. The proposed wind farm development creates enormous disruption over large tracts of parrot habitat over the course of a 3 year construction project. Up to 23 hectares of vegetation on lightly wooded and fragile hills is to be removed, preferentially old and decayed box (of the type preferred by Superb Parrots for breeding). Some regeneration activities associated with the project are promised, but regrowth takes time.

It seems to be a case of giving with the one hand and taking with the other. It is disappointing that so much hard work and generosity on the part of conservation and bushcare volunteers over the course of a decade, and on the part of Australian and international donor organisations, undertaken in order to protect the future of this iconic species in the southwest slopes, has the potential to be significantly compromised by the largest wind farm development in eastern NSW.

Adverse impact on tourism and residential values

Yass Valley is set in rolling hills a 45 minute drive from Canberra and has its own unique relaxed rural charm, with a mixture of heritage attractions, country crafts and high quality art galleries, farming and wineries. Yass Valley also offers has many rural and adventure activities including horse riding, paragliding, caving at Wee Jasper, abseiling, boating and water skiing. Burrinjuck Dam is a popular attraction and offers cruises, water-sports, fishing, camping, and bushwalking.

During the last 5 years Yass Valley Shire has been a steadily growing in population due to its advantageous location near Canberra and the many pleasant lifestyle, environment and recreation options that it provides. Recent visitors to Yass town often comment on the friendliness, the vibrant positive atmosphere, and the attractive main street with a good mix of heritage and modern elements. Mayor Nic Carmody and his teams in the Council have worked hard to support development without losing the relaxed and balanced rural appeal that is the essence of the Shire. One way that this has been achieved is with a rigorous but even-handed approach to zoning and development proposals.

Many of these values are placed under threat by the prospect of a giant industrial wind plant covering the western portion and approach to the shire. It has led to;

- significant community division (Yass Tribune Nov 2009)
- the potential to alter the appeal and image of Yass Shire in the minds of many of the over ten thousand people who travel the Hume Highway daily
- potential to erode tourism in the medium to long term. Wind farms may be an initial novelty, but once they cover the NSW high country, and southern coastlines of the Australian continent, tourists and travelers are likely to be looking for unspoilt charm unaltered by huge tracts of industrial windmills
- potential to erode tourism and day trips in the short term. Two to three year construction projects involving all major roads into the Shire from the West are likely be highly disruptive even when well-planned, and after encountering unexpected delays and unattractive construction vistas travelers may decide to choose another route or destination next time
- potential to erode the attractiveness of Yass Shire to tree changers and families seeking a more relaxed and down-to earth lifestyle. Many people have a dream of moving to a small property with a view of hills, trees and dams; few dream of moving next to an enormous wind turbine plant. Property values in rural residential and potential rural residential areas are likely to stagnate at best.

- Potential to create concern about the future of the Shire with respect to additional wind farm proposals in the future. This threatens residents, farmers and businesses who are not adjacent to the current proposed developments. If Yass Valley Shire is seen by decision-makers as being necessarily burdened with the responsibility of providing power for Canberra or for Sydney via this diffuse and land–intensive method of producing unreliable electrical power, when will the wind farm land grab end?

Inadequate Community Consultation

I have owned a property with my husband in the village of Binalong since 2004 and have been a permanent resident here since 2007. My first awareness of the Yass Valley windfarm project came about when an Epuron flyer was placed in my box at the Binalong Post Office in mid November 2009. I have some recollection that there may have been a flyer in late 2008, but I was involved with urgent family matters at the time and I feel that little effort was made by Epuron to ensure that anybody who missed the Open House at the Royal Tara in Binalong (Dec 2008) was further alerted or informed.

I keep in touch with community matters in a number of ways:

- Pickup mail and review enclosed flyers, newsletters and local advertising from Binalong Post Office – weekly
- Review public notice boards at Irvine Square Yass and Binalong Post Office - weekly
- Yass Tribune – read every 2-3 weeks
- Yass Library – look at flyers, brochures and notices every 4 weeks or so
- Yass Valley Council – step in every 6-8 weeks to make payments, obtain information, discuss issues etc
- Yass Valley Council – read regular newsletter received by mail (quarterly)
- Meetings – local Binalong Association – bimonthly since Aug 2009.

I was not alerted through any of these channels to the proposed wind farm developments.

Based on my own experiences, I would not be surprised if there were numerous other residents of the area who to this moment have no idea about the proposed developments or the extent to which they and their community are affected. I believe it is common for country residents to access a personalized mix of local and national media. The onus should be on the wind farm developer to ensure that information is widely and effectively disseminated through multiple channels, so that community members have an opportunity to consider their position and the impacts upon them. Otherwise, the community is prevented from making effective comment upon the development when the time comes for public exhibition and reply.

I note that the Open House held at Binalong had only 55 or so attendees from a combined Harden/Yass LGA population of sixteen thousand people, and further that only about 13 feedback forms were received from this same population. I do not believe that this reflects the level of public interest in this massive development. I believe it reflects the poor level of communication and consultation undertaken by Epuron.

I have not heard the proposed wind farm mentioned in passing conversation during 2009. I believe that this may be because the issue is contentious and in a small community, many key individuals and their families are involved in the development.

Other points:

- Epuron initially contacted 100 landowners within 5 km of the proposed development. This specifically excluded the villages of Binalong, Bowning and Galong and the towns of Yass and Harden-Murrumburrah.
- It is not clear whether any further contacts were made with the wider community between Dec 2008 and Nov 2009 to follow up on brief media releases in 2008
- If I had heard of the Marilba Hills development during 2009, the name would not have meant much to me since it is not marked on Commonwealth topographic maps, state road maps or local tourist guides that I have seen.
- In the community newsletter issued November 2009 Epuron has shown an incorrect route for the Burley Griffin Way. The new Hume Highway turnoff and Bowning deviation section of the Burley Griffin way is not shown. Instead, the old Bowning Red Hill Rd is marked in bold red to indicate that it is the major road. The newsletter therefore gives a misleading impression of the distance of wind farm precincts from main roads.
- To this day there is no up-to-date information concerning the Yass Valley Wind Farm provided on the Epuron website besides the initial media release from 2008.

The "community consultation' supposedly undertaken by Epuron is better described as "community neutralization". It is consistent with the stealthy and divisive techniques described by some respondents to the NSW Government Inquiry on Rural Wind Farms (ongoing 2009). There has been a "magic circle" of landowners in the know, some token and poorly advertised attempts were made to engage with members of the Yass Valley and Harden LGAs in late 2008, followed by "radio silence" until the issue of a newsletter in Nov 2009 giving 30 days to submit comments to the Dept of Planning.

Epuron states that the Open House format was chosen in preference to a public meeting so as to avoid a public meeting becoming "confrontational" and to avoid the danger of becoming involved with the "articulate irate" The public meeting or forum has been a lynchpin of democracies since ancient Greece. It provides a fast and effective way of gauging public feelings, sharing information and increasing public understanding of issues. Epuron's stance is more consistent with wishing to avoid answering valid

concerns or difficult questions, and to avoid allowing communities to share perceptions and knowledge.

Epuron also states (Yass Valley Wind Farm Community Consultation Plan) that there may be perceptions that by the time the wind farm site is chosen, there is little real prospect of community involvement in the proposal. Epuron states that the appropriate mitigating action is to acknowledge that realistically, scope for input is limited. (!)

Overall, the proponent has not met an appropriate standard for community consultation.

My view is that local councils are best placed to handle community communication and consultation in relation to such large developments. They have the means of contacting and communicating with shire residents and can do so effectively via websites, standing displays, brochures, newsletters, noticeboards and direct mail. I believe that local councils should play a key role in the planning process for wind farm developments.

Increasing Concern of the General Public

There is evidence of increasing public concern regarding the unchecked proliferation of wind farms. Wind farms are touted to naïve consumers as a pain-free quick fix for moving to a green economy. In fact, they are neither pain-free nor a fix.

In my opinion, if not reined in by a strong national code, strong regulatory and planning regimes and appropriate checks and balances (preferably via genuine community consultation and return of planning powers to local councils) the wind farm goldrush looks set to be an environmental and social disaster for NSW in the next few years.

- High profile journalists have queried the value of and motivations behind the wind farm expansion programs
- Current and former state and federal MPs have expressed grave concerns.
- Detailed stories concerning the personal effects of wind farms on neighbouring residents and communities have been published in the popular media (including SMH, Canberra Times, A Current Affair)
- Well-organised Landscape Guardians groups have sprung up around the country
- Vandalism or sabotage of wind farm measuring equipment has been recently reported in Victoria
- A NSW Government inquiry is ongoing into issues around NSW rural wind farms.

I would ask that there be a moratorium on decisions regarding this development at least until the handing down of the findings of the NSW Inquiry into Rural Wind Farms.

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Yass Valley Wind Farm: Reference Number MP08_0246

Binalong Landcare Submission

Over 120 turbines are planned to be erected within the Harden/Binalong/Bookham area. This development is expected to have considerable long term impact on local farming, village communities and visitors to the region. In line with Binalong Landcare's Vision (Sustainable and profitable long term farming throughout the Jugiong Creek Catchment with a healthy environment for current and future generations) and its local responsibility for natural resource management in this area, Binalong Landcare seeks funding to assist surrounding landholders offset the impacts on local vegetation, soil structure, water quality and biodiversity.

Binalong Landcare is particularly concerned about the impact of the:

- proposed roadworks, much of which will occur in the unstable, highly erodible soils across the very steep terrain which comprises a large part of the nominated area
- clearing of vegetation, especially where the current vegetative growth plays a significant role in stabilizing soil structure, and local flora and fauna diversity
- water quality in local dams and streams, particularly in the Jugiong Creek Catchment (the community has undertaken stream monitoring throughout this catchment for over 3 years and has detailed records that can serve as a baseline- report is available)
- removal of surface/subsurface water for construction purposes will deplete already extremely low water levels
- changes to the composition of native grasses which are critical in maintaining the stability, resilience and bio-productivity of much of the undulating landscape.

Binalong Landcare offers its natural resource management (NRM) experience and skills to minimize these adverse impacts so that the broader community can fully benefit from your planned clean renewable energies and reduced CO2 emissions. We have direct experience in managing such offset arrangements for another major development in the area – Boral/Blue Circle lime mine and kiln at Galong. This project demonstrated the value of compensatory activities to offset and even reverse negative impacts from that development for the benefit of the affected farmers and communities.

Binalong Landcare (a subgroup of Harden Murrumburrah Landcare Group) seeks funding of $24,000 per annum (120 turbines x $200 per turbine) for 25 years to ensure viable, consistent and effective outcomes for the region, particularly given the predicted major impact that climatic changes and uncertain rain events may have across our catchment.

In return, Binalong Landcare will establish a process that consults with the farming and other affected communities in selecting areas for environmental restoration and revegetation. The selected sites would be monitored regularly and promoted through annual field days and local media. Epuron and other key players would be part of the selection and monitoring process, and invited to field days and other promotional events.

Our process would entail:

- calling for expressions of interest from farmers within a specified radius of the turbines to apply for funding to carry out specified vegetative rehabilitation and water quality restoration works on their land; (note that landholders receiving funds from the towers would not be eligible to apply)
- assessment by a panel comprising representatives of Epuron or other stakeholders, Chairs of the Harden Murrumburrah Landcare Group and Binalong Landcare Subgroup, and a representative from the Murrumbidgee Catchment Authority (MCMA)
- priority would be given on an agreed rating structure which aligns to MCMA Catchment Action Plan priorities, and contractual arrangements established for the successful applicants
- regular monitoring of the progress of each site with detailed annual reporting to Epuron and other stakeholders
- annual field days, farm walks and other events to demonstrate progress on restoration and rehabilitation on the affected farms, and
- regular promotional updates to local media (Yass Tribune, Harden Express, ABC Rural, etc).

There will be opportunities to integrate the outcomes of this project into the current interests and activities of Landcare. For example, Binalong Landcare is currently undertaking trials on native grass pasture species which will have direct relevance for revegetating affected landscapes on local grazing properties and maintaining groundcover in a possible tougher environment.

A large percentage of the farmers in the targeted areas are members of Landcare and are already involved in restoration and mitigation activities. We envisage that eligible activities for funding will include fencing remnant vegetation, creek lines and management of stock access, including the provision of alternative watering points; the establishment of tree belts, perennial pastures, replanting and protection of high conservation value remnant and riparian vegetation. Technical advice will be available from the MCMA. Successful applicants will be required to sign a Management Agreement that declares that the site will be managed for conservation purposes, including maintenance of all fences in stock-proof condition for a minimum of 10 years. Projects will be inspected to ensure work has been carried out and to assess the outcomes. Best management practices will be adopted on all aspects of tree planting and fence construction.

Binalong Landcare believes that such an approach will ensure significant community benefits are obtained through the Yass Valley Wind Farm development that actively contribute to the livelihood of farmers and those who rely on the rural community for their own livelihoods.

A copy of the final report for the first three years of the Boral/Blue Circle – Bobbara Pastoral Company Galong Mine Revegetation Project is available.

For further information or to discuss this proposal, please contact either:

[redacted]

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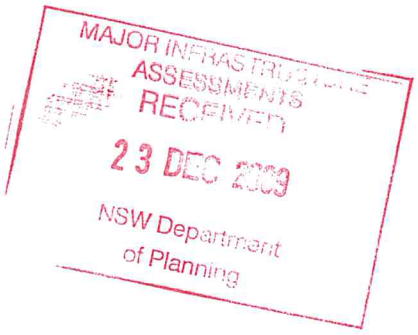
SUBMISSION FORM RE THE YASS VALLEY WINDFARM PROPOSAL
Planning Permit Application no: MP08_0246

To: The Director
Major Infrastructure Assessments
Department of Planning
GPO Box 39
Sydney
NSW 2001



From: [redacted]

Date: [redacted]

My submission is as follows:

I strongly object to the proposed Yass Valley Wind Farm on the grounds of noise, health, siting issues and omission of a cost benefit analysis.

I will be affected by the precedent set by these proceedings. Specific residents from Yass Valley have asked that I make a submission to compliment their efforts because of the specific knowledge I have gained from other wind farm sites.

My Objection reasons are briefly summarised below.

Noise

The Marshal Day report does not address in any significant manner the known effects of audible wind farm noise due to special audible characteristics (modulation effects in particular) on human perception, annoyance and sleep disturbance.

The Marshall Day report does not address in any significant manner the known, but debated, effects of infrasound and low frequency sound on human perception, annoyance and sleep disturbance as well as the debated potential for adverse health effects on persons within the locality of the wind farm.

On balance, the Marshall Day report contains substantial technical deficiencies and does not address in any meaningful way the concerns raised by residents.

Health

Victorian Minister Tim Holding recently (14 October) announced an investigation of health complaints at the Waubra wind farm site by WorkSafe, EPA and DHS.

Until such time as the outcome of this investigation is known there should be an immediate moratorium on all further wind farm developments and approvals.

14 December 2009: GOVERNMENT officials suppressed evidence that wind farm noise can stop nearby residents from sleeping, according to evidence released to Den Brook Judicial Review Group (UK).

Documents obtained under the Freedom of Information Act show officers deleted advice to tighten noise regulations because of the effect on those living nearby.

Mike Hulme, of the Den Brook Judicial Review Group, submitted the request for information two-and-a-half years ago, when he was putting together a case against nine 120-metre high turbines near Crediton (UK).

The Department of Energy and Climate Change (DECC) at first refused to release earlier versions of its 2006 draft report on wind turbine noise, compiled by Hayes McKenzie Partnership (HMP), which also gave evidence to the Den Brook inquiry. They said it was not in the public interest, but the Information Commissioner later compelled the department to comply with the request. They found that recommendations were deleted after officials questioned how they would be interpreted.

One comment read: "What will the impact of this be? Are we saying that this is the situation for all wind farms, just these [ie. the three wind farms in the HMP study], a % only for people with sensitive hearing, a problem with older turbines – I think we need a sense of the scale of this and the impact."

The draft statement also incorporated a paragraph on the damaging impact on health of losing out on sleep. It read: "A difficulty in returning to sleep will result in tiredness the next day and all the associated descriptions of ill-health which might be associated with a lack of sleep."

The remark was removed after the anonymous official wrote: "This sentence is dangerous and could be read that wind farms cause ill-health which is not the intention."

Yesterday, Mr Hulme said the situation highlighted the "major conflict of interests" within the department. He said: "On the one hand, they are there to promote renewable energies and to try and meet government targets, but on the other hand, they are responsible for guidelines to protect neighbours. They are clearly coming down on the side of promoting the wind industry every time."

He said the Government should recommission research into turbine noise levels "as a matter of urgency", to replace the "discredited" 1996 guidance, which is still in place.

This recent development has major ramifications for the wind industry who have always claimed that wind turbines do not cause health issues based on this HMP report. They need to address this issue.

Siting Issues

Manufacturers specifications for wind turbines stipulate that siting of turbines too close to each other, near plantations or on gradients greater than 10 degrees will have an impact on the turbulent air stream entering into the surface area of the "fan". This is detrimental from an efficiency standpoint, but more importantly detrimental with respect to noise/vibration.

No where in the planning process are these limitations addressed, which is to the detriment of those residents forced to live with the resulting problems.

Page 20 in the Appendix Vol 1 (1.1) file in the EA Visual Assessment states that most slopes are 20% or greater.

Many government officials, media and the general public are unaware of the manufacturer's specifications for the safe operation of industrial wind turbines.

The attached specifications relate to the Vesta's turbines - used at Toora in Victoria (where noise has been a major issue) but the limitations are generic to all brands of turbine. Noise levels are certified by the manufacturer assuming optimal operating conditions. ie a perfect linear intersection of velocity and the surface area of the fan. Once you start incorporating turbulence (from either a sudden increase in gradient - also known as shear, tall tree plantations or inadequate spacing), then you start incorporating extreme variances in pressure over the surface area of the fan (the size of the MCG playing field remember). This results in vibration and therefore operating inefficiencies but also noise issues. Noise level certification becomes invalid when operating conditions are breached.

The Vestas Specification document recommends that turbines not be placed on slopes greater than 10 degrees within 100m of a turbine (see 1.3 Terrain Conditions). At 2.1 Wind Climate, it also mentions that the turbulence % maximum is 20%.

Interestingly, the wind speed data for the recently approved WInchelsea Wind Farm (Victoria), one of the few sites at which wind speed data was ordered to be released by the VCAT, showed a night time turbulence pattern of over 20% for 75% of the time over a 12 mth period. Plus slopes greater than 10 degrees. Wind Farm operators at both Toora and Waubra refuse to release wind speed data, but slopes greater than 10 degrees are very much present in those situations where noise is a major issue.

Noise is very much an issue at Toora and Waubra. Could increased vibration through inappropriate turbine placement be the reason why?

The State Government needs to address these very basic community concerns with transparent investigations and public debate. Basic manufacturer specifications are not taken into consideration during the planning process. Noise standards deliberately exclude low frequency noise. The Wind Industry are not good corporate citizens. They are taking advantage of an unsuspecting public.

<u>Cost Benefit Analysis</u> (or lack there of)

13 November 2009:

Huge wind farm in New Zealand canned on environmental, economic and "climate change" grounds

Project Hayes was a 630 MW wind farm proposed for an upland plateau in Central Otago in the South Island of New Zealand. An appeal to the Environment Court has resulted in a judgement revoking the consent granted about two years ago under New Zealand's Resource Management Act.

A businessman from Auckland with property in Central Otago appealed on the grounds that it was seriously uneconomic compared to alternative generation and that, because fears of dangerous man-made global warming were not supported by the evidence, there was no grounds to build it to "fight climate change". As expert witnesses, he engaged Professor Bob Carter, Professor Chris de Freitas and Dr Kesten Green to put the case that there were no grounds for believing in dangerous man-made global warming and Bryan Leyland, a very experienced power systems engineer, to demonstrate that wind power was expensive and an "uneconomic use of resources"

The hearing was held before four Commissioners at the Environment Court where expert witnesses from both sides presented evidence and argued the costs and benefits both for and against the wind farm over a period of nearly two years.

In consideration of climate change matters under Section 7 of the Act, the court listened carefully to arguments countering the IPCC "projections" of impending dangerous man-made global warming put forward by Carter, De Freitas and Green. However, their conclusion was that the government had decreed that it believed in dangerous man- made global warming, so they had to accept this decree. But the decision leaves open the possibility that, as a result of the evidence presented, they gave less weight to Meridian's claimed climate change benefits than they would otherwise have done.

Bryan Leyland presented evidence on the cost of wind farms worldwide and presented a detailed economic analysis that showed that the cost to the consumer of the power generated was about twice the cost of alternatives like hydropower, geothermal or coal. When cross questioned on the economics of the project he finally said: "If it cost half as much and the wind blew strongest in the autumn instead of springtime, I would be all for it."

The 350 page judgement was delivered after nine months of deliberation by the Court. The judgement acknowledged the outstanding value of the landscape and loss of this value if the wind farm was built. The other major component of the decision revolved around the magnitude of the economic benefit to people and

communities from building this wind farm compared to alternatives. The court was very critical of the lack of economic analysis undertaken by Meridian Energy, the promoters of the project, and commented that "We find it extraordinary that in a $2 billion project more effort was not made by Meridian to value more of the costs and benefits much more thoroughly. It is even more remarkable that two governments endorsed the proposal without insisting that Meridian carried out a cost benefit analysis, or requesting Treasury to do so."

The judgement of the Commissioners was three to one against the project. The fourth commissioner, in a supplementary statement, said that "I come down on the side of the Meridian's proposal, albeit by a small margin".

For New Zealand, this decision raises the bar for all other wind farm proposals and implies that without a comprehensive and detailed economic analysis on national terms, they will not be approved. As Bryan Leyland demonstrated, such an economic analysis will show that wind farms in New Zealand cannot compete with alternative forms of generation even if a reasonable allowance is made for a carbon tax in one form or another.

For wind energy globally, the judgement drives home the fact that wind farms embedded in major power systems are seriously uneconomic because of high costs, an even lower capacity factor than is achieved in New Zealand, the need for backup generation and for additional transmission lines. All these wind farms are uneconomic and are commercially viable because of only massive consumer funded subsidies. It also demonstrates that if a wind farm is opposed on well supported environmental, economic and climate change grounds, success is more likely.

In the past, planning appraisals have failed completely to address the issues most relevant to concerned community members and we are coming closer to the day we find out how they might be held accountable should that failure be demonstrated in the High Court of Australia.

Given the current situation of affected residents at Waubra and Toora in Vic as well as Crookwell and Capital Wind Farms in NSW, The NSW Planning Department has failed completely in its Duty of Care in the matter of wind farm impacts on rural communities.

[redacted]

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8 DEC 2009

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COPY

Dear Albey, I know much bigger things have been taking place in the world of Liberal Party Politics.

However, meanwhile in our part of the world we are about to lose our environment to Wind Farms.

The Cappabella Hills are to be industrialized by a German owned company. This quick fix solution to Global warming & the resulting Problems, is again being at the expense of the Agriculture industry & the country people who fight to protect their life style & Communities are being [illegible] the environment gone for ever!

The obvious solution Solar Power is the obvious solution & Wind Tower on Top of city buildings, not where the city Polititians are not confronted by these massive industry [illegible] – away in the country outside city limits.

This beautiful YASS Valley will be gone for ever. We have just seen Tragedy in California. Thousands of rusting, decommissioned Wind Farms. It is not cost effective to remove, & they are earlier models, half the size.

This is not about the environment, it is about money (greedy farmers) & TAX schemes – Politics. What can we do?

[illegible] [redacted]

[redacted]

Major Infrastructure Assessments,
Department of Planning,
GPO Box 39,
SYDNEY, NSW 2001

REF No. (MP08-0246)

YASS VALLEY WIND FARMS ENVIRONMENTAL ASSESSMENT.

What Environment?

We will have no environment to protect from pollution and greenhouse gas as the industrialization of our landscape is taken over by wind turbines.

The Yass Valley Council listened to their community. They did not want to lose their environment. They would protect it for future generations.

The State Government ignored this decision and the politics of the day won. Go green with the easiest option of a quick fix, vote catcher of wind farms. The planet is warming why not use that to our advantage harness the sun with solar power. The only impact is positive a reduct on of CO_2 not the adverse impact on the land we are aiming to protect.

There are no benefits as suggested by Epuron: -

1. The clean green renewable energy is not sustainable through wind power alone. Denmark's farms are often required to draw Nuclear Power from their neighbouring countries
   A more compact, less intrusive form as shown in France's latest invention has almost superseded the existing Turbines. Solar power is more efficient cleaner, no water and makes homes self sufficient.
   No requirement for infrastructure such as roads, power station, electricity poles, damage to our unique landscape.

2. Wind power does not give us a better environment it takes away our environment. There are far better alternatives (as above).

3. Income, employment is only short term while farms are constructed and they replace the existing practice of agricultural farms. Actually taking away employment.

   The invested opportunity is very restricted. Benefit is only to the people who allow these structures on their land, not to the community and surrounding district. The on going schemes are then in reality tax schemes with money not the environment being the only motive.

   California is littered with decommissioned wind turbines. No one now accepts responsibility for all those structures, which by their very nature manufactured have already contributed significantly to pollution of our planet and will NOW continue to do so for generation to come.

[redacted]