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OBJECT

Submission No: 163389

Organisation:		Key issues: <i>Energy Transition, Visual impacts, Social and economic</i>
Location: <i>New South Wales 2852</i>		
Submitter Type: <i>I am a member of the community with a view about the proposed development</i>		
Attachment: <i>SHORT CIRCUITS IN THE POWER LINE PARADOX.odt</i>		

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I object to the Thunderbolt Wind Farm for reasons contained in the attached submission - SHORT CIRCUITS IN THE POWER LINE PARADOX.

SHORT CIRCUITS IN THE POWER LINE PARADOX

Power lines are universally detested for their visual impact on the landscape. That is, except for the investors who own and enjoy guaranteed “gold plated” returns from them. This contributes to the reason why power lines at present account for approximately half the cost of a typical electricity bill.

With the roll out of renewable energy tens of thousands of kilometres of new power lines are going to be built. The rationale for this is that, because of the intermittent nature of renewable energy output, it is necessary to connect output from diverse locations to even out these fluctuations and so stabilise the grid. But as has recently been demonstrated in Victoria, power lines are susceptible to storm damage causing generators (both coal and renewable) to trip resulting in widespread and prolonged outages across the grid. The more power lines that there are then the more that will be subject to storm damage. So the power lines that are required to stabilise the grid will in fact make it more unstable.

Storm damage to power lines not only causes grid outages. In the 2009 Black Saturday bush fires in Victoria 6 of the 11 most catastrophic fires were started by power lines. And all but 14 of the 173 deaths were attributed to these 6 power line fires. If the claims on climate change are correct, these storm events will become more intense and prevalent. Building more power lines can only increase the likelihood of a similar event to the 2009 Victorian bushfires happening again.

Of course all the above, that is visual impact, outages from storms plus damage and deaths from power line fires could be averted by burying the lines underground. But because renewable energy has been deemed to be cheap (and nasty?) this option cannot be considered. With nuclear power safety is paramount, which of course adds to its cost. Is it acceptable that a lesser standard be applied to renewable energy?

Solutions? The assertion that all these power lines are necessary must be scrutinised.

The main factor causing variability in solar output is the fact that the sun doesn't shine at night. And in all the eastern states from Queensland to Tasmania and including South Australia it is night time at the same time. No amount of power lines can rectify the reality of this situation. Indeed a study by Mountain and Bartlett has determined that increased battery storage would be much more cost effective in evening out these fluctuations in both solar and wind output, rather than building more power lines for this purpose.

Australia leads the world in the uptake of rooftop solar. It has far exceeded the expectations and projections of the planning authorities. Much has been made of how this rooftop solar has impacted the profitability and viability of coal fired power stations. But obviously it must also impact the profitability and viability of solar farms and to a lesser extent wind farms as well. With rooftop solar, particularly if augmented with the required battery storage at the residential level, no new power lines are required. This approach would also provide backup power when storms cause outages in the existing transmission network. It would seem sensible to exploit rooftop solar to its maximum potential before any more solar farms are built.

The argument against this is that solar farms will be required if Australia is to become a green hydrogen superpower. But the green hydrogen bubble appears to be rapidly deflating. Green hydrogen is expensive to make, difficult to store and transport and has only half the efficiency of battery storage. If green hydrogen manufacture is to succeed it must be produced in regions with the best wind and solar assets. And in Australia that happens to be Western Australia. Add in the availability of iron ore for steel production from green hydrogen plus shorter shipping distances to

international markets and WA is the obvious location for any green hydrogen project. Given these facts are solar farms and the power lines to support them needed in NSW?

This leaves wind turbines and unfortunately for coastal residents, if wind turbines must be built, offshore wind is a better option than onshore wind. This fact was acknowledged by the planning authorities when they released (but quickly retracted) a map designating that most of rural NSW is less suitable for wind farms.

Offshore wind is stronger and more consistent than onshore wind. It is more compatible with solar output compared to onshore wind, in that onshore wind tends to be stronger during the day. With most of the Australian population concentrated in coastal areas the required transmission infrastructure to connect to the existing network will be much shorter than land based turbines. And critically, with most of the power lines on the sea floor there will be no visual impact, susceptibility to storms or fire risk.

The visual impact of wind turbines must also be considered. This impact will be moderated if a 20km setback from coastal residents is adopted, as has happened with the Hunter Offshore Wind Zone. Compare this to the 2km setback that has been deemed acceptable for rural residents. Australian anti discrimination legislation includes place of residence in it's charter and so the same setback should apply to both rural and coastal residents.

The argument will be, that because fewer rural residents will need to be impacted with wind turbines at close quarters, it is acceptable to have them there. But this attitude is exactly why anti discrimination law exists. Minority groups, including those defined by colour, religion or in this case rural residents, should not be subject to victimisation for any reason. One of the cornerstones of a civilised society is the adherence to such anti discrimination policy.

However, despite failing the "pub test" miserably, there will be legal argument that because onshore wind is under State jurisdiction and offshore wind is under Commonwealth jurisdiction different standards can apply. But Commonwealth funding in any shape or form (eg The Capacity Investment Scheme) will be illegal where Commonwealth standards are broken on State projects.

Add to the above concerns the destruction of natural habitat and reduced farm productivity and value. Is it any wonder that rural residents are feeling angry, frustrated and marginalised by renewable energy projects and the power lines that accompany them?

What is even more appalling is the NSW governments solution – You can talk to a qualified psychologist or social worker on 1300089551.