
From: Colin Hansen <[REDACTED]>
Sent: Friday, 21 September 2018 2:51 PM
To: DPTI:Planning Engagement
Subject: draft State Planning Policy submission

I am writing to make a formal submission on SPP12:Energy and in particular policy 1, which states "Support the development of energy assets and infrastructure which are able to manage their impact on surrounding land uses, and the natural and built environment."

In particular, I would like to comment on aspects of the policy that target management of wind farm noise, as that is an area in which I have been working for the past 7 years.

Based on the findings from my work, much of which has been published in scientific journals, I have the following detailed suggestions.

1. Different people are affected differently by noise. Particularly at lower frequencies, the threshold of noise detection is not many dB below the threshold of annoyance or intrusiveness. Given the wide variation in the threshold levels of the population, it is not surprising that a noise that is barely audible to some people can be highly annoying to others and also result in sleep deprivation, which can be linked to adverse health effects.

Given also the possible sensitisation of people when exposed to annoying noise for long periods of time, it is not surprising that some residents near wind farms are suffering severe adverse effects. It is important for any policy to admit publicly that it cannot protect all individuals from annoyance and loss of amenity due to excessive noise. It follows that such policy documents should honestly state the percentage of people (perhaps 90%) that they hope to protect and for others who fall outside of this group there should be alternative pathways for them to be protected, such as a requirement that developers must purchase their property at a price determined by a government valuer.

2. To ensure that 90% or more of people in rural areas are not adversely affected by wind farm noise, there should be minimum setback distances specified that are a function of the turbine size for any residence in the wind farm vicinity. For example, for 3 MW turbines, our data would suggest that a setback distance of 5 km between the nearest turbine and a residence would minimise the number of highly annoyed people.

3. As a minimum SA should follow the NSW EPA and have a 35 dBA limit on the external noise at all residences, independent of the zone in which they are located (although 30 dBA would be preferable and would ensure that most complaints would cease). Currently, the limit in areas zoned as rural industry is 40 dBA which is much too high given that many rural residences exist in these areas. It does not make sense for the limit for a remote rural residence to be higher than what it is for a nearby town.

4. Low-frequency noise is much more annoying if it exists in the absence of mid and high-frequency noise. This is often the case for rural residences located more than 1 to 2 km from the nearest turbine in a wind farm as mid and high frequency noise is attenuated with distance at a greater rate than low-frequency noise due to atmospheric absorption and ground absorption. This leaves the noise sounding like a rumbling noise that varies in loudness.

5. Any noise limit legislation should also include allowable limits on the dB difference between low-frequency noise and mid to high-frequency noise if the noise level is above 30 dBA. There should also be limits on the extent of amplitude modulation of the noise that is acceptable.

6. It is not clear what definitions are used in the policy for "nuisance", "amenity" and "adverse impact". These definitions should be included and written in plain English.

7. A great help to researchers working on assessing the impact of wind farm noise would be access to noise monitoring data. The policy should require developers and operators of wind farms to make their noise measurement data publicly available (in real time, not months after they are collected). It would also be of great

help to be informed when the wind farm was to be shut down for maintenance so background noise measurements could be made for comparison with noise levels when the turbines were operating.

8. If a resident has a noise complaint, the policy should set out in detail what the resident must do and what they should expect from the wind farm operator and the relevant government department as well as an appeals (or escalation) process that can be accessed if the complaint is not addressed in a satisfactory or timely manner.

9. Developers should be required to place funds in a State Government trust fund that can be used to pay for dismantling of the turbines when they reach their end of life. Perhaps this should apply to all energy generation projects.

Regards

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