

Cullerin Range Wind Farm Survey

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Key Findings

73% of all residences out to **5km** returned the survey with **85.7%** of households indicating that noise is present at their residence and property during the day and/or night, with **78.5%** of households reporting sleep disturbance from the noise generated by the wind energy development.

70.8% of all residences out to **7.5km** returned the survey with **82.4%** of households indicating noise is present at their residence and property during the day and/or night, with **76%** of households reporting sleep disturbance.

Introduction

Cullerin Range Wind Farm was developed by Epuron and transferred to Origin who completed construction and operation began in July 2009. The wind farm consists of 15 2MW REpower turbines, each tower reaching to around 80 metres with turbine blades of 46 metres.

Local residents have complained of noise and other disturbing impacts from the wind farm since operation began in July 2009.

It was clear that there were indeed some significant noise and amenity problems as a result of the Cullerin Range Wind Farm. I undertook to conduct this survey, the same survey that was conducted around Waterloo Wind Farm in South Australia by Mary Morris. The survey area included households within approximately a 10+km radius of the wind farm.

The aim of the survey was to establish what percentage of people who live in the vicinity of Cullerin Range Wind Farm are disturbed by noise, shadow flicker or TV/radio interference from the wind farm.

It was also to establish the distance from the turbines at which any disturbance may be occurring.

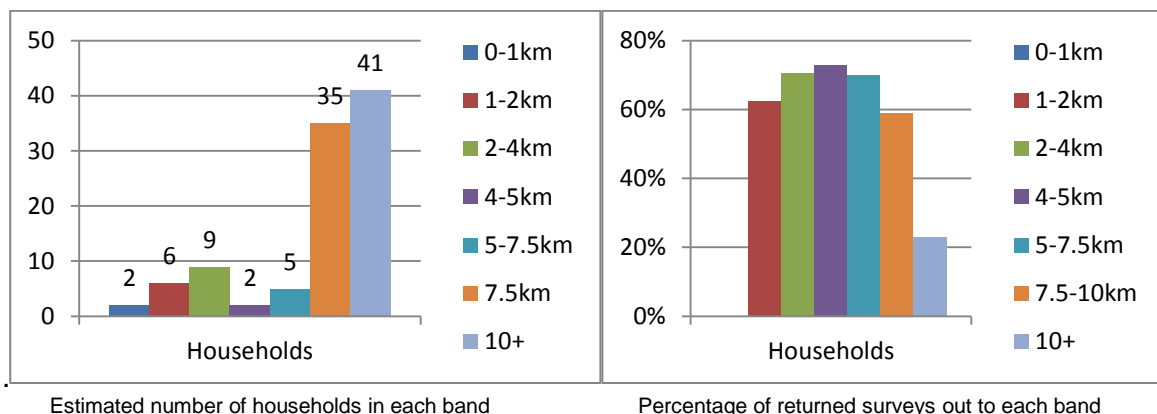
Results of the survey are to be used to inform the relevant Local, State and Federal Government authorities of any disturbance issues which fall within their duty of care.

Method and Results

An anonymous self-reporting survey, map with distance bands indicated so households could establish how far they actually resided from the turbines and a letter of introduction explaining why the survey was being conducted, was hand delivered to all households within or near a 10km zone of the Cullerin Range wind farm. Each survey was individually numbered to avoid tampering.

100 surveys were delivered with 23 households returning completed surveys. A 23% response rate.

From what we can establish in the **0-1km** band there are **2** households, (**1** being a host), in the **1-2km** band there are **6** households, in the **2-4km** band there are **9** households (**1** being a host), in the **4-5km** band there are **2** households, in the **5-7.5km** band there are **5** households and in the **7.5km to 10km** band there are approximately **35** households. This includes the population of Breadalbane and Banister. The remaining **41%** of surveys were delivered around the **10km plus zone**.



In the 10km+ area that was surveyed out to **4km** there is a total of an estimated **17** households and the response rate was **70.6%**, out to **5km's** there is an estimated **19** households and there was a return rate of **73%**, out to **7.5km's** there is an estimated **24** households with a **70%** return rate, out to **10km's** there was an estimated **59** households with a return rate of **33%**.

For the **23** households which responded to the survey and located within a radius of **10+km** of Cullerin Range Wind Farm **56.5%** were disturbed by impacts including noise, flicker or television. This does **not** include the **2** households in the below two paragraphs.

***1** household with **1** resident reported having been told of the existence of day time and night time noise at the residence in the **1-2km** band. The noise had no impact on the resident as they are deaf. This would take the overall percentage to **60.8%** of households experiencing noise

Another household experiences disturbance with TV and radio but did not know if it was from the turbines. This household also experiences annoyance from the twirling of turbines whilst working outside. This household would then take the overall percentage of households impacted in the survey to **65.2%**.

Daytime Noise disturbance, which in some cases varied with various weather conditions was reported at **60.8%** of the households who returned the survey *including the residence of the deaf person.

Night Time noise disturbance impacted **60.8%** of households who returned the survey *including the residence of the deaf person.

Upon examining the responses from within 5km of the wind farm, **85.7%** of households were disturbed by daytime noise and night time noise, *including the residence of the deaf person. A total of **78.5%** of households experience sleep disturbance.

In addition to the questions from the survey that Mary Morris completed question 13 was added for further comments. These comments are listed at the end of the summary of results. It is interesting to note that while some are not affected by noise, vibration, shadow flicker or EMI's that visual amenity and the community cohesion is of concern.

Conclusion

Whilst this survey is not definitive, it clearly supports the claims that Cullerin Range Wind Farm is generating noise disturbance, sleep disturbance and electromagnetic interference which are above levels acceptable to a significant proportion of the local population.

Sleep is an essential part of healthy life and recognized as a fundamental right by WHO under the European Convention on Human Rights (European Court of Human Rights 2003) (2).

It is clear that noise pollution governance is failing the people of Cullerin.

It is clear that siting turbines too close to homes and workplaces is inappropriate and further multi-disciplinary research is needed to establish what is safe. The acoustic modeling for this wind farm is clearly flawed.

It has been suggested that this wind farm is compliant, so if this is the case then the noise regulations are manifestly inadequate to protect the community and need to be revised immediately.

Currently low frequency noise and infrasound are not measured and the whole process is not transparent, open or honest.

A thorough review of audible and inaudible noise measurement and monitoring relating to wind farms is long overdue and should be undertaken immediately by experts independent of the industry to protect residents where wind farms are established and are being planned.

Whilst question 11 was included in the survey it is purely a hypothetical question and until this was something people could experience a true indication of the impact would not be possible.

The following pages contain a summary of results from the survey and graphs representing the percentages. I have included the comments received from question 13, whilst some of the comments are not pertaining to noise, EMI interference or shadow flicker they give an indication of the feelings within the community and highlight some of the other impacts being felt.