

**Submission to Climate Change Authority re:
Wind Turbine Noise Regulations, Victoria's Proposed Changes.**

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Environment and Climate Change | Department of Environment, Land, Water and Planning

<https://engage.vic.gov.au/changes-regulation-wind-farm-noise>

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“From 1 July 2021, the new Environment Protection Act 2017 will introduce a ‘general environmental duty’ to take reasonable steps to minimise risks of harm to human health and the environment, as well as ‘unreasonable noise’ provisions. These will apply to all industries in Victoria, including wind farm operators.”

The Government is purporting the following requirements for wind farm operators:

- Complying in an ongoing manner with the relevant noise standard (the New Zealand Noise Standard NZS 6808)
- Implementing a noise management plan, including a complaints management plan
- Providing an annual statement of actions taken to ensure compliance.
- Completing a post-construction noise assessment
- Undertaking noise assessments every five years. “

DELWP have put forward three alternative approaches which they believe will regulate wind farm noise under this Act:

Base Case: The Base Case which consists of the primary legislation (including relevant provisions of the EP Act and the EP Regulations that are expected to commence on 1 July 2021) and the policy objective of EPA as the primary regulator of Wind Energy Facility turbine noise.

Option 1: Direct regulation: Additional industry specific direct regulation introduced as an amendment to the incoming EP Regulations that prescribes what constitutes compliance with the GED and unreasonable noise provisions.

Option 2: Permits: A permissions scheme is developed alongside the incoming legislation that allows EPA to issue permits for WEFs prescribing conditions which represent reasonably practicable requirements to minimise the risk of harm.

To me these options are limited and will fail to protect people from sleep disturbance and annoyance caused by turbine noise that often destroys amenity and quality of life.

Noise disturbance and nuisance is a problem at many rural properties inundated with wind turbine vibrations, sound and sensation impacts and causing adverse health symptoms. Impacts increase over time with long exposure to low frequency noise and pulsating amplitude modulations, etc emitted from wind turbines.

I am profoundly disturbed by wind farm (wf) noise despite the wf being deemed 'compliant' by the Planning Minister.

- The Cape Bridgewater and Waubra wf's have never been operated in noise optimised mode, fail to meet noise limits, and are therefore considered to be non-compliant wind farms.
- We reluctantly vacated the property, for respite from the noise intrusions.
- We neighbour of ten years or more, are most knowledgeable about the adverse impacts wind farms have on our communities.
- Our valuable contributions to assist in finding solutions through acoustic research and testimony at Inquiries etc are mostly dismissed; to the point we have been publicly gaslighted by those that minimise or denigrate our experiences.

The current system of managing wind energy noise complaints has failed my family and neighbours.

The suggested changes to alter the concept of noise annoyance/nuisance from wind turbine noise, as proposed in the options provided, are insupportable. I expect in Victoria's 'fast-track' process for more wf's, the management and reduction of disturbing noise and complaints will remain unfair and unchanged.

Removing the rights of Victorians to complain in relation to noise annoyance, amenity noise impacts, sleep disturbance and likely health impacts as a result of the operation of wind turbines, prolongs existing and future mismanagement of rural communities being forced, or paid, to live near or under wind energy infrastructure.

Supporting old acoustic methodologies and bad noise assessments is damaging and unjust in light of independent acousticians' findings of noise disturbances at many wind farms. Acousticians working to inappropriate standards and regulations, being paid to exclude vital data by selection and averaging out noise, abuses our rights to work, sleep and exist peacefully in our own homes.

Public Health

Health is impaired near wind farms. Wind turbine dose-responses have been investigated and there is mounting evidence of cause and effect, of noise-based harm. It appears the only noise remedy advice from GP's, Specialists and the NWFC is to move away.

Wind farm human health impacts are disturbed sleep, hypertension, tachycardia, headaches, dizziness, vertigo, loss of concentration, nausea, ear pain, ear pressure, tinnitus, eye blurring, irritability, panic, fear episodes, skin rashes, irritable bowel syndrome, menstrual problems, annoyance etc.

Removing noise nuisance or noise annoyance from the Health and Wellbeing Act and allocating it to a regulatory authority using 'unchallengeable formulas' to decide the degree of "reasonable noise" 'a person **should be able to endure**', is a cruelty, is discriminatory and denies a minority group of people.

Acoustic noise, sound, vibration.

Constant bombardment of industrial broadband noise and the *Wind Turbine Signature*, including low frequency noise and pulsations is harmful and includes unheard noise, sensed painfully within the body.

The Victorian REZ's, with hundreds of turbines of a larger capacity will potentially pose further harm to community health and wellbeing unless real and honest changes are made.

Wf 'noise' cannot be blocked out; it is conducted by bones in the ear and skull and processed differently by the ear and brain. Neurological differences, with different and possibly harmful pathways being developed in humans trying to cope with exposure to wf infrasound and LFN.

Regulations recommended by the wind industry and enacted by the government are geared towards outside audible noise, which without live monitoring are regularly exceeded.

Wind farm noise is measured using one of three different sound ranges ignoring infrasound, subsonic noise levels, amplitude modulation, pulsations and vibrations moving through the air and ground.

It is measured outside the home and not where people sleep and are impacted.

Wind farm 'noise' is being acoustically recorded up to 10km to 100km away from wind farms and sensed by noise sensitised residents 30km or more away. Low level noise and vibrations passes unheeded through ground and buildings.

There is no physical protection from the noise, Low Frequency Noise will never abate with an absence of effective regulations, and in excluding the real source of damaging noise.

New Zealand Standards

The government supports the misconception there are no issues of noise if a wf is compliant to the NZ standard noise criteria.

Using the NZ Standard based on traffic noise that has no relation to WT noise in quiet rural areas, allows continuation of the noise onslaught and is an injustice to neighbours being adversely affected.

WF noise measurements based on the 1998 and the 6808-2010 Standard New Zealand Standard ignore the region of sound, the wind turbine signature and amplitude modulation occurring at an infrasonic rate known to impact on residents' health.

Possibly poorly trained, wind developer paid acousticians use inadequate techniques with improperly calibrated, (cheap) equipment, without independent supervision or assessment, with assessments conducted over, limited, and cherry-picked time frames is unscientific.

Wind farm noise is monitored by the proponent for brief time periods and no requirements are in place to monitor wind farms on a real time, full spectrum noise and constant basis to ensure people are protected from unwanted emissions.

This wf 'noise' data should be up to date and publicly available in real time to all, as recommended by the Senate Inquiry into Wind Farms 2015. Telecommunications have been improved and real time data and shutting down intrusive noise as it occurs, is a must for the protection and safety of neighbours, particularly at problematic wind farms.

The unwanted sounds causing noise nuisance and harm to health are not being monitored nor abated.

It is my experience that using (40) dB(A), (or background + 5 dB(A) – whichever is the greater), as a base level of noise:

- Causes noise nuisance to impact on people living near wind farms.
- Destroys the natural amenity on our properties.
- Creates sleep disturbance and other adverse health impacts.

A senior Australian Federal Court judge of the Administrative Appeals Tribunal SA decided that the noise annoyance produced by wind farms was a 'plausible pathway to disease' and dBa measuring is useless.

There is no social license or community confidence while Wf operators, regulators and government bodies do not care enough to take actions to alleviate the suffering experienced inside homes near wind turbines. Legal action is the only recourse because of systemic failures to properly regulate and enforce protective measures to prevent adverse wf noise impacts.

In South Australia.

The Vic proposed changes follow the SA EPA guideline that the noise criteria are a compromise between the need for wind turbines and the amenity of residents.

The SA Environmental Resources and Development Court has identified that as the SA EPA have a policy and are presenting the criteria of the state government, then if a wind farm satisfies that criteria, they are **required to assess the noise in terms of the criteria**. Australians should be shocked at this decision.

The SA EPA have not identified the basis of the compromise and supposedly the nominated levels will not give rise to unacceptable impacts, as the Court views the criteria issued by the SA EPA as the law.

Wind industry noise consultants may then **pass the blame** for any disturbance back to the SA EPA because they nominated the noise criteria.

Topping off the injustice; the noise criteria are based upon averaging noise levels, and an assumed noise compliance method that cannot be checked, because the material/data upon which the "compliance" has been derived is not in the public domain.

At Bald Hills

The Bald Hills court action identified the Government produced an acoustic compliance test that was not in accordance with the permit. Government changes laws to fast-track and benefit wind operators; and closes down noise complaints.

Using wf beneficial noise criteria, complicated and useless noise complaint handling charts or doing a 5-year noise assessment will only perpetuate injustices to neighbours. As the turbines age over the 5-year period the adversely impacted neighbours will be left suffering for the duration and likely beyond. Turbine maintenance done just prior to the assessment could temporarily alter the readings to meet criteria. It is beyond unfair.

DELWP Option Base Case

This option refers to 'general environmental duty' to minimise the risk of harm arising from noise emission to both human health and the environment. Adding "as far as is reasonably practical" allows the noise nuisance to continue.

It assumes the New Zealand Standard and the “criteria”, which is based on traffic noise, is acceptable and achieves the primary aim of the Standard, which is to protect against sleep disturbance. **There is no provision of data nor explanation showing what levels of wind farm noise do not give rise to sleep disturbance.** Under the NZ standard we neighbours are sleep disturbed, harmed and it is wrong.

It is too late when the ‘compliant’, self-monitoring and self-regulating wind farm is built next door and night after night, and during the day, you cannot sleep nor rest. Exhaustion from sleep deprivation sets in, concentration is lost; there is no escape, and no ‘reasonable’ or ‘practical’ steps are ever undertaken to resolve the issues.

Option 1

Refers to wind farm noise regulations based on the flawed New Zealand Standard 6808:2010 or NZS 6808:1998 which provides no confidence or guarantee there is no sleep disturbance.

A definition of ‘unreasonable noise’ is a noise that exceeds the noise limit determined in accordance with the relevant noise standard.

- The standard is based on **traffic noise**,
- The noise emitted from an industrial wind energy power plant in a quiet rural location is more disturbing.
- The NZ Standard method averages out non-transparent material/data for determination of acoustic compliance.
- Night-time limits are set (e.g., Bald Hills) at external locations but the NZS 6808 versions are averages assessed over 24 hours.
- There are no internal sleep disturbance noise limits in NZS 6808 as a result of wind turbine “noise”.
- also refers to post-construction and 5 yearly noise assessments.

The testing uses **wake-free wind data** that excludes wake turbulence and is not the actual wind the turbines experience. This deliberate data exclusion shifts the regression data to the right and allows the wf to appear to comply to the Standard.

People wanting an assessment of problematic noise and vibrations and resolution of their complaint having to wait **5 years** after post construction noise testing, is objectionable and will add further distress and likely harm.

Woken repeatedly during the night, night after night from annoying noise, thumps, whoops, squeals, or annoying vibrations that do not cease; those of us at Cape Bridgewater or Macarthur or Waubra or Waterloo etc disturbed by pressure pulsations that incessantly pound our head and body have no peaceful sleep or rest unless we leave the property. Many of us have become ‘noise-sensitised’.

Because there is no publicly available raw wind and noise data in real-time, regulators only rely on reports provided by the wf operator. We are told what we experience is ‘in our heads’, or is a nocebo, or that the noise is no louder than your own heartbeat, or fridge, that some other noise is causing the problem, or that nothing can be done, or go complain to someone else; With no scrutiny or auditing, we are told the wind farm is compliant to the conditions of the permit and our complaints are closed and nothing changes.

There is no independent review of noise assessments to prevent any fraud from dodgy practises such as reducing power outputs or turning off turbines to create less noise intrusion during the

testing period. At Cape Bridgewater the acoustic consultant's MDA, later re-issued reports with the same (non-compliant) data but changed the outcome to that of compliance.

Victorian EPA

The Wind Turbine Select Committee report debate in the Australian Senate on 20th August 2015, Senator Madigan spoke on behalf of rural Victorians and said:

“Why is the wind industry exempt from appropriate regulatory practices that apply to other industries? In my home state of Victoria, for example, the EPA plays no role in the assessment of wind farm noise. These matters are left to paid consultants—guns for hire, really—who write the report the wind farm operator needs to appear compliant. The wind industry is in fact regulating itself in Victoria and elsewhere, riding roughshod over country people”.

The Victorian EPA never investigated my wf noise complaint at Cape Bridgewater and never undertook the noise monitoring they said they would do.

In 2014 I communicated concerns about the EPA's performance in handling wind farm noise issues in their survey. Still no investigation into the complaints of wf noise and they have not endeavoured to protect my family in any way from the nuisance caused by the wf.

The Vic EPA acousticians should abide by a Code of Ethics to ensure the health and well-being of the community is protected. This is impossible if they accept a defective belief that we are not sleep disturbed, or adversely health impacted at Wf's deemed compliant to the NZ Standard; (based on traffic noise).

The EPA must not be the future 'guns for hire' writing reports on behalf of or to wf operators allowing the industry to continue to self-regulate and continue the roughshod dismissal of noise complaints.

Permanent, real-time publicly available noise monitoring would assist protecting communities; ensure compliance; and help prevent any fraudulent REC's claims. REC's are worth millions of dollars and wf's rely on being subsidised to operate. If a wf is found non-compliant the REC's must be removed.

SA EPA

The SA EPA showed bias in their wf noise guidelines and in the Waterloo wf report. There was no response to complaints of vibration and sensation originating from frequency ranges and pulsations excluded from their guidelines that are restricted to dBa measuring.

Sleep disturbance was identified in SA as an adverse impact to a turbine host receiving money but does not identify adverse impacts for non-hosts, the rural residents being adversely impacted by wind turbine noise.

Option 2

Refers to new permission for wind farms and is redundant where the Base Case and Option 1 issues of concern have not been addressed.

In Conclusion

The provided options are restrictive and not reassuring. If rural human health is to be valued and respected, and if 2500 more turbines are to be built to meet the RET, then credible noise

regulations, policies, policing and response measures must be put in place to protect the safety and wellbeing of rural communities.

Protecting the public from excessive noise and nuisance requires:

1. A revised Base Option with permanent publicly available full-time monitoring.
2. For it to be mandatory that all noise data and wind data to be made publicly available in real time in order to confirm compliance.
3. The establishment of a regulatory authority, similar to the Victorian Building Authority and Livestock Production Assurance, to oversee the regulation of the wind industry.
4. There must be reviews and credible independent auditing of noise assessments.
5. EPA as the responsible authority, must show a duty of care to adversely impacted residents being affected by wf noise disturbances. To be effective they must have the resources, the expertise, the required technical equipment, the time, and independence to fully investigate, monitor and prevent intrusive noise and vibrations at wind farms.
6. There must be consequences applied for breaches to permits.

The Victorian Government is fully aware of problems experienced at wind farms by local residents and fails to respectfully apply the knowledge from those experiences to protect the public. The EPA has an important role in protecting communities from exposure to wind farm pollution and should be cautious on behalf of adversely impacted residents.

It is unthinkable that further wind farm developments proceed while issues remain unresolved at existing wind energy facilities and while current measures fail to protect residents and creatures within vicinity of turbine blade sweep paths and within projected noise perimeters. We know sounds extend further as more powerful turbines and wind farms combine across vaster distances to dominate rural landscapes and environments and have more cumulative impacts.

Suggested Reading:

http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Wind_Turbines/Wind_Turbines/Submissions

http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Wind_Turbines/Wind_Turbines/Final_Report

<http://waubrafoundation.org.au/resources/definitive-document-wind-turbine-noise-simple-statement-facts-august-2014/>

<http://waubrafoundation.org.au/resources/wind-turbine-noise-adverse-health-effects-june-2014/>

<http://waubrafoundation.org.au/resources/environmental-noise-sleep-deprivation-torture-september-2014/>