



**Denmark
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Submission to the Senate Inquiry into the Social and Economic Impact of Rural Windfarms

If Australia is to meet the Commonwealth's own target of 20% renewable energy by 2020 the current installed capacity of renewable technologies must quadruple over the next ten years.

Unlike most other proposed forms of renewable energy generation, windfarms are proven technology; comparatively low-cost; widely and economically deployable; utilise a free, inexhaustible resource; quickly repay their 'carbon debt'; and are the most efficient extant renewable energy technology in the world. Combined with smart grids they can create very substantial economic, environmental and social benefits for regional communities.

DCW

DCW Inc became a registered as a not-for-profit association in 2003, following a series of community workshops which identified a wish to develop a local, community-scaled renewable energy project.

A 1.6MW, \$3.5m wind energy project is now entering its finance phase, having gained all necessary state planning approvals and a federal RRPGP grant to cover 50% of capital costs. It is expected that the windfarm will begin operating in March-April 2012.

DCW Inc currently has 90 paid-up members – down from a high of 242 in 2008, due to people's frustration and disappointment with the protracted processes experienced by the project, which was moribund for nearly three years while the Commonwealth assessed our funding application.

Despite this setback, a survey conducted by the Shire of Denmark at the end of 2008 found that 70% of local residents support the windfarm. A contemporaneous independent survey by Curtin University had a similar finding (74%).

Benefits

The benefits of the project will include

- generating ~40% of Denmark's annual power requirements, thus significantly reducing local greenhouse gas emissions
- providing a "community chest" based on income from the windfarm being directed into community works that have a local environmental, cultural or social focus – money that would otherwise be directed elsewhere

- reinforcing and improving the reliability of the existing local power network
- empowering the community to be active in carbon abatement and contribute to reducing the effects of climate change – far more than it can by installing CFLs, improving home insulation or other domestic energy-saving measures
- contribute to social cohesion through developing and achieving a common goal
- delivering efficiencies that approach those of utility-scale infrastructure, without sacrificing the benefits of small-scale initiatives
- creating direct income for shareholders and retaining money within the community
- creating employment for local contractors, tourism operators* and related businesses
- being a model for other rural communities, thereby accelerating the uptake of renewables
- creating / supporting downstream industries such as education, consultancies and tourism.

Status of community wind elsewhere

In the Europe and the UK, community-owned projects are commonplace. The country of Denmark alone has more than 200,000 investors owning more than 5,500 turbines. Some small communities run entirely on 100% off-grid renewable energy, owned and operated by local residents, with government blessing.

In the United States and Canada the community renewables sector is growing, with a present installed capacity similar to Australia's entire renewables sector.

Response to specific areas outlined in the inquiry

1. Adverse health effects for people living in close proximity to windfarms.

What is considered "close"? There is no scientific evidence that wind turbines adversely affect physical health when located at recommended minimum distances from dwellings. (The Denmark windfarm is more than 3km from the nearest permanent residence – more than three times the WA Planning Commission's recommended minimum separation of 800m, and a situation most easily achieved in rural areas.)

2. Concerns over excessive noise and vibrations emitted by windfarms in close proximity to people's homes.

Research shows that levels of low frequency noise and infrasound generated by modern turbines are within acceptable levels. More auditory distress is caused by electric tools and appliances, overflying aircraft and traffic, among myriad everyday exposures (see Diag 1).

3. The impact of rural windfarms on property values, employment opportunities and farm income.

There is no credible evidence that any of these apply. (In Albany, where a large windfarm has operated since 2001, real estate advertising frequently treats views of the turbines as a beneficial selling point!)

4. The interface between Commonwealth, state and local planning laws as they pertain to windfarms.

Effective environmental standards for windfarms are desirable, and current Australian standards and guidelines for windfarm developments are already among the most rigorous in the world.

It is facile to expect windfarms to meet higher standards than those imposed on other infrastructure developments: existing planning systems already provide for impact assessment covering environmental, social, cultural and technical criteria.

While national guidelines have the potential to encourage greater consistency between planning regimes and to remove impediments, the *Draft National Windfarm Development Guidelines* only add impediments. (The writer participated in several workshops during the formative stages of the guidelines' development, and detected a clear trend towards "making life harder" for windfarm projects. I ascribe this to the attitude of former Environment Minister Ian Campbell, who initiated the process and whose opposition to wind energy is well recorded; and misinformation widely broadcast by vocal minorities – especially the loosely allied Landscape Guardians groups that have sprung up throughout the country, predominantly to oppose community wind projects.)

* the Albany windfarm attracts some 40,000 visitors annually.

Other relevant matters

Integral to the success of community wind, and thereby the successful adoption of upscaled, broad-reach renewable energy, are the development and widespread implementation of distributed generation (DG) and smart-grid technologies.

Though these are outside the Inquiry's immediate purvey they are nonetheless integral to Australia's energy future, and should form the context in which the Inquiry makes its deliberations.

Yours faithfully

Craig Chappelle
chairman

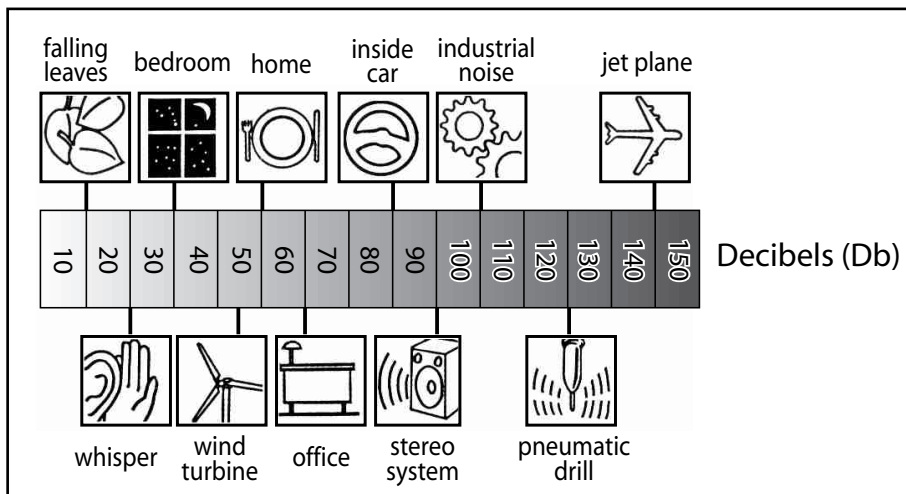


Diagram 1: Relative levels of everyday sounds.