

## Social and Economical Impact of rural Wind Farms – Senate Inquiry

Dear Sir, Dear Madam,

Over the past decades, most of the European countries like Denmark, Germany, Spain or France have developed significantly their Renewable Energy capacities, the main one being wind energy, which is the most mature and cost effective renewable energy to the date.

This has not only allowed to reduce the energy dependence on imported fossil fuels and carbon emissions but also created large wind-related industries and several thousand of local job.

Wind already provides 20% of the power in Denmark, 12% in Spain and 7% in Germany and by 2020, and it is expected to have 230 GW of wind power capacity to supply 14-17% of the EU's electricity demand (source European Wind Energy Association). South Australia is now close to 20% of installed wind capacities (source AEMO), which means these targets are achievable all across Australia. Albany Wind farm (WA) produces in average more than 50% of Albany' electricity demand (see [http://www.verveenergy.com.au/mainContent/sustainableEnergy/OurPortfolio/Albany\\_Wind\\_Farm\\_.html](http://www.verveenergy.com.au/mainContent/sustainableEnergy/OurPortfolio/Albany_Wind_Farm_.html)). Note also that relatively isolated communities already benefit from local renewable energy generation and employment (as in WA).

Germany, which is known for its strict environmental and social regulations, has now more than 27,000 MW of installed wind capacities into the countryside with a very good acceptance and benefits for the rural communities. The same trend is now observed in France, and no particular health impacts have been observed to the date. Studies conducted by the Australian government agency NHMRC have lead to the same conclusion. (see [http://www.nhmrc.gov.au/files\\_nhmrc/file/publications/synopses/public\\_statement\\_wind\\_turbines\\_and\\_health.pdf](http://www.nhmrc.gov.au/files_nhmrc/file/publications/synopses/public_statement_wind_turbines_and_health.pdf))

On a noise perspective, improved blade design and technologies (on gear box or direct drives) have drastically reduced the noise of mechanical components and of the wind turbine in general. These allow to comply with the most recent noise regulations across the world, which converge to a noise of around 40 dB at house location (like New Zealand noise standard NZS6808:2010). Noise studies are carried out to make sure wind turbine locations are compliant with the regulations at dwellings locations.

Generally wind farms are widely supported in rural communities and at the time of difficult moments for farmers (as severe draught or floods), the development of wind farms provides some additional incomes and local employment to the farmers and nearby local communities, without affecting farming activities.

Wind farms and other renewable energy are often criticised for their impacts on the environment, but a long planning process requiring avi/fauna and noise studies as well as eventual mitigation actions is required before any approval be delivered.

Renewable energy should be part of the energy mix, current cases and recent studies shows that a 20% or more of renewable can be achieve in the mix. It is certainly time to create a new sustainable source of energy generation that will benefit to the economy and the rural communities. This will also benefit to our health and our children.

Gilles Beau

Mechanical Engineer