Submission
No 93

INQUIRY INTO RURAL WIND FARMS

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ngh environmental

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To whom it may concern

RE: Inquiry into rural wind farms

This submission is made by **ngh**environmental, prepared by Nick Graham-Higgs (Director) and Brooke Marshall (Project Manager). As environmental consultants, both Brooke and Nick have been involved in the environmental planning, impact assessment and environmental management of nine wind farm proposals (for the development of approximately 900 turbines) in rural New South Wales, since 2005. This makes **ngh**environmental the most experienced environmental planning and assessment consultancy in relation to wind farm development. Our work has involved consideration of social, environmental and economic impacts. **ngh**environmental submit the following comments based on our experience, using the terms of reference of the inquiry as a guide.

1. The role of utility-scale wind generation in:

a. reducing greenhouse gas emissions generated by electricity production

b. producing off peak and base load power

Wind farms are able to generate very low emission electricity. In association with energy management will play an important part in delivering low emission electricity. It is imperative the Government develop policy in relation to developing and implementing energy management infrastructure to assist in the efficient use of renewable energy that will be produced into future by technologies including wind and solar energy.

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2. Locating rural wind farms to optimise wind resource use and minimise residential and environmental impacts

From our first assessment in 2005, it was clear that several of the criticisms levelled at the wind industry are beyond the abilities of private developers to address. One of these is the strategic identification of appropriate wind resource zones. The developer will target areas with high wind resource, developable access and electricity transmission options and agreeable landowners. Environmental issues such as biodiversity, heritage, noise and visual impact will shape the proposal's layout and construction and operational processes but rarely be the determinants of the project's viability. The cumulative impact of the proposed wind farm against existing or proposed wind farms or other large scale infrastructure in the area would also be assessed and can be critical constraints depending on the level of development. There is a high risk that the potentially adhoc development of sites by competing private developers would not ensure that the areas of best wind resource and least environmental (including social) impact are developed preferentially.

The apparent lack of coordination for the development of wind farms that involve the development of large scale infrastructure introduces difficulties in gaining the support of the surrounding community. There are likely to be potentially significant gains in developing a strategy that facilitates coordinated development, that both maximises use of our wind resources while preserving other social and environmental values.

3. The impact of rural wind farms on property values

nghenvironmental have undertaken literature research into the effect of wind farms on land values as part of the assessment of several rural wind farms within NSW. This issue is complicated by the multiple determining factors in land value: prevailing and permitted land uses, economic conditions, access and proximity to markets and workplaces, demand for lifestyle as well as a range of other factors. I have found few useful studies to inform the assessment of proposed Australian rural wind farms.

Agricultural land use

Where agriculture is the prime land use, it is clear that the underlying agricultural productive capacity of the land and the surrounding property subject to the wind farm is not in any measured way affected by the development of the wind farm, meaning there has been no reduction in values.

The development of wind farms is of significant economic benefit to involved landholders as well as the local community during construction, commissioning and operation of the power station.

Wind farm development involves a discrete impact footprint on the ground, that is, pads for infrastructure footings and access upgrades are small in comparison to the site boundaries (usually less than 1%). This means low impact on the available agricultural land and its continued use. Indeed the property subject to the development enjoys additional revenue via leasing agreements and additional benefits including improved access, erosion control and passive wind protection for stock from the sub stations and turbine tower structures.

Environmental effects

All of the sites investigated by nghenvironmental for wind farm proposals have had long histories of agricultural use. On the majority of sites of proposed turbines, land degradation can be observed in forms such as over-clearing, salination, erosion rills and gullies, infestation by noxious weeds and feral animals and depauperate native biodiversity, in comparison to unworked remnants. (These remnants are typically able to be avoided by the development footprint). Ongoing land degradation associated with drought is the context of most of the proposal's nghenvironmental have been involved with.

Via negotiated lease agreements between the wind farm developer and land owner, income streams from the operational wind farm can provide more options in terms of land management on the wind farm site; lesser stocking rates in dry years, weed and erosion control works and tree planting to address salinity will lead to improved agricultural productivity in the long term. Additionally, on a site by site basis, we have recognised and been able to include opportunities for land management improvements within the proposal descriptions. This is additional to the management of impact of the construction and operation of the wind farm. For example, the

development of a feral animal management plan and threatened species recovery plans have accompanied proposal's we have been involved in. Without these types of assessment and action, the sites would continue to degrade. Therefore, we have seen wind farm development provide an opportunity to assist landholders in improving the site's from both an agricultural and environmental perspective.

Rural residential and lifestyle factors

The trend toward subdividing large agricultural blocks into lifestyle / hobby farms is a complicating issue. Here, agricultural productivity is not the prime determinant of land value. We have found it very difficult to source information on this issue. Particularly, we have not been able to find any information on the effect of wind farms on these types of properties.

In the study of land values surrounding the Crookwell 1 Wind Farm, near Crookwell NSW, Henderson and Horning Property Consultants undertook a study into local property values and concluded that wind farm development has the potential to slow down the process of productive agricultural land changing to rural residential uses in the short to medium term with the shift caused by the additional income generated from the wind farm revenue making the agricultural use of (involved properties) more viable.

nghenvironmental believe, with the number of operational wind farms now in Australia, an independent Australia-wide study is likely to useful information to assist the assessment of land value impacts of wind farms.

4. Mechanisms for encouraging local ownership and control of wind technology

We believe that encouraging local ownership of wind farms would be a useful strategy to addressing two key social impacts:

- Gaining the support of the local community

  In taking a proposal to the community, there is an immediate distrust for many community members. They are likely to feel that they will have little say in this large scale development by a developer coming from outside the local community. There are, necessarily, confidentiality agreements between involved

land owners that fuel this distrust. There are strong generational ties to the land in many instances, that increase the sense that this model of development is not appropriate.

- Distributing the benefits of the project (income) to the entire visual catchment that is affected by them.

  Proposal's that we have been involved in have investigated differing means, to spread the benefits of the proposal beyond involved landowners and to establish the project as belonging to the community. Examples include;

  1. Community funds. These raise a number of issues, such as who should receive and manage any community funds? How much money is appropriate?

  2. Infrastructure upgrades, for example social infrastructure such as community centres. While this would provide benefit to the community, they do not involve everyone in the benefits.

We have discussed the potential of including a level of community ownership in wind farm projects with a Proponent and found that they could not achieve this. We have found that the wind farm developer is not necessarily the body constructing and operating the approved site and issues such as may be a barrier. Their may be vehicles to allow for a level of community ownership. This requires further exploration.

5. The potential role of energy generated by rural wind farms in relation to the Australian Government's proposed Renewable Energy Target

We believe wind farms have a high level to assist the Australian Government in meeting their RET.

6. Any other relevant matter

Community support

While community based surveys show strong support of wind farm development in regional NSW, concerns of some individuals and groups in rural communities are a key issue in wind farm development. Often the concerns and feelings held by community members who are opposed (or potentially opposed) to the development of a wind farm are characterised by a level of suspicion about wind farm developers, the assessment process and

consent authorities. This is a likely result of underlying issues such as a lack of control that the community feels they have over this type of large scale development in their local area. The assessment process can be complex, drawn-out and exclusive, as documents can over very technical and ultimately tailored for a professional audience. The Part 3A Major Project legislation in NSW reinforces the perception that the broader population will be served by the decision at the expense of the local community, by taking the decision away from local councils and placing it with state government.

Public attitudes are critically influenced by the nature of the planning and development process; the more open and participatory, the greater the level of public support (Birnie *et al.* 1999; Khan 2003, cited in Warren *et al.* 2005[1]). **ngh**environmental have designed and implemented many community consultation processes and feel that there are limitations to what can be done on a project by project basis. A level of strategic justification in the selection of sites may assist gaining the support of local communities.

As environmental consultants with extensive experience in the environmental assessment and community consultation process associated with wind farm development we feel that it is critical to support the appropriate development of renewable energy sources. The development of a government body to assist in addressing some of these barriers in relation to the appropriate development of the wind industry, in a strategic manner is likely to facilitate the development of Australia's wind resource in an appropriate and beneficial manner.

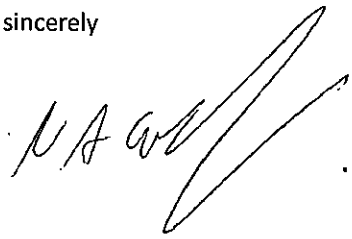
As discussed in Warren *et al.* 2005, if wind power is to develop and form part of the energy solution in rural areas, the development of a strategic planning framework is required. We believe that there is a role for government or an industry body to carry out this function and that and that this would assist in gaining the support of local communities for these type of projects.

During the community consultation process for the Snowy Plains Wind Farm project, we were impressed with the level of pride expressed by many Snowy River Shire residents in their community's ongoing contribution to

[1] Warren, C.R., Lumsden, C., O'Dowd, S. and Birnie, R.V. 2005, 'Green on Green: Public Perceptions of Wind Power in Scotland and Ireland', *Journal of Environmental Planning and Management*, vol 48, No. 6, 873-875.

the state's renewable energy generation. Snowy Hydro, deriving renewable electricity from hydro electricity generation, have demonstrated that renewable energy developments can be something meaningful for a community.

Yours sincerely



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