



Wind Farms & Visual Amenity

Background

At a local level, the response of the public to a wind farm proposal can vary considerably. To some, the prospect of direct views to a wind farm can be a pleasing addition to the landscape. To others, a wind farm may be seen as an unsightly blight. The response does not only depend upon the particular landscape; it is also affected by the observer and the values they ascribe it.

Wind turbines need to be placed in locations exposed to consistently strong winds. They are large machines and a wind farm will feature prominently in the landscape. In contrast, the impacts of the greenhouse gas emissions that wind power helps to reduce, are predominantly out of the public eye. Large scale coal-fired power stations – the source of 84% of Australia's electricity – are by and large "out-of-sight and out-of-mind".

Wind energy is one of the cheapest forms of renewable energy and its environmental benefits are clear. Polls show a remarkably high level of support in Australia, with one survey¹ indicating 95% support for the building of wind farms to meet our rapidly increasing demand for electricity. Opinion surveys² suggest most Australians use words like "interesting", "graceful" and "attractive", rather than "industrial" to describe wind turbines. Nevertheless, a wind farm's impact on visual amenity is generally the dominant issue in the reviews of wind farm proposals and it can be the cause of bitter and acrimonious debate.

The range of views, and importance of considering the context, is demonstrated by the wind farm at Esperance, a coastal town in Western Australia. Here the community actually objected to a wind farm being decommissioned, because residents had become fond of it and identified it as part of the region's cultural heritage. In other cases, wind farm approvals have been withheld because of perceived impacts on heritage landscapes.

What Is The Industry Doing?

AusWEA recognises that the long term sustainability of the wind industry depends on appropriately sited and sensitively developed projects. AusWEA strongly supports the development of guidelines to inform the assessment of all potential impacts of wind developments, including visual amenity.

Unfortunately, there is currently no universally agreed methodology for assessing landscape values across Australian states. For this reason AusWEA, in cooperation with the Australian Council of National Trusts, is undertaking a "Landscape Values Project" to jointly develop agreed landscape assessment methodologies that can be used by regulators as part of the overall project evaluation process.

The project is divided into three stages -

- (i) Stage 1 will scope issues surrounding wind farms and landscape assessment, and solicit possible solutions relevant to the siting of wind farms on the landscape.
- (ii) Stage 2 will establish agreed landscape assessment methodologies.
- (iii) Stage 3 will trial and test the methodologies.

Stage 2 and 3 are contingent upon the successful completion of Stage 1 which has been funded by the Australian Greenhouse Office and is scheduled for completion mid 2004.

Some Of The Visual Amenity Issues

Visual amenity issues can be broadly categorised into two groups; those relating to the wind turbines themselves and those that relate to their interaction with the landscape. The first category is relatively easy to deal with whilst the latter is much more complicated.

Issues relating to the general appearance of wind turbines, their colour and the impacts of shadows cast, can be reasonably easily managed in the design process. Machines in a given wind farm should be of a consistent size and visual appearance and it has been found that the best colour for wind turbines is off-white or light grey.

For visual amenity issues relating to the surrounding environment, the landscape character needs to be considered along with assessment of the primary views of that particular landscape and the values the community ascribes it. This is important because the way in which we view a landscape, the value we place on it and our perception of the impact of a wind farm on that view, are highly variable and quite subjective.

All of this is complicated by the fact that wind farm layouts are the product of a complex iterative process. The layout that provides the “best” visual outcome may have unacceptable ecological or financial outcomes and vice versa.

How Should Developers Do?

The first step is to identify the neighbours to a proposed wind farm site and the important public view points, which may vary from a scenic vantage point to simply the main roadway. Through consultation, the developer should familiarise themselves with the visual settings that members of the community and special interest groups value. This allows for a broad assessment of the visibility of the proposal.

During and sometimes prior to the planning application stages, developers are required to prepare photomontages (computer simulations) of how the wind farm will appear from these important view points. These photomontages can also play an important role in the community consultation process, allowing the developer to test different layouts as they develop the proposal in the lead up to a request for formal approval.

How Can The Visual Impact Of Wind Farms Be Minimised?

AusWEA recommends :

- Extensive community consultation on turbine placement
- If possible, important view points should be agreed with the community early in the process
- The cumulative effect of neighbouring wind farms should be considered
- Wind generators must be uniform in size and design (including direction of rotation)
- Support tower, blades and nacelles should be painted the same colour – preferably off-white or light grey – and have a matt finish. They should not be used as billboards
- All wind generators within a wind farm should be kept operating at once
- The potential for shadow and flicker at residences should be assessed and minimised

1 Australian Research Group study - September 2003

2 AusPoll study - June 2001

