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15 April 2010

Susan Whitehead
Project Support Officer
NEPC Service Corporation
Level 5, 81 Flinders Street,
Adelaide SA 5000
By email: SWhitehead@ephc.gov.au

Dear Ms Whitehead

Re: Siting and Design Guidelines - Appendix C Landscape

The Clean Energy Council (CEC) is the peak body representing Australia's clean energy and energy efficiency industries. Its priorities are to:

- create the optimal conditions in Australia to stimulate investment in the development and deployment of world's best clean energy technologies;
- develop effective legislation and regulation to reduce energy demand and improve its efficient use; and
- work to reduce costs and remove all other barriers to accessing clean energy.

General comment

The Clean Energy Council (CEC) has reviewed the draft National Wind Farm Development Guidelines developed under the auspices of the Environment Protection and Heritage Council (EPHC).

As the EPHC may be aware, on the release of the consultants brief to develop the Guidelines in 2008, the CEC wrote to Minister Garrett in his capacity as Chair of the EPHC, welcoming an approach to streamline and remove impediment to wind energy development, but requesting:

- That the Guidelines not place unnecessary burden on clean energy development and wind farms should not be required to meet higher standards than other infrastructure development.

- That State planning processes are extensive and that the Guidelines not add additional burdens to the state processes but seek to achieve consistency. The industry does not support mandatory guidelines.
- That the industry be actively engaged in the development of any guidelines, and that the structure and focus of the guidelines remove unnecessary barriers to efficient development.

Upon review of the draft Siting and Design Guidelines the CEC is once again very concerned that the above points have not been adequately addressed (in particular the first two points). The CEC would like to stress that the planning systems already in place provide the overarching framework to assess proposed actions and thus balance the benefits of a development with any impacts. Given this, some of the guidance in this practice note is too prescriptive. Site specific assessments are needed to understand amenity impacts in terms of noise, visual impact, shadow flicker etc and to determine the acceptability of a particular project. Such assessments may not suggest that it is necessary to avoid a particular area (as this guidance suggests) as long as a project is designed to manage the impacts in a particular area so that it is deemed to be acceptable.

It is also apparent that the author(s) do not have a clear understanding of basic wind farm design and economic requirements, which is of concern to the CEC, and has resulted in guidance that would produce uneconomic developments thereby undermining the Federal Government's 20% renewable energy target.

Specific comments

Avoid significant natural landscapes (eg significant coastal sites including headlands and sensitive coastlines, vegetated escarpments)

Avoid significant rural landscapes (eg rural heritage areas, significant viewpoints, areas with high topographic variation)

It is important to clarify what is meant by 'significant' in an objective manner. For example the Victorian Government undertook a *Coastal Spaces Landscape Assessment Study*. The significance of the landscape was assessed using a clear, repeatable methodology and informed by landscape character and community values. The significance of a landscape was assessed relative to the region. The CEC believes it is very difficult and inappropriate to assess the significance of a landscape in isolation of some form of regional assessment.

In addition, there are two dimensions to assessing visual impact: the first is the significance of the landscape, and the second is the impact of a development on a particular landscape. Avoiding particular landscapes may be appropriate when they are of state or national significance however visual impact may be possible to manage through design.

Encourage wind farm development in rural locations with compatible land uses, where possible (eg expansive crop areas) and flat terrain

Cropping can be a more difficult land use to incorporate a wind farm into as it can impact on farming practices.

Additionally, it must be remembered that in Australia the majority of feasible wind farm sites will *not* be on completely flat terrain. Assessments and modelling look for and choose sites of best wind resource.

Avoid regionally significant landscape features (eg escarpments, cliffs, ranges, wetlands, waterfalls, coastal headlands)

Avoid regionally significant viewsheds (eg from major travel routes, beaches, lookouts from headlands)

Repeating the earlier issue, it is vital that without a regional landscape assessment it is not possible to objectively determine what a regionally significant landscape feature is. Therefore instead of using 'avoidance' the guidance should look to ensure that careful assessment and consideration of potential impacts are recognised using significant viewsheds and managed or mitigated accordingly.

Avoid close proximity to sensitive rural residential/residential areas, townsites and public use areas

This is not helpful guidance. Each project must undertake a site specific assessment of the impact on local amenity, and any decision should be based on the acceptability of this assessment.

Take into account the possibility of cumulative impact where more than one wind farm is proposed within the same region (eg combined size and area and potential impacts)

This can be a real issue that could limit viable wind farm development. For example, in western Victoria, developers must account for the cumulative impacts of projects which have been given planning approval but may never be built.

Utilise existing infrastructure where possible so that construction for grid access does not compromise the regional character of an area

Remoteness to the main power grid should be avoided where possible to reduce the amount of additional infrastructure required for connection (eg transmission lines, pylons, access roads)

The connection options will be governed by the economics of a project, and the acceptability of connection routes as assessed through the planning system, not through these guidelines. There may also be many potential sites that might incorporate a suitable powerline but they may not be appropriate sites for wind farm development.

If high wind resources exist within regionally significant landscapes then alternative sites should be considered for suitability

This should be based on a site specific assessment.

Surrounding land uses must be taken into consideration and included in any impact assessment undertaken to ensure that wind farm developments do not compromise existing land uses. Conflicts usually arise when there is a perception that community values will be affected (eg noise issues, loss of landscape values, changes in land use)

We disagree with the use of the word 'conflicts'. We recommend that 'concerns' is used as a replacement as not all concerns escalate to conflicts.

The wind farm should be located away from sensitive residential/rural residential areas

As above. Each project must undertake a site specific assessment of the impact on local amenity, and any decision should be based on the acceptability of this assessment. Additionally, the use of the word 'sensitive' is too vague and should be defined.

Height of the turbines in relation to topographic elevation needs to be balanced to reduce overall visibility

The higher points have the higher wind resource. This may have a significant impact on the viability of a project. Again – the site specific assessments are needed to assess the acceptability of particular projects.

Further, turbine heights will be determined by market availability and selection of a model that would be best suited and efficient for the site. A compromise in efficiency would not only affect the economics of a project but would also go against the principle of making best use of the wind resources.

Visibility from key view points (including roads and recreation sites) should be minimised as much as possible

Every wind farm will be visible from a road. This is not suitable guidance. Again, appropriate siting will be assessment based.

The number and size of the turbines require assessment for compatibility with the landscape character of the area

This is not site design guidance.

Avoid cluttering of turbines along major view corridors. Use simplicity in the spacing of individual turbines - avoid dense spacing which causes visual clutter

Turbines must be spaced based on complex optimisation processes, which not only allows for the most efficient harvest of the wind resource but also protects the turbines from turbulence effects and the like. They cannot be spaced simple on visually appealing or symmetrical

patterns. For many projects the commercial viability of a wind farm relies on optimisation. The visual impact assessment for a project will provide the information needed to assess the acceptability of a particular design.

Access roads should avoid straight alignment and be responsive to land form and other landscape features

Suitable alignment will be subject to landscape form, topography and constraints. There will likely be areas where straight lines are the most suitable.

The number and size of turbines should be subject to the existing landscape character of each development site and local community preference

See previous comments regarding technical design needs. With regards to local community preference, this is a very concerning and inappropriate piece of guidance. The preference of some individuals in communities will be 'no turbines'. If you are attempting to incorporate the principal of community input or comment, we agree, however it should be worded as such to ensure the management of expectations of the community and the ability to realistically develop a feasible site.

Avoid mixing tower and turbine types within a development site (ie uniformity in design, number of blades, rotational direction)

Future wind farm design may mix tower and turbine types (but normally of the same manufacturer) to optimise production from a particular site.

Location of individual turbines should be sited off the tops of ridgelines, vantage focal points and prominent sites where possible

Not acceptable. Ridgelines are the best sites for energy production and make viable projects. Locating off the tops of ridgelines will not target the best wind resources and therefore diminish the ability for fulfill renewable energy targets. A visual impact assessment should consider: the significance of the landscape, the impact of the proposal on that landscape. A blanket guideline about where to locate turbines without recognising the site specific nature of visual impact is not at all useful nor does it take into account any of the CEC requests.

Clearing at the base of the turbines should be as minimal as possible to reduce impact

There needs to be space at the base of the turbines for earthing grids, transformer pads and crane access. There is a minimum clearing area required to achieve this.

Avoid advertising or logos on the turbines

Again - this should form part of a visual impact assessment.

Ensure that lighting associated with the wind farm (including control security lighting and aircraft warning lights) is non-obtrusive when viewed from any residential areas that are in close proximity.

This is a safety issue and will be governed by State regulatory requirements and CASA requirements with regards to aviation lights.

Wind turbine pad construction should avoid the creation of fill slopes, and should be constructed by cut. Fill requires removal from the site.

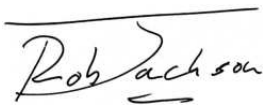
Pad construction and the management of fill and spoil will be an engineering and local council matter to design and approve. It should be noted that in many wind farm sites located within areas of competent rock, much of the spoil can be re-used on-site as road base or fill, thereby reducing the need for importation of such materials from outside. The guidelines should ensure that the recommendations are consistent with council requirements or preferences.

Promote the use of underground cabling for power connection to the grid where possible, but ensure minimal impact on highly vegetated areas during construction. Rehabilitation of earthworks and vegetation should be undertaken to re-establish the natural character of the landscape after the construction of underground cabling

It should be noted that the use of underground cabling for higher voltage connection to grid points will largely be unviable, due to the order of magnitude increase in costs for underground cabling.

The CEC requests the opportunity to discuss its submission further with yourself and the other members of the EPHC.

Yours sincerely

A handwritten signature in black ink that reads "Rob Jackson". The signature is written in a cursive style with a horizontal line above the name.

Rob Jackson
Deputy Director