Department of the Senate
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By email: community.affairs.sen@aph.gov.au
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Dear Senate Committee,

Thank you for the opportunity to provide feedback on the Draft National Wind Farm Development Guidelines. This feedback has been prepared by the Climate and Health Alliance, and the Australian Psychological Society.

The Climate and Health Alliance, and the Australian Psychological Society both made submissions to the Senate Inquiry into Wind Farms. These submissions can be seen at http://www.aph.gov.au/senate/committee/clac_ctte/impact_rural_wind_farms/submissions.htm

1 General comments

The Working Group is to be congratulated on the detailed and comprehensive guidelines that have been produced to assist in the important task of planning and building wind farms as part of Australia's necessary commitment to the expansion of renewable energies and the reduction of carbon emissions.

We support the Guidelines' stated intentions to assist the wind farm development process in maintaining a high level of transparency and responsiveness to community needs in order to ensure that the development is both an environmental and socially responsible wind farm.

The guidelines focus on six key topics (community and stakeholder consultation, wind turbine noise, visual and landscape impacts, birds and bats, shadow flicker and EMI). Of these six

topics, we have restricted our comments to the following topics as falling within our area of expertise as health and mental health experts:

- community and stakeholder consultation,
- wind turbine noise,
- visual and landscape impacts,
- shadow flicker.

We also believe that the guidelines would be greatly improved with an additional section on *psychosocial impacts* of wind farms, and have provided recommendations for this additional section.

2 Specific comments

2.1 What's NOT covered in the Guidelines – section 1.4, p 2.

On page 3 of the draft guidelines, in the section '**What's NOT covered in the Guidelines?',** it is stated that "the social and economic impacts a wind farm development may have on communities or regions, such as job creation and local business opportunities, are also common to most major developments and are not addressed in these Guidelines".

We believe that this is an unfortunate omission. The social and economic impacts of wind farms are directly linked to some of the concerns expressed by members of a community or region in which wind farms are being built. These impacts have the potential to affect communities in both positive and negative ways, and are critically important considerations in ensuring that wind farm developments are perceived positively by communities and successfully integrated into local communities.

2.1.1 Economic impacts

A range of reports are available that suggest the development of distributed renewable energy generation systems have the potential to improve energy security as well as provide significant economic benefits for rural and regional Australia.

Many parts of rural and regional Australia have been adversely impacted by drought and changing economic circumstances leading to internal migration. This leaves many rural and remote communities with declining community populations who face the loss of vital services and difficulty in attracting and retaining new workers and service providers to meet the needs of the community.

The development of a geographically distributed renewable energy generation industry has the potential to revitalize rural communities by providing employment in construction, operations and maintenance of infrastructure such as rural wind farms and solar thermal plants. In its submission to the Senate Inquiry into Wind Farms, the Clean Energy Council (2011) wrote that:

> *Modelling by SKM - MMA (Sinclair Knight Merz - McLennan Magasanik Associates) for the Clean Energy Council found the estimated current 282 direct employees, employees*

working on proposed projects (514) and the 1388 employees associated with the construction of the existing pipeline of wind farm projects, can be expected to grow significantly to around 1600 direct employees by 2020 and involve up to 17,000 full time equivalent jobs in construction over the next decade. Much of this growth will be in regional Australia creating employment opportunities and an economic boost for towns and communities which helps to diversify and strengthen local communities. A key advantage of wind farm development is that the jobs created by wind farms are spread over several regions, not concentrated in a few regions as tends to occur with larger scale fossil fuel plants such as coal.

Even less ambitious modeling on jobs creation by the Climate Institute, looking at a slower rate of implementation of renewable energy across Australia, still supports the creation of many jobs in rural and regional Australia over the next two decades through the development of rural wind farms (The Climate Institute, 2011).

These jobs have the potential to bring a range of economic benefits to local communities, such as providing employment through secure and steady incomes, supporting the regeneration of rural communities by allowing families to stay together and encouraging the movement of people to, rather than away from, regional Australia.

The ability of wind farms to make a contribution to community stability and economic security is an important consideration in developing planning guidelines for wind farms in Australia and as such should be reflected in the National Wind farm Development Guidelines. We understand that each state will have its own procedures that are therefore outside the scope of these guidelines. Nevertheless, these guidelines could recommend that wind farm development processes integrate these guidelines and the state processes.

Recommendation 1: the potential for wind farms to contribute positively to the economic and social well being of communities is important information for communities that are being consulted on wind farm developments. This information should be provided as early as possible in the process, and updated as social and economic impact analyses are completed.

2.2 Principles for responsible wind farm development – section 2, p 6

The guidelines state, 'Consultation needs to commence early in the development process, be inclusive and encompass all potential stakeholders' (p 6).

We applaud these efforts to make consultation inclusive and encompass all potential stakeholders. This section could also comment on the importance of consultation being *accessible* to a range of stakeholders and offer a variety of ways for people to get involved and have their say. Additionally, support needs to be provided for those who are disadvantaged to enable them to participate in the consultation process. For some potential stakeholders, this might include help with transport to meetings, a variety of times for meetings, making venues accessible for all people, providing interpreters if necessary, and even assisting with childcare. We note that on page 22, reference is made to the need for the engagement to be sensitive to

the needs of individuals and groups to maximise their ability to contribute. We believe these needs should be explained in more detail.

Recommendation 2: Include guidance on the importance of community consultation being accessible to a broad range of stakeholders. Support needs to be provided for disadvantaged people and others who may have difficulty attending or participating in meetings or other consultative forums to enable them to participate in the consultation process.

2.3 Community and stakeholder consultation – section 3.1, p 8 & Appendix A

In the draft guidelines considerable attention is put on the importance of community and stakeholder consultation. The draft guidelines provide guidance on preparing communication and consultation plans and making an early commitment to community participation; a methodology for planning and delivering community participation activities associated with the various stages of a wind farm's development, and; managing community input into the assessment and management of key technical study areas — noise, landscape and visual impacts, birds and bats, shadow flicker and electromagnetic interference. We agree that this is an important and necessary part of the process of wind farm development.

Our concern is with the language used to describe stakeholder participation (p 8 and p 21) and the levels of participation suggested on p 24 and p 25):

2.3.1 'Interest' rather than 'concern'

On p 8, the draft guidelines focus on community *concern.* The draft guidelines would be improved if the focus in this section was re-framed from community concern to community *interest* in the issue. Concern implies a reactive approach (i.e., the wind farm proponent will only engage if there are protests to the development). Good community engagement, however, should occur early and involve a range of stakeholders, not just vocal and passionate supporters or protesters.

2.3.2 Use consistent language

The guidelines and Attachment A are inconsistent in language, using consultation, engagement and participation interchangeably.

We believe that the draft guidelines would be improved by consistently referring to community participation. This language would encourage developers to include the community into the decision making. Consultation is one part of this, but so too is active participation in planning, being part of the research/planning process, being part of awareness raising campaigns, and applying local knowledge to the proposed developments. Another critically important component of community participation is the process of providing feedback to the community about the findings of the consultations, and clear information about the decision-making process.

The reasons for 'participation' rather than just 'consultation' are as follows.

1. Research suggests that a key part of community resistance to wind farm projects stems from inadequate community engagement processes.

2. Rogers et al., (2008), found wind farm proposals are less likely to generate local opposition if the public have been collaboratively involved in the process from an early stage.
3. Energy projects may threaten place-related self-efficacy (i.e., the belief that one has some capacity to influence one's world) if processes of decision-making, including public consultations, are believed to be 'imposed' upon places by companies or governments without genuine public engagement (Gross, 2007, cited in Devine-Wright, 2009);
4. Beliefs about the degree of influence (political efficacy) individuals or groups can exert over place change are likely to be an important factor in the context of opposition to wind farms (Devine-Wright, 2009);
5. When respondents perceive a proposed (wind farm) project as a potential focus for community members to work together, this has the potential to create a ''better spirit among people'' (Rogers et al., 2008).
6. The procedural justice literature suggests that disputants care as much about how their disputes are resolved as they do about the outcomes they receive. Thus when people evaluate the fairness of procedures, they consider those aspects of procedures that affect the way in which decisions are made and those that determine the type of treatment they experience as individuals (Blader & Tyler, 2003).

Because of the importance of this participation process we recommend that the levels of engagement suggested on pp 24 and 25 be reconsidered. The levels proposed do not suggest to the community that they can make a real difference to the proposal through the participation process, and as identified in the research above this will not result in a community that is supportive of the outcome. For example, in Figure A-1 recommendations for 'collaborate' and 'empower' should also be provided to encourage a partnership approach (with the community) for the process of wind farm development so that the outcomes to the community are maximised.

In the APS submission to the inquiry into wind farms, we address the importance of better understanding and addressing communities' reluctance or resistance to wind farms. Community responses to proposed developments are likely to be related to:

- Community perceptions of state and federal governments and local authorities;
- The reasonableness and fairness and justification of the policy, initiative, or regulation;
- The perceived costs and benefits of the initiative or change as compared to alternatives;
- The possible symbolic import or meaning attached to the proposed initiative or change;
- A clear understanding of why the initiative is necessary and effective.

Therefore, an emphasis on community participation through early engagement is very important and cannot be emphasised enough. Stakeholders should be offered a range of ways to be involved and have their say, and this should be prior to decisions being made about the development so that there is an opportunity for real input.

Following community engagement, presentations of the findings to the community will assist in community acceptance of the issues and provide another opportunity for feedback. These also act as important opportunities for community education.

Recommendation 3. Change title of this section to 'Community and Stakeholder Participation.

Recommendation 4: Re-frame focus of this section from community concern to community interest in the issue.

Recommendation 5: Ensure that community participation is engaged early in the project and continues throughout.

Recommendation6: A community capacity building approach to the development of wind farms should be adopted where possible, so that local communities are stronger as a result.

Recommendation 7: Provide examples for each spectrum of public participation (A-1) (examples for collaborate and empower) and ensure that the minimum level of participation (pp 24 and 25) is "involve", especially at the early stages of wind farm developments.

2.4 Wind turbine noise – section 3.2, p 9 and Appendix B

In the draft guidelines, guidance is provided on effective ways to assess and manage noise impacts from proposed wind farm developments, as well as guidance on assessing low frequency noise and infrasound in response to complaints.

The Climate and Health Alliance and Australian Psychological Society have reviewed the scientific literature and concluded that there is no published, scientific evidence of any direct adverse health impacts from wind turbine noise, including infrasound noise.

We are satisfied with the draft guidelines on assessing the impacts of wind turbine noise and infrasound.

We are also aware, however, that for some people, annoyance is an issue, and that annoyance levels can increase for wind turbine noise, especially when people hold negative attitudes towards turbines.

A scientific advisory panel comprising medical doctors, audiologists and acoustic professionals from the United States, Canada, Denmark and the United Kingdom established by the American and Canadian Wind Energy Associations (Colby et al., 2009), concluded that:

..the large volume of media coverage devoted to alleged adverse health effects of wind turbines understandably creates an anticipatory fear in some that they will experience adverse effects from wind turbines. ….The resulting stress, fear, and hyper vigilance may exacerbate or even create problems which would not otherwise exist. In this way, anti-wind farm activists may be creating with their publicity some of the problems they describe.

"... Associated stress from annoyance, exacerbated by the rhetoric, fears, and negative publicity generated by the wind turbine controversy, may contribute to the reported symptoms described by some people living near rural wind turbines.

Addressing wind turbine noise from the perspective of minimising or addressing annoyance, is therefore important.

In the draft guidelines, it is stated that noise complaints should be addressed according to the complaints handling procedures as well as any requirements of state/territory guidance for complaints about construction noise.

> Complainants should be requested to keep a diary or sound log where they can note times of day and associated weather conditions when they consider wind farm noise emission to be particularly annoying. The sound log can include a description of the type of sound heard. This information can be used by the investigating group to help try and identify meteorological conditions, particularly wind speed and direction, where the wind farm noise emission is most problematic. The complaints procedures should detail how to lodge complaints and the type of response to be expected" (Draft National Wind Farm Development Guidelines, 2010, p 56).

The guidelines could be improved with the inclusion of a process for addressing annoyance. This could include consideration of:

- Early engagement of stakeholders in planning and decision making to increase positive perceptions of wind farms, and thus minimise potential of annoyance levels.
- Consideration of financial compensation to neighbouring properties
- Consideration of landscaping works being undertaken at the properties of people impacted.

2.5 Landscape – section 3.3, p10 and Appendix C

In the draft guidelines, the point is made that the value of a landscape to community members is not just a visual perspective, but that wind farms in the landscape can also affect other landscape values. Landscape values are the perception of elements of the landscape (e.g., appearance of landform, vegetation, water bodies, and all types of human land use), held by people and communities.

We applaud the draft guidelines' specification that care needs to be taken to identify the range of communities and community sectors that may have particular associations with the landscape, not just the 'local community'.

This section attempts to also include '*community values'* into a consideration of 'landscape impact'. We believe that the landscape section of the draft guidelines would be improved by separating 'landscape values' from 'community values'. We believe that community values should be included in a separate section on 'psychosocial impacts' and include:

- Associations, memories, knowledge and experiences of a landscape
- The 'meaning' of a place to individuals and community
- Emotional attachments to places
- Place identity (the ways in which physical and symbolic attributes of locations contribute to a person's sense of self or identity)

We believe that the term 'landscape values' should be used to include the following aspects:

- Existing physical and visible attributes of the landscape
- Impacts on views; attachments to outlooks from a particular viewpoint
- Perceptions of the landscape (e.g., appearance of landform, vegetation, water bodies, and all types of human land use)
- Features of cultural or national significance
- Visual amenity value
- Aesthetic response

Changes to public space and 'natural' areas, landscapes and scenic venues are often seen as intrusive, insensitive, and ugly, (e.g., Horlick Jones, Prades & Espluga, 2010). Such changes in turn diminish perceived environmental quality and can be experienced as a real and irreversible loss, involving appreciable psychological and social costs with respect to quality of life and environment.

Recommendation 8: Separate 'community values' from 'landscape values' and include in a separate topic called 'psychosocial impacts'.

2.6 Psychosocial Impacts

We believe that the draft guidelines would be improved with the inclusion of a section on psychosocial impacts. This could be an additional key topic under 'wind farm specific issues'.

Psychosocial impacts are the ways in which wind farm developments impact on individuals and communities psychologically (e.g., by affecting people's sense of place and community, belonging and identity, self-efficacy and control), and socially (e.g., by affecting a community's cohesiveness, community attitudes, employment impacts, economic impacts).

Understanding and addressing the possible psychological and social impacts of a proposed wind farm is a vital part of engaging individuals and communities and developing positive support for wind farm developments.

An assessment of psychosocial impacts needs to address the following elements:

- Place attachment
- Place-related self-efficacy
- Economic impacts
- Responding to psychosocial impacts

2.6.1 Place attachment

Local opposition to wind farms has more recently been understood as place-protective action. Drawing from extensive research into the importance of sense of place and community to people's sense of belonging and identity, opposition to wind farms is conceived as "a form of place-protection action, which arises when new developments disrupt pre-existing emotional attachments and threaten place-related identity processes" (Devine-Wright, 2009, p 426).

Both place attachment (the process of attaching oneself to a place and a positive emotional connection with familiar locations) and place identity (the ways in which physical and symbolic attributes of certain locations contribute to an individual's sense of self or identity) are important considerations here. The impacts of change within or to a place have been labeled as place disruption or threat to place identity, resulting in emotional responses such as fear or anxiety (Fried, 2000, cited in Devine-Wright, 2009). These reactions are not limited to wind farms, of course, but can include any proposed new developments like new housing estates, supermarkets, coal-fired power stations or industrial estates.

People who are strongly attached to their place can be expected to take an interest in what is going on locally. This may lead to negative evaluations of place change on one hand (where change is perceived as a threat); conversely, place attachment may actually correlate positively with project support when projects are interpreted as place enhancing. Specifically, does the proposal threaten people's perception of place?

- People interpret energy projects as occasions when local places must be 'sacrificed' in order to deal with climate change; the project is thus framed as 'industrialising' hitherto 'natural' places.
- If projects are believed to threaten place-related positive distinctiveness, e.g., by weakening the local character of the area or stigmatising the place, or to alter people's experience of familiar places by disrupting sensory experiences (sights, sounds, smells).
- Does the proposal threaten people's privacy? People are more likely to perceive wind farms as an intrusion into privacy if they also feel a lack of control over the decision, subjected to injustice, a lack of influence, and not believed (Pedersen, Hallberg, & Waye, 2007).

Perceptions of 'place' can be interpreted on different scales as an economic entity, as involving a sense of local ownership, as a resource and as nature. These perceptions are important in understanding responses to proposed changes to places posed by wind farms. Interpretations of the impact of wind farms on a place include: environmental status and significance of electricity produced, projects for local people,

commercial, experimental, pioneering, industrial impacts, and a sense of being 'at one with Mother Nature' (McLachlan, 2009).

2.6.2 Self-efficacy

Self-efficacy is an important psychological construct that people hold about the perceived capacity that they have to influence their world. Self-efficacy is related to good mental health. People are likely to resist things that threaten self-efficacy.

As described earlier, energy projects like wind farm developments may threaten place-related self-efficacy if processes of decision-making, including public consultation, are believed to be 'imposed' upon places by companies or governments.

2.6.3 Economic impacts

Benefits of wind farms to the local economy need to be identified so that people can take that into consideration when considering the overall impact on their community's well being. Refer to our Recommendation 1.

2.6.4 Responding to psychosocial impacts

A section on responding to psychosocial impacts should include ways of engaging with individuals and communities so that wind farms are seen as enhancing place rather than threatening place-based experiences. This would include:

- Use of collaborative and participatory planning approaches and strategic planning of wind farm locations (refer to our recommendations 2 - 6).
- Prioritisation of community influence and control in local decision making processes about wind farms.
- Promotion of the benefits of wind farms to individuals, communities and the environment via informal social networks and the media to ensure accurate representation of projects and to avoid/offset negative perceptions.
- Harnessing the benefits of wind farms to local communities (in addition to promoting their broader environmental benefits). These include:
    - Maximising local employment opportunities through wind farm projects (as noted by the Clean Energy Council).
    - Exploring opportunities for wind farms to enhance communities. An example of this is the Hepburn Wind project near Daylesford, in Victoria. On top of dividends to investors, revenues will be poured into the Community Sustainability Fund. This fund will provide $15,000 per turbine per annum (increasing annually with inflation) for local projects that address social, economic and environmental sustainability. They are also looking at ways that their local community can benefit from deals with energy companies. The fund is projected to distribute more than $1 million over the first 25 years of the wind farm's operation. This is a community owned wind farm, but commercial farms can be encouraged, through the guidelines, to consider similar deals (Embark, 2011).
    - Balancing impacts of local construction with opportunity for local employment.

- Ensuring the developer (often energy companies) is well respected (e.g., does not damage the local environment unduly in the installation process) and engages the local community to have a say in important decisions around wind farm projects.
- Exploring mechanisms where economic benefits can be harnessed, such as community-led wind farm projects, including local shareholdings in wind energy developments, as in Europe (Rogers et al., 2008) and in Hepburn Victoria. Such community initiatives require access to trusted resource bases with expertise in both community development and technical issues.
- Harnessing the wind farms as a source of local pride and enhancing tourism opportunities, rather than detracting from them.

2.6.5 Response to psychosocial impacts - section C.4.3, P97

In this section of the draft guidelines, suggestions are made for the assessment of options for management and mitigation of landscape impacts. We believe that additional options could be considered by wind farm proponents, including:

- Consideration of financial compensation for neighbouring properties (given evidence that stress, distress and annoyance subsides with financial compensation).
- Return some of the profits to the local community for them to determine expenditure on community projects. (given evidence about the importance of community in rural areas).

Recommendation 9: Consider additional options for mitigation of landscape and psychosocial impacts.

2.7 Shadow flicker

From our review of the literature, we do not believe that shadow flicker is likely to cause a problem (e.g., for a small proportion of people with epilepsy who are photosensitive) (CKPHU, 2008). We are satisfied with the draft guidelines addressing shadow flicker.

3 Summary of Recommendations

1	What isn't covered in the guidelines - section 1.4, P2	Recommendation 1: the potential for wind farms to contribute positively to the economic and social well being of communities is important information for communities that are being consulted on wind farm developments. This information should be provided as early as possible in the process, and updated as social and economic analyses are completed.
2	Principles for responsible wind farm development. P 6	Include guidance on the importance of community consultation being accessible to a broad range of stakeholders. Support needs to be provided for disadvantaged people and others who may have difficulty attending or participating in meetings or other consultative forums to enable them to participate in the consultation process.
3	3.1 Community and stakeholder consultation. P 8, and Appendix A	Change title of this section to 'Community and Stakeholder Engagement'.
4		Re-frame focus of this section from community concern to community interest in the issue.
5		Ensure that community participation is engaged early in the project and continues throughout.
6		A community capacity building approach to the development of wind farms should be adopted where possible, so that local communities are stronger as a result.
7		Provide examples for each spectrum of public participation (A-1) (examples for collaborate and empower) and ensure that the minimum level of participation (pages 24 and 25) is "Involve", especially at the early stages of wind farm developments.
8	Landscape, p 10	Separate 'community values' from 'landscape values' and include in a separate topic called 'psychosocial impacts'.
9	C.4.3 Response to Impacts	Consider additional options for mitigation of landscape and psychosocial impacts.

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