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23 January 2008

Your reference  
31362/001

Your date  
5 December 2007

Our reference

Our date

Your contact

Regarding: Economic Wind Resource Study Report  
Connell Wagner  
5 December 2007

Dear Amy,

Thank you for providing us with the opportunity to comment on this interesting and valuable report. We've carefully reviewed it and submit our comments follow;

- Through the report there are statements used could be considered 'subjective' or unclear in their actual meaning;

In section 2.1 (second to last paragraph), the report talks of 'modern' turbines having 80m hub heights etc. The use of the word 'modern' could be used negatively against all smaller turbines – which may not be considered 'modern', now that big is in 'vogue'. We deliberately use "smaller" turbines with hub heights below 80m and rotor diameters of less than 60m to avoid significant disturbance of the topography and the related environmental impact at complex sites such as the Tararua Ranges or the Puketoi Ranges. We therefore would prefer the report does not use the word "modern turbines" but rather "large scale turbines".

In section 2.3 (first paragraph), the report notes a way to exclude areas from being considered for wind farm development 'It is a good way to exclude rural areas with reasonably dense housing that would probably not be suitable for wind farms'. This could be used by objectors to wind farms to justify their opposition and actually work against the objective of this report.

Wind farms should be sited as close as possible to load centers and areas with a good wind resource. It is therefore not "a good way" in our view to exclude areas with reasonably dense housing (what is reasonably?). Rather limiting the development of wind farms to areas where such wind farms can comply with the NZ 6808:1998 noise standard and respective regulations under the RMA.

- ***It is recommended that at least the subjectivity/ambiguity of the points raised above be clarified in the document.***
- In section 2.2 (the last three paragraphs), the report discusses the steep slopes and construction of wind farms in areas where the slope is greater than 10°. This is interesting given that existing wind farms show that in general, terrain only limits a development to a certain extent.

It is understood that traditionally some consultants have used 15° as the terrain slope cutoff as earth moving is able to cut sufficient sections to appropriately grade for laydown and the like (up to 100m diameter).

- ***The modeling undertaken to rule out areas of high slope was done at a low resolution. Accordingly useable land within the 'no go' areas identified may exist. We suggest that a widening of the slope criterion in the analysis should be undertaken.***
- The document also makes assumptions on the governments future intention with regards to supporting wind farms – it notes that 'small isolated areas of potential wind resource will be excluded as part of future work, on the basis that such geographically isolated developments are likely to be uneconomic'. It can be queried whether the document should be presenting facts or making assumptions.

- ***It is recommended that the report should maybe have three wind categories – the third category being that of smaller wind farm development opportunities (should the economic environment become more positive for these developments).***
  
- The report needs to consider the New Zealand load centers in its analysis of potential wind farms. While the draft report only deals with the North Island, a similarly structured report for the South Island would indicate a good opportunity for wind farm development. However, lack of load centers and the very limited capacity of the HVDC link may influence development of these sites.

Thank you for the opportunity to comment.

Best regards,  
**Allco Wind Energy NZ Ltd.**

Bernhard Voll  
Technical Director