



Report 05.651
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Committee Policy, Finance and Strategy Committee
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Puketiro wind energy feasibility study

1. Purpose

To provide the Committee with information, together with two other reports (05.611 and PE05.652), so it can decide whether or not to make land available at Puketiro for a wind energy development.

2. Significance of the decision

The matters in this report do not trigger the significance policy of the Council or otherwise trigger section 76 (3)(b) of the Local Government Act 2002.

3. Background

In May this year the Council resolved to consult with the public about the desirability of making land available at Puketiro for a wind energy development. Attachment 1 is the report considered in May (report 05.128).

4. Policy consultation

Reporting back on the public consultation process is covered in report 05.611. Many of the points raised by the submitters would be researched or actioned prior to a resource consent application being made by the developer.

However, it is appropriate the Council should consider possible solutions that may be adopted by a developer before the Council decides whether or not to make the land available.

4.1 Visual impact

Some 20% of submitters commented on the visual aspect and/or the colour of the turbines. Placing turbines within the landscape is a difficult process and the developer will be required to use professionals experienced with this. Most wind turbine blades are painted a very light colour with a matt finish. No

doubt the developer will consider possible options for the site and be prepared to defend the colour chosen.

4.2 Wind turbine noise

The location of the Council land above the surrounding rural housing, the direction of the prevailing wind and the distance to the rural houses all assist in ensuring that if there are noise issues, they will be minimal. Houses are 2km or more from any turbine on GWRC land.

Houses could be about 1km from wind turbines on private land and this may be an issue for the developer to resolve.

New Zealand Standard 6808, District Plan requirements of Porirua and Upper Hutt City Councils become benchmarks for the acoustic evaluation. This is an aspect the developer will cover in full as part of a resource consent application.

4.3 End of life issues

The developer will be required to remove the wind turbines at the end of their lives. The rather large reinforced concrete foundation will remain, but the small concrete base protruding above the ground can be covered. The easement issued to the developer will include a condition to cover this.

4.4 Avian

Native bird species are not normally associated with *pinus radiata* plantations. However, there is some native bush bordering parts of the plantation forest so the developer will be expected to carry out a bird study.

4.5 Infrastructure providers

Airways New Zealand has signalled that they would like to be consulted at an early stage concerning any effects on the Airways control systems. There are a number of other infrastructure providers also to be consulted.

4.6 Ecological

A number of ecology issues have been raised. For example, possible run-off from earthworks and the impact on the upper reaches of the Pauatahanui Inlet. The sensitivity of this area will be drawn to the developer's attention. Most of the earthworks though fall within the Hutt River catchment.

4.7 Use of Council land

There has been confusion by a few members of the public about the status of the land where the turbines could be placed. It is part of the Council's plantation forestry/future water supply estate and not part of the Battle Hill Farm Forest Park (Battle Hill). Vehicle access to the wind generation site is not likely to be through Battle Hill. In the event that it is, then there will be some impact during the 12 month construction phase.

4.8 Consultation with groups

Some stakeholder groups made submissions about the use of the land. There are more groups though and they will be approached directly by the developer prior to a resource consent application.

5. Iwi consultation

Local iwi have been consulted about the project and are supportive in principle. Meetings were held with Ngati Toa Rangatira and the Wellington Tenth Trust. Te Runanganui o Taranaki Whanui ki te Upoko te Ika a Maui did not specifically ask for a meeting. An update on the project was provided at the Ara Tahi meeting on 30 November.

Cultural issues will have to be researched by the developer in consultation with the iwi. The iwi requested more detailed information on where turbines are to be placed and the developer can provide this.

6. Local authority consultation

The site is located partly in Upper Hutt City and partly in Porirua City. Visually though, many more residents of Porirua City can see the site from their homes compared to Upper Hutt residents.

Porirua City Council (PCC) sent in a detailed submission mentioning many aspects that will be covered by the resource consent investigations. PCC also noted that their position is neutral as they will be one of the authorities that have to process resource consents. Porirua City staff will be given an update shortly.

7. Other issues

7.1 Wind energy developments in Wellington

An issue with a common thread was mentioned in a number of different ways by various submitters, including PCC. If there are to be wind energy developments in the Wellington area/region, where should they be? Some submitters said yes to Puketiro but only if the Council's Belmont site is not developed.

New Zealand, unlike most developed countries, does not have a comprehensive wind energy map. Such a map, combined with other information including residential areas and prime ecological areas could show areas that may be suitable for wind energy development. It can also show areas that are not suitable. While it is not appropriate to take this issue further in this report, it is something that GWRC may like to consider separately for the Wellington Region.

7.2 Other forms of energy and energy conservation

Some submitters suggested other forms of energy development such as solar power or energy conservation should be considered. This was outside the scope of the consultation but it does highlight some of the issues the community is thinking about.

7.3 Access to the wind energy site

No doubt there will be public interest in the development if it proceeds. Currently vehicle access to the site is restricted and by arrangement. It is not proposed to change this after a wind farm is completed.

Unrestricted access is available by walking, cycling or horse riding from Battle Hill at present.

During the construction phase, the site will be closed to the public for about 12 months for health and safety reasons. The developer will be asked to provide a safe viewing area for the public from a point along the western ridge. The public would be able to access the viewing point from Battle Hill.

7.4 Shadowing

When the rotating wind turbine blades are situated between the sun and an observer, then a moving shadow is created. The impact of this on horses is mentioned in section 7.5. For some householders, this effect can be annoying particularly when a moving pattern is created on a wall. One publication researched suggests that shadowing is only a potential problem at distances closer than 10 rotor diameters (900m for a 90m rotor on a 3 MW wind turbine). The closest properties to the west of the site will be about 2km from the nearest wind turbine. To the east, some properties could be about 1km away if wind turbines are situated on private land.

Shadowing is a factor that will have to be investigated by the developer. For any particular property, the issue is a seasonal one and only likely to last a maximum of a few hours a year.

7.5 Equestrian events

Resource consents have recently been approved for the Awhitu wind farm in the Waikato. A sticking point for that site was the moving wind turbine blades, and horses being frightened by noise from the wind turbines. Equestrian events at Battle Hill are different in that the horses will be at least 2km from the nearest wind turbine. At Awhitu, the horses could be as close as 200m to a wind turbine.

7.6 Use of public roads

The extent that public roads are used for transporting personnel and materials during the construction phase is yet unknown. In order to minimise the impact though, the developer will be encouraged to use site rock for onsite road

construction where this is practical. Site rock has already been used for the construction of forestry roads.

7.7 Water collection protection

Before the Council can finally release the land, it has to be satisfied that a development will not compromise the primary purposes for holding the land – future water collection. Nothing in the investigations so far suggests this will be an issue. A full evaluation though cannot be completed until a detailed proposal is received from a developer.

8. Risks

Although the Council has decided not to invest equity in the project, it still faces a number of risks. These include:

- Depreciation of the New Zealand dollar and/or high interest rates so the project is uneconomic and does not proceed.
- A suitable developer is not found. Given the current interest in the project, this seems unlikely.
- A developer is unable to obtain resource consents or the consents make the project unviable.
- The process could be protracted due to resource consent appeals.
- A developer obtains resource consent but then abandons the project.
- The developer suffers financial or technical difficulties and the project is delayed or abandoned.
- The developer abandons the project when it is life expired.

Various measures can be put in place to eliminate or reduce some of these and other risks but some cannot be totally avoided.

9. Decision making process

If the Council decides to proceed with the development, as a result of this and other reports, then the next stage would be for the wind generators to respond. To do so they incur costs, which will increase as the project progresses.

The wind generation industry will have an expectation that the Council, if it offers the land, will then not formally submit when a resource consent is applied for.

Because of this constraint on the Council, the standards and requirements expected by the Council will be included in the contract that makes the land available.

These standards/requirements will include, but not be limited to, the following:

- Extensive consultation with all stakeholders.

- A comprehensive landscape assessment.
- A cultural study of the site.
- An avian study.
- The impact of the noise generated by the wind turbines.
- The impact on other infrastructure providers including air navigation.
- Ecological study particularly with respect to the run off from earthworks.
- The impact on users of the Battle Hill Farm Forest Park and users of the wind farm site during and after construction.
- The impact on other road users from the construction traffic.
- The impact on property owners with properties fronting the roads used during construction.
- The colour of the wind turbines.
- The possible impact on the GWRC land if it is used as a water catchment area.
- The impact of shadows created by the wind turbines.

In addition, the developer will undertake any other studies required in order to apply for a resource consent. The developer will be required to agree to the consent application being publicly notified.

10. Next steps

If the Council decides to proceed with the development, then the next step is to engage with the wind energy industry.

A request for proposal (RFP) can be advertised in February and close after one month. Once a short list is chosen, the tender documents can be sent out.

11. Communications

A decision to release the Puketiro land for wind energy development is a significant milestone in the process. A media release should be issued.

12. Recommendations

It is recommended that the Committee:

1. *Receives the report.*
2. *Notes its contents.*
3. *Approves in principle the offering of a 50 year easement over GWRC land at Puketiro for a wind energy development.*
4. *Instructs officers to initiate the process to find a suitable wind energy developer, to be approved by the Council.*

5. *Issues a media release following the meeting.*

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