



Blueskin Wind Farm

Assessment of Environmental Effects and
Resource Consent Application
Dunedin City Council
October 2015

Application for Resource Consent

SECTION 88, RESOURCE MANAGEMENT ACT 1991

To: Dunedin City Council
50 The Octagon
Dunedin 9016

We: **Blueskin Energy Limited (BEL)** apply for resource consent to establish, operate and maintain a wind farm at Blueskin Bay, as further described in Section 3 of this report.

Owner and Occupier:

The owner of the land is the Glenside Trust, whose Trustees Clare Robinson, David Robertson and Brian Hailes have agreed to permit the construction and operation of the wind farm owned by Blueskin Energy Limited on the land.

Location:

ADDRESS. The site is legally described as follows:

Legal Description	Area
Lots 1 and 2 DP 473199 and OT 646829	24.1412 ha

Additional Resource Consents Required:

No additional resource consents are required.

Fourth Schedule:

We enclose, in accordance with the Fourth Schedule of the Resource Management Act 1991, an assessment of environmental effects in the detail that corresponds with the scale and significance of the effects that the proposed wind farm may have on the environment.

Additional Information:

We enclose any information required to be included in this application by the district plan, the regional plan, the Resource Management Act 1991, or any regulations made under that Act:

(Signature of applicant or person authorised to sign on behalf of applicant).

Dated: 2 October 2015

Address for Service and Invoicing:

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About Us

Blueskin Energy Limited is a charitable company wholly owned by the Blueskin Resilient Communities Trust (BRCT), a local charity operating out of Blueskin Bay. BRCT's patron is Jeanette Fitzsimons, and its board of trustees are Craig Marshall, Ross Johnston, Charles Abraham, Anna Marshich, Jacinta Ruru, Dylan Robertson, and Nicola Mutch.

Blueskin Energy Ltd's directors bring a wealth of experience in ethical finance, management and the energy sector, including wind farm development. BEL's directors are: Charles Abraham, Tony Wilson and Chris Freear.

Operations are managed by Scott Willis, who is assisted by John Kaiser in the local office and numerous community volunteers. Blueskin Energy Limited also depends on significant pro bono support including: the Akina Foundation, Russell McVeagh, Foot Law, Ross Dowling Marquet Griffin, DNV-GL Energy, Angus Napier, KPMG, Pioneer Generation, Aurecon, BrandAid, Lucas Associates, Dr Katherine Dixon & Dr Robin Mitchell, Ben Farrell, and Unifone. Donations of equipment have been received from Trustpower Ltd and Meridian Energy and early data collection and analysis provided by Windflow Technology Ltd.

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Blueskin Energy Limited was formed by the Blueskin Resilient Communities Trust in December 2013 after community consultation had been held on its formation for the purpose of wind development, and after receiving expert advice on the formation of a charitable company.

1. At a Glance

1.1. Introduction

This Assessment of Environmental Effects (AEE) has been prepared to accompany an application by Blueskin Energy Limited to establish, operate and maintain a small three-turbine wind farm at Blueskin Bay, to the north of Dunedin.

This application has been prepared in accordance with the requirements of Section 88 and the Fourth Schedule of the Resource Management Act 1991 (RMA). This report is intended to provide the information necessary for a full understanding of the proposal and any actual or potential effects the proposal may have on the environment.



1.2. Site Description

The wind farm will be located on one land title being: 24.1412 hectares more or less being all Lots 1 and 2 Deposited Plan 473199 and all the land in title OT 646829 owned by the Glenside Trust. The landowners have agreed to permit the construction and operation of the wind farm on their land.

The Porteous Hill wind farm site is on a grazed hill above the Ōmihi to Bluekin Bay (Okahau) coast located to the north of Dunedin. The site is a volcanic knoll comprising basalt intrusions through the schist and overlying sandstone layers that have been worn down over millions of years, and covered in wind-blown loess. The hill forms part of a rural setting, with a variety of land uses including domestic dwellings, forestry, roads and farmland. The existing land use is for pastoral grazing, and this activity will continue on the site following the construction of the wind farm. Adjoining sites are used for pastoral grazing. The site has no known site contamination areas or areas of archaeological value.

Access to the wind farm site is by way of an existing entrance way and access track from Porteous Road, which in turn is accessed from State Highway 1.

1.3. Applicant proposal

Blueskin Energy Limited (BEL) is proposing to construct and operate a wind farm at Blueskin Bay, to the north of Dunedin, Otago. The proposal is for a small-scale energy development comprising three (3) turbines (800kW to 900kW) located within the development envelope of 24ha. While a final choice of turbine model has not been made, each turbine will easily fit within a height envelope of 125 metres to blade tip.

The Blueskin wind farm will generate sufficient electricity to provide approximately 26% of the total electricity needs for the whole Palmerston area local distribution network, including the 1,000+ Blueskin homes and all the other homes in the local distribution network.

The applicant will construct the wind farm, including site development works that involve the extension of the access road, excavation and development of turbine foundations, erection and commissioning of turbines, installation of a grid connection and site reinstatement. The wind farm will connect directly into OtagoNet Limited's 33 kV distribution line that runs adjacent to State Highway 1 and connects into the Waitati substation at Waitati. The turbines will be operated to generate electricity, supported by ongoing operations and maintenance activities at the site.

1.4. Resource Consent Requirements

The wind farm site is located in the Rural zone of the Dunedin City District Plan (DCDP, 2006) administered by the Dunedin City Council (DCC).

The Rural Zone (Section 6) provides for the sustainable use, development and protection of natural and physical resources to enable people to provide for their wellbeing by the creation of economic wealth, employment and the opportunity to participate in leisure activities.

The proposed activity is categorised as a **Community Support Activity** which means: the use of land and buildings or collection of buildings which are used for the primary purpose of supporting the health, welfare, safety, education, culture and spiritual well being of the community including childcare facilities and community police offices but excludes hospitals, recreational activities, facilities which have or require a liquor licence or which provide restaurant facilities.

Under **Rule 6.5.6 (ii)**, the Community Support Activity is a **Discretionary Activity (unrestricted)** and shall regard matters identified in Section 6.7 of the DCDP.

Part of the wind farm site is overlain by the outer edge of a Landscape Management Area – the North Coast Coastal Landscape Preservation Area (CLPA) defined by Section 14.5.2 (a) of the DCDP. As per **Rule 14.6.3 (b) (ii)**, the erection of the windfarm structures is a **Discretionary Activity (restricted)**. In the CLPA, the Council's discretion is restricted to the visual impact arising from the activity on the landscape character and the quality of its setting.

As such, resource consent is sought for a **Discretionary Activity** as required under the DCDP.

No resource consents are sought from Otago Regional Council for the proposal.

1.5. Lapse Period

Pursuant to Section 125 of the RMA, a ten year lapse period is sought in this resource consent application. This lapse period will accommodate any uncertainties that may arise that impacts the funding and delivery of the project. The project timeline envisages construction of the wind farm beginning early 2017, subject to resource consent being awarded, however we wish to be prepared for events outside of our control that may cause delay.

2. Project Background

In September 2006 at a community visioning workshop in Waitati, residents proposed a number of projects to increase community resilience. Energy was seen as one important action area, and development of a community wind turbine and/or community wind farm was proposed.

The Blueskin Resilient Communities Trust was launched in October 2008 to provide planning, structure and governance for local actions to strengthen our communities in the immediate, mid and long-term future. The Trust also took charge of the suite of existing community energy actions, including home energy audits, energy expos, and energy workshops, and initiated other work such as the large 2009 home insulation retrofit programme worth over \$780,000.

Research links were established with the steering committee of the University of Otago's Otago Energy Research Centre (OERC) in 2008.

Early in 2009, University of Otago Geography students, with support from the Trust, began collecting wind data from two sites within the Blueskin area and participated in the evaluation of three other sites.

By the second half of 2009 the Trust had developed Memorandum of Understandings with the local lines network and a turbine supplier, secured the Akina Foundation as a support partner, and began a feasibility study looking at a single, community owned and managed, grid integrated turbine.

The feasibility study was completed in 2010. Early in 2011 a Memorandum of Understanding was signed with Our Wind Ltd, a subsidiary of Windflow Technology Ltd, which resulted in the establishment of a 10 metre wind measuring mast on Porteous Hill. In 2011 a formal community engagement project was launched, to both document the community engagement and participation in the project and to record the methodology and process to enable develop of a 'toolkit' for other communities wishing to follow the same path.



3. Proposal

The wind farm development comprises two main categories of activity; namely construction and operations. These are described further below.

3.1. Construction Activities

The Blueskin wind farm will consist of three “sub-megawatt” wind turbines, rated at between 800 - 900kW. Until a final turbine type is selected (not yet confirmed) the following dimensions are considered an estimate only. The turbines will likely have a tower height of 50 to 60m, and the full height from ground level to rotor tip will be between 80 and 102m, within the proposed 125m envelope for community scale wind generators in the proposed (2015) Second Generation Dunedin City District Plan (*“three wind turbines, each with a maximum height, measured from based of mast to upper point of blade, of 125m”*).

Each turbine consists of the following components:

- Foundation element (buried);
- A tapered tubular steel tower;
- A nacelle that sits upon the tower housing the control equipment, generator and main rotor shaft (that transfers energy from the turbine to the main gearbox);
- A turbine rotor (3 blades);
- An external transformer unit (1 per turbine) adjacent to the turbine foundation.

Construction Activities

The construction of the Blueskin wind farm will require the following primary activities to be undertaken over a 6 month period:

- Site mobilisation;
- Site development works including:
 - The improvement of the existing farm access road (Porteous Road) to the wind farm site;
 - Development of laydown areas for each turbine;
 - Excavation for turbine foundations;
 - Establishing temporary facilities including workshop and staff facilities, and storage of construction equipment;

- Progressive foundation excavation and development;
- Erection of the 3 wind turbines and commissioning of the turbines;
- Progressive placement of 3 transformers and installation of the on-site transmission network;
- Installation of the transmission connection between the wind farm and the existing OtagoNet distribution line, and;
- Rehabilitation of the site, including re-vegetation of all excavated areas and removal of temporary site facilities (demobilisation).

Access

The existing farm access road (Porteous Road) has been deemed to be very suitable for the construction of the wind farm, with some battering required at some existing bends to enable transportation of turbine components on a long vehicle, and to provide crane access for the erection of the turbine towers. The access road will be kept at a minimum practical width to reduce construction effects. The extension of the access road will include the formation of gravel access tracks over existing farm tracks on the development site (estimated total 1.1km at 5m width) to provide access to each turbine platform. Use of existing access tracks will minimise earthworks. On-site tracks will be developed concurrently with the project works to improve the existing access road. All drainage requirements (including new or improvement of existing culverts) will be addressed to ensure the retention of existing drainage systems and/or provision of new drainage on-site.

Foundations and Laydown Area

The foundation elements are approximately 12m diameter (circular or octagonal shape) and approximately 2.5m deep, and will be predominantly buried. These elements are likely to be installed on a gravity pad, pending confirmation of detailed ground conditions. The excavation for this requires sufficient removal of material to enable the development of formwork on-site.

The development of laydown areas, predominantly for use as a crane platform for the erection of the wind turbine towers and rotor and as a laydown area for turbine components, will be undertaken in conjunction with the excavation of the turbine foundations immediately adjacent. The laydown areas (approximately 40m by 20m) require excavation and development of a platform of sufficient bearing capacity to support the crane(s) required for the erection of the wind turbine towers. The provision of drainage in the foundation excavation is necessary to maintain good ground conditions around the turbine platforms and will be incorporated in the form of a trench or filter drain. It is important to note that the design and construction of turbine foundations is required to meet the strict specifications of the turbine supplier prior to turbine installation.

Site Earthworks

While detailed design of site works has not been completed, the total earthworks volume is estimated as 6500m³, which incorporates the development of access tracks, laydown areas and excavations for turbine foundations. Excavated material will be used as roading fill (access tracks and road) where suitable, and any excess material will be disposed of appropriately within the development site. Where there is a shortfall of roading material, borrow sites will be established at suitable locations to utilise existing rock material on site where possible, including the use of crushed rock as roading metal and to minimise the import of material to the site. Given the rural location, the aspect of the site, relatively flat terrain, and limited nature of the site works, it is proposed that erosion and sediment control activities will be implemented as required in accordance with NZ guidelines such as the Erosion and Sediment Control Guidelines for the Wellington Region (included in a Site Environmental Management Plan).

Turbine Installation and Commissioning

Installation of the turbines is typically undertaken on-site using crane(s) to lift the tower components together in sequence, followed by the nacelle. Rotor assembly can be undertaken in a 'single lift' whereby the rotor blades are attached to the hub on the ground, prior to lifting the assembly as a single unit onto the turbine tower using a crane.

A short video outlining the construction process for a wind turbine can be found here: <https://vimeo.com/126088520>

It is currently proposed that turbine components will be stored on-site temporarily following delivery to the Port of Otago, ahead of the erection of the turbine towers.

Turbine Layout

The proposed layout of the wind turbines (shown in Appendix C) is considered to be indicative only, and subject to alteration to address specific geotechnical or technical conditions that emerge during detailed design. This is common practice for wind farm developments, whereby turbines may require slight alterations in location to maximise generation capacity or avoid specific ground conditions. It is proposed that turbines will be located within a radius of 100 metres from the proposed positions, however no turbine shall be moved closer to a existing residence. This practice is consistent with other windfarm development approvals.

Transmission Connection

Free-standing transformers for each turbine are either housed in a cubical steel box (approximately 2m x 2m), adjacent to the turbine base or within the tower itself. These transformers are required to connect turbines to the local electricity distribution network, converting the

generation voltage to the required distribution voltage of 33kV. Excavation works will be required for cable installation that links these transformers to a main connection line that will follow a relatively straight-line route to the proposed point of connection on the existing OtagoNet 33kV distribution line adjacent to State Highway 1. As the transmission connection has not been subject to detail design and landholder approval is not formalised yet, a route following the access road provides a secondary option, although this is not preferred due to it being a longer and more costly route.

The connection is proposed to be a mix of underground trenching from the site to approximately 100m from the connection point, approximately 500m away, with overhead poles utilised for the last 100m of the route. Typical trench dimensions for the underground cabling are likely to be approximately 500mm wide and up to 1000mm deep with a granular backfill and topsoil surface reinstatement, typically using excavated material. These requirements will be confirmed in detailed design. The use of overhead poles will be accompanied by the establishment of an appropriate corridor and of minor access tracks to support construction and ongoing access to the transmission cable towers as required. Overhead cable towers will be mono-pole structures no taller than 20m and are only proposed where there are no visual impacts.

3.2. Operation and Maintenance Activities

The operation and maintenance of the wind farm over its expected lifespan (estimated as 20 years) includes the following potential activities:

- Generation of electricity by the operation of the wind turbines;
- Periodic routine and unplanned operations and maintenance activities;
- Decommissioning of the wind farm at the end of its useful life.

Only turbine platform access tracks will be retained and maintained to support ongoing access for the operation and maintenance of the wind farm equipment and structures. An operations contractor will be responsible for planned routine monitoring and maintenance of the turbines and ancillary equipment, and any unplanned operations activities, with this activity involving vehicle access via the access road and tracks.

Most service activities take place within the nacelle and tower, with any major repairs (considered to be infrequent or unlikely) potentially requiring the use of a crane for the dismantling of turbines on-site. These events, while significant, are highly unlikely.

No permanent on-site operations presence and maintenance activity will be required.

Should the Blueskin wind farm be decommissioned at the end of its useful life, all turbine structures will be removed and turbine foundations covered and revegetated. The access road and access tracks (on site) will likely remain in place for use by the landowner.

4. Community Support Activity

The Blueskin Wind Farm will return an annual dividend to Blueskin Energy Ltd's sole shareholder, the Blueskin Resilient Communities Trust (BRCT). BRCT already provides a range of community support activities for Blueskin, Dunedin and Otago residents. BRCT community support activity takes the form of charitable services, including:

- Free energy advice (including solar PV advice) for Dunedin and Otago (and often further afield)
- Support for the Cosy Homes Charitable Trust
- Support for local volunteer initiatives
- Facilitating connections to grow the local economy
- Access to affordable insulation, firewood, and Home Performance Assessments
- Carbon Offset facility
- Climate change planning
- Monthly subscriber newsletter
- Events and activities
- Open office
- Advocacy.

We anticipate a growing demand for BRCT community support services through time and understand that public funding is increasingly uncertain and highly variable. BRCT is mindful to maintain true-to-community values such as mutual support, social equity, ecological responsibility and effective governance. The wind farm development aligns with the 'Dunedin Economic Development Strategy 2013 – 2023' ("identify the economic benefits of reducing energy demand and carbon emissions to Dunedin's economy and make practical recommendations about the development of a local energy infrastructure that accelerates the decarbonisation of the local economy and opens up commercial opportunities for local business" – p.27).

The development of the Blueskin wind farm will enable BRCT to maintain and increase delivery of social and environmental services in the community through time. The process for realising this project, not only the development of the wind farm itself, aligns with the strategic

directions set out to achieve the vision of “Dunedin’s Social Wellbeing Strategy’ (*Connected People; Vibrant and Cohesive Communities; Healthy and Safe People; A reasonable standard of living for all; Affordable and healthy homes – p1*). Particular alignment can be made with the implementation pathway of ‘Stronger Communities’ (p1) in the Social Wellbeing Strategy. Dunedin’s 2012 Spatial Plan also provides a platform for integrating city strategy.

The Spatial Plan framework states the overall urban form objective for Dunedin city as a “compact city with resilient townships”. The Blueskin wind farm development is an example of implementation of this urban form objective: a small-scale renewable generation project servicing Blueskin townships leading to greater resilience. The Blueskin wind farm development is our **Community Support Activity**.



Community Support: 2014 ‘Flash Mob’ to retrofit ceiling insulation in a cold home with high energy costs. *Photo: BRCT.*

5. Community Engagement in the Project

5.1. Community Engagement

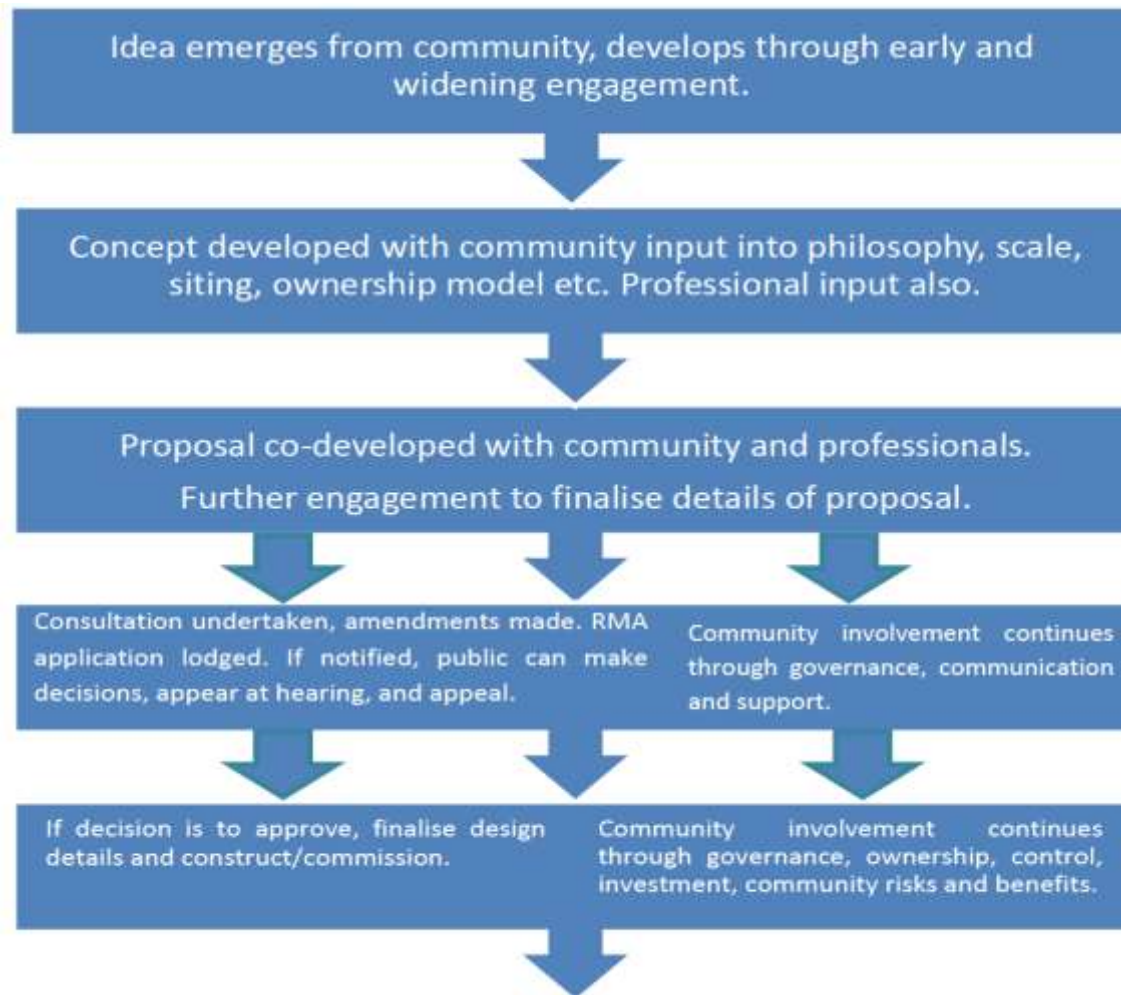
This proposed community wind farm development emerged from the 2006 community visioning workshop. It has evolved from an idea to a full development proposal through extensive community participation and engagement. In 2012, a report on the community engagement in the project was published (“Blueskin People Power: A tool-kit for community engagement”, found in full in Appendix B). This report detailed both the informal and formal community engagement and participation in the project up until that point. It confirmed the Trust’s assumption that the project was already well embedded in and supported by the community, and documented the formal processes employed to further encourage involvement and participation in the project. It also noted how the ripples from the proposed wind development were also aiding the development of greater energy awareness in the community and assisted with the development of other community support activities such as BRCT’s solar project, the Home Performance Assessment service and Cosy Homes.

Two professional planners were engaged, and the project also involved a University expert (Janet Stephenson) and a design company, to develop and implement the formal engagement process, supported by BRCT staff and community volunteers.

A central aim of the formal engagement project through 2011-12 was to practice a new approach to community engagement in relation to Renewable Electricity Generation development in New Zealand. We aimed to follow best practice principles in relation to the ‘inform’, ‘consult’ and ‘involve’ aspects of community involvement where appropriate throughout the development process, and to also extend beyond these aspects. This augmented engagement pathway sought to collaborate with, and empower, people in order to promote the best possible model of community engagement throughout the decision-making process in relation to this particular development.

The community engagement we have undertaken, including the intention that this project is and will remain community controlled, is very different to the standard RMA consultation model. We have built on previous qualitative research into local community perceptions on a small local wind development. A 2008 study (“Is Small Beautiful?” by Matthew Hoffman, found in Appendix B), for example, looked at attitudes to community owned wind energy in Waitati, and concluded that *“residents have generally been found to be supportive of wind energy, particularly at the local level. Community ownership of wind farms was seen by Waitati residents to be a potentially viable solution to the current energy problems there: power cuts and high energy prices. Community ownership of such a wind development was also seen to be a to be a key way in which the impacts of any wind development occurring near Waitati could be mitigated, or at least made more acceptable to the wider community. It can be seen that there is sufficient foment within the Waitati community that a community energy project could be established.”* (page 82). This preliminary research provided BRCT, when the Trust was established (in late 2008), the confidence to begin data collection to establish the feasibility of local wind development.

A feasibility study was completed in 2010. Over the summer of 2010 – 2011 additional research was conducted into “Community perspectives on the BRCT energy project” by Seth Gorrie, during an Otago Summer Research Scholarship. As a precursor to the larger engagement project later in 2011, this research also helped identify gaps in BRCT’s communications, which were then remedied. The overall engagement approach is outlined in the diagram below:



At the conclusion of the formal engagement work in 2011-2012, BRCT began work on securing expert appraisals, both in preparation for lodging a Resource Consent application (as in the second to last section in the diagram above) and also in response to questions raised during the engagement project into potential environmental impact. These expert appraisals are summarized in section 8 and the full documents are to be found in Appendix B. Community engagement continued in parallel, again as in the diagram above, with further community meetings to get feedback on the establishment of Blueskin Energy Limited, BRCT's charitable company, and further research.

Our whole approach has been designed to avoid the democratic deficit evident in many Resource Consent applications by ensuring we have been as thorough as possible in involving our community through all the preliminary stages, and listening and adapting our project as we proceed. We continue to invite participation in the project. The following table illustrates significant stages in the engagement process:

Table 1 - Summary of Community Consultation

Date	What	Who	Numbers involved
Nov 2008	"Is Small Beautiful: Attitudes towards community owned wind energy in Waitati", A dissertation in partial fulfillment of the degree of Bachelor of Applied Science with Honours in Environmental Management at the University of Otago.	Matthew Hoffman	13 participants
April 2011	"Blueskin People Power: Community perspectives on the BRCT energy project", Report conducted as part of a University of Otago Summer Research Scholarship.	Seth Gorrie	16 participants
Oct 2012	"Blueskin People Power: A toolkit for community engagement"	Scott Willis, Janet Stephenson and Rosalind Day	49 survey respondents; 95 attendees at Open Days
Nov 2012	"Blueskin Wind Cluster Exit Survey Report"	BRCT	41 participants
Oct 2013	"Opinions on the Blueskin Wind Project: Quotes from householders"	Geoff King	18 participants

Table 2 does not include technical or feasibility appraisals, nor does it include informal community meetings or stalls at community events.

BRCT has held a great many community meetings about this proposed development since the idea was first proposed in 2006, dealing with technical aspects, legal aspects, feasibility, resourcing, environmental issues and more. In addition to this work, BRCT has hand-delivered information leaflets to the approximately 1000 Blueskin households, placed newspaper advertisements of events, established a website for the engagement project and published E-newsletters every month since Dec 2007 in the Blueskin News (which is distributed freely to the majority of Blueskin households) and since 2011 in the Rothesay News (which is freely available to Blueskin households close to Port Chalmers). Additionally BRCT has conducted a door-to-door preliminary survey, an on-line survey and roaming neighbourhood discussions, along with the community open-days, community meetings and wind cluster expo.

As a further way of maintaining transparency in the proposed development, BRCT maintains a social media presence and has 378 subscribers to our email newsletter and 282 'likes' of our Facebook page and 179 twitter followers.

5.2. Supporting Documentation

A full copy of all reports relating to consultation can be found in Appendix B of this document. These are as follows:

- “Is Small Beautiful?”
- “Blueskin People Power: Community perspectives on the BRCT energy project”
- “Blueskin People Power: A toolkit for community engagement”
- “Survey Overview” (summarised in Blueskin People Power: A toolkit for community engagement)
- “BEP Engagement Report 2011” (summarised in Blueskin People Power: A toolkit for community engagement)
- “Blueskin Wind Cluster Exit Survey Report”
- “Opinions on the Blueskin Wind Project: Quotes from householders”

5.3. Parties Consulted

The following parties have been consulted through project engagement activities and in the preparation of this document:

- Dunedin City Council, in discussions with DCC planners, the Energy Team, Economic Development Unit and the Chief Executive and Mayor;
- Iwi, through our strong relationship with Kāti Huirapa, involving sharing of information, meetings, and a close working relationship;

- Landowners within the immediate vicinity (within 1.5 km of the proposed site);
- The Blueskin community, as catalyst and through long term and extensive community engagement and invitations to participate in the project;
- Otago Regional Council planners;
- OtagoNet, confirming network capacity and in continued development planning;
- Delta Ltd, as a potential transmission partner;
- Department of Conservation;
- Civil Aviation Authority;
- Vodafone, and;
- Waikouaiti Coast Community Board.

We are confident that community involvement, participation and engagement in the project has been thorough.

6. Manawhenua

Blueskin Energy Limited's owner, the Blueskin Resilient Communities Trust has lasting links with Kāti Huirapa, our local Runaka, that date back to the establishment of the Trust in 2008.

The centre of the Kāti Huirapa Rūnaka ki Puketeraki takiwa is the Papatipu Marae, Puketeraki, overlooking the village of Karitane. The coastal markers of their rohe stretches from the Waihemo River (Shag River) to Purehurehu (Potato Point) to the east of Long Beach. Okahau (Blueskin Bay) sits in the southern part of this area.

Since 2008 we have met regularly with the Runaka Manager and from time to time attended Runaka executive meetings to discuss the ideas and projects we have been developing. In 2010 the Marae hosted our 'Democratising Energy' Hui which different staff from Ngai Tahu participated, along with energy leaders from around the country.

There has always been a very positive relationship between BRCT and the Runaka with support for projects. Most recently BRCT and the Runaka have discussed working together on a community wide visioning exercise, called "Blueskin 2050" to complete a thorough appraisal on where we, as a community, are heading over the next 35 years.

Blueskin Energy is now linked into the Runaka through the Komiti Kaupapa Taiao, a sub-committee that deals with environmental responsibilities and concerns of the Runaka. A former trustee of BRCT, Antony Deaker, attends Komiti Kaupapa Taiao meetings and has been delegated as a Runaka rep for BRCT.

We keep the Runaka informed of the direction and progress of our work. As required, the Runaka have provided letters of support and endorsed different aspects of our work. Suzanne Ellison, Runaka Manager said in the most recent letter of support "*BRCT is the obvious vehicle for taking up the work we are committed to, but under resourced to provide, and without that relationship we would struggle to achieve the same outcomes. [...] We look forward to strengthening our relationship with the Trust and working together on appropriate solutions to build a strong, cohesive, sustainable community*".

Following the Komiti Kaupapa Taiao meeting in August 2015, different members of the Komiti passed on congratulations and real support for the project.

We look forward to developing new projects in active partnership with the Runaka that will meet our shared goals to care for the environment and local community's needs. We see a relationship with the marae as vital and important. We see a real synergy with their work and continue to work closely with the Runaka as an active kaitiaki partner.

7. Sustainability

The purpose of the Resource Management Act “is to promote the sustainable management of natural and physical resources. (2) In this Act, “sustainable management” means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well being and for their health and safety while - (a) Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonable foreseeable needs of future generations; and (b) Safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and (c) Avoiding, remedying, or mitigating any adverse effects of activities on the environment.”.

Currently, our electricity supply comes from distant power stations or renewable generation plant and results in greenhouse gas emissions due to the percentage of thermal generation involved in our electricity supply. In the recently completed Energy Baseline Report for Dunedin City, 17% of the city’s greenhouse gas emissions are estimated to come from electricity. Once up and running, we anticipate that the Blueskin wind development through provision of local renewable electricity could reduce emissions from electricity for an institution such as the University of Otago by 16.5%. We estimate that the Blueskin wind development will generate more than 7.2 gigawatt hours per year, while the Blueskin settlements fed from the Waitati sub-station only consume 5.6 gigawatt hours per year. Thus, all Blueskin emissions from electricity can also be mitigated.

The Blueskin wind development presents Dunedin with an efficient and economic provision of infrastructure services, appropriate in scale for its location in the Blueskin community and landscape and reflecting the character of the innovative and creative community of Blueskin. This development is appropriate to the area and enhances the multifunctional landscape.

We believe that this development will enhance the amenity values of Blueskin, by:

- Complementing the fine-grained and lived in landscape with elegant structures;
- Providing significant new renewable generation while maintaining environmental services;
- Contributing to enhancing the resilience to our local electricity network;
- Scaling the development to suit the character and nature of Blueskin Bay.

Our development, providing multiple positive benefits to the community is consistent with the objectives of the RMA in supporting ‘sustainable development’. It aligns with the Economic Development Strategy, the Social Wellbeing Strategy, the draft Energy Plan and in particular, in relation to sustainability, the draft Environment Strategy.

8. Assessment of Environmental Effects

8.1. Positive Effects

The single most important positive effect of this proposed development is the establishment of a Community Support Activity that will enable community development, increase local level autonomy of action, and ensure the maintenance and growth of existing charitable services in our community and in the city. Just as Pioneer Generation is wholly owned by the Central Lakes Trust, Blueskin Energy Limited is wholly owned by the Blueskin Resilient Communities Trust and benefits to the community will be distributed via BRCT, the local charity.

The second very important positive effect of this development is its national status as a groundbreaking community wind farm development. This project grew out of a community visioning workshop into the significant project it is today. Not only will this project inspire other community wind developments around the country once established, it will also showcase the Blueskin community, reinforcing the status of other local eco-developments such as the Orokonui Eco-Sanctuary, contribute to the development of Stronger Community, as set out in the Social Wellbeing Strategy, and adhere to the Spatial Plan 'urban form objective' of a "compact city with resilient townships". Flow on positive effects will be an increase in tourist and visitor numbers, increased income for local services, a strong visual symbol of sustainability, and subsequent increase in local employment opportunities, further reinforcing local services and businesses.

Additionally, this project:

1. Will be the first significant renewable generation development in Dunedin city in over 100 years (the Waipori Hydro scheme first started generating power in 1907), and will be an addition of a strategic renewable electricity generation facility for the city, increasing resilience and contributing to greater security of supply for the city;
2. Will further reduce the need for thermal generation for peaking load, leading to a reduction in fossil fuel use for thermal generation thus contributing to achieving the government's target of 90% renewable electricity supply secured by 2025;
3. Will contribute to a more diversified distributed electricity network with an increase of generation embedded within the local network.

This project will have significant economic effects in terms of construction costs and operational impacts in the local Dunedin economy. The overall cost of the proposal is estimated to around \$6 million. Approximately \$1.5 – \$2 million will be spent on local and regional goods and services during the construction process. Once completed, the wind farm will continue to deliver economic benefits in terms of additional employment associated with the operation and maintenance of the wind farm while the landowners will benefit from the lease arrangement in addition to the project site remaining productive for farming once construction is completed.

Finally, this project aligns perfectly with the three themes in the draft Environment Strategy of: 'Treasuring the Environment'; 'Healthy Natural Environment' and 'Environment for the Future' and will contribute to making Dunedin "*one of the world's great small cities*".

8.2. Construction Phase Effects

Construction phase effects relate to activities (Section 3.1) related to the site development works and construction of the wind turbines over a 6 month period.

The potential effects of construction relate to:

- Earthworks;
- Visual;
- Noise;
- Ecology, and;
- Transportation/traffic.

These are discussed further in the following sections.

Construction Management Plan

In order to mitigate any potential impacts of construction phase activities, it is proposed that a Construction Management Plan be prepared that includes, but is not limited to, the following:

- Construction sequence and programme;
- A Site Environmental Management Plan, covering erosion, dust and sediment control;
- The location and extent of proposed earthworks (cut, fill and stockpiling);
- A rehabilitation/revegetation plan;
- Hours of work;
- Confirmation of key roles, responsibilities and site contacts, and;
- Plans for management of hazardous substances and spill contingency.

The preparation and approval of a Construction Management Plan is considered to be appropriate as a condition of consent.

Earthworks

Site earthworks have been described in Section 3.1, and relate to the development of the access road, access tracks, laydown areas and excavations for turbine foundations.

In relation to the access road (re-shaping, battering) and development of access tracks, any works will be kept at a practical minimum to reduce construction effects and cost. All drainage requirements including the retention/upgrading of existing culverts, or new culverts will be undertaken to ensure adequate drainage is achieved on site. Excavated material from track development, foundations and laydown areas will be utilised where suitable (e.g. for roading or fill) and excess material disposed of appropriately within the development site (e.g. land contouring). Borrow sites will also be established at suitable locations on site to utilise rock material on site where possible, and to minimise the import of material for roading metal and the construction of laydown areas. Trenching for underground cabling will be backfilled and topsoil reinstated.

Given the rural locality of the site, relatively flat terrain and limited nature of site works, it is proposed that erosion and sediment control activities will be implemented as required in accordance with industry-accepted best practice NZ Guidelines as part of a Site Environmental Management Plan.

Full rehabilitation of the site including re-vegetation of all excavated, borrow and filled areas will be undertaken, with only the access tracks on site remaining as surface features. The effects of earthworks on the site are considered to be less than minor and mitigated by a Construction Management Plan.

Visual

All construction activities will be undertaken at the Porteous Hill site, which is rural by nature and can only be viewed from distance, with no direct visibility of the site from State Highway 1. Visual effects during construction are considered to be less than minor.

Noise

It is proposed that all construction activities shall be designed and undertaken in accordance with New Zealand Standard NZS 6803:1999 'Acoustics – Construction Noise', as outlined in the Construction Management Plan. Therefore, noise effects during construction are considered to be less than minor and mitigated by a Construction Management Plan.

Ecology

Ecologists Robin Mitchell and Katherine Dixon prepared an Ecological Assessment of the proposed development (found in Appendix E) in 2013. Since the completion of the Ecological Assessment, the land parcel incorporating the wind farm site has been further sub-divided and is now a smaller parcel than was originally assessed, but contains no other land than was originally assessed in 2013.

It was found that “the site is not ecologically significant”, referring to DCDP Section 16 Method criteria for assessing ecological significance, and noting that it is farmland with no native vegetation cover or native fauna habitat at the site. Their assessment covers an analysis of potential ecological impact due to the development via: ground vegetation disturbance, sediment transport as a result of ground disturbance, and mortality of birds as a result of either electrocution or being struck by rotating turbines. Each potential impact is assessed in turn; with the issue of bird strike detailed in Section 8.3 as a potential operation and maintenance effect.

In terms of ground vegetation disturbance, they note that “the replacement of pasture with wind-farm infrastructure will have no direct ecological effects because the lack of natural habitat currently present at the site means none will be cleared.”

In terms of sediment transport as a result of ground disturbance, they note that “this potential effect is judged to be less than minor with a low likelihood of occurrence”. This will also be mitigated by the Site Environmental Management Plan.

Transportation/traffic effects

As described in Section 3.1, access to the site is by way of an existing road (Porteous Road) from State Highway 1, and via an existing farm track that will be upgraded and extended to the wind farm area in a series of access tracks. The access road is highlighted in Figure 1 below, and the access entrance will be upgraded to meet NZ Transport Agency entranceway requirements (Private Access – Regular Use by Heavy Vehicles).



Additional traffic generation is expected during to the development of the wind farm, which is estimated to take place over approximately 6 months. This will include traffic associated with (1) the site development works, and (2) the transportation and installation of the wind turbines following completion of site development works.

The key transportation activities involve the movement of the following loads:

- Construction plant, turbine components and heavy equipment;
- Construction materials for roading and foundations;
- Powerline and transformer construction, and;
- Contractors and staff working at the site.

Traffic Management Plan

It is proposed that the movement of vehicles to the site on publicly accessible roads will be subject to a Traffic Management Plan for which a

condition of consent is considered appropriate.

It is anticipated that the Traffic Management Plan will address, and not be limited to, the following issues:

- Schedule outlining timeframes, dates and deliveries;
- Specific routes for construction traffic to and from the site;
- Details of signage to be utilised;
- Over-dimensional load permits, dates, times, routes and road closures if required;
- Management and supervision hierarchy, responsibilities and contact details, and;
- Communication and safety practices.

The Traffic Management Plan will be subject to approval from the road authority prior to construction commencing. With the appropriate Traffic Management Plan, it is expected that the additional construction traffic will not be significantly different from current traffic volumes.

Site Development Activities

The development of the wind farm site will require the movement of construction vehicles to support the construction of the access road and on-site access tracks, turbine foundations, laydown areas, the transmission connection and the erection of the turbines. In addition, workers involved in the construction of the wind farm will require transport to the site over the period of construction.

The majority of construction vehicle movements will be for the delivery of additional basecourse and bedding material (if required), concrete and steel (for turbine foundations) and electrical equipment including transformers, poles and cable. Most of these vehicle movements will be between Dunedin and the wind farm site (approximately 20 km), or from a nearby quarry located on Pryde Road, Evansdale. Earthmoving equipment and cranes will be moved to site as required and stored temporarily on-site until duties are completed.

Turbine Transportation

The turbine components and wind farm equipment will come from throughout New Zealand and internationally, and will be delivered to Port of Otago for interim short-term storage prior to transportation of the components to the wind farm site. This will be a discrete activity that occurs over a shorter duration within the construction programme.

For turbine transportation purposes, each turbine is expected to comprise:

- 2-3 steel tower sections plus a foundation section;
- A nacelle and rotor hub; and
- 3 blades.

A haulage route assessment for an indicative turbine type has been undertaken (see Appendix F) indicating no foreseeable issues in the movement of turbine components between Port of Otago and the wind farm site (approximately 20km). Until a final turbine type is selected (not yet confirmed) it is not possible to identify the final turbine transportation traffic movements, however the following is considered to be indicative for a similar scale turbine.

Activity	Two Way Movements	Origin
Turbine Towers and Foundations	24	Port of Otago
Nacelles	16	Port of Otago
Blades	24	Port of Otago

It is currently proposed that the turbine components will be stored on an interim basis at Port of Otago prior to the availability of transport to the wind farm site for temporary storage on-site ahead of erection and commissioning activities.

8.3. Operation and Maintenance Effects

Operation and maintenance phase effects relate to activities related to the operation and ongoing maintenance activities associated with the wind farm over its lifetime (outlined in Section 3.2). It should be noted that the activity of electricity generation from the wind farm will be the predominant activity, with operations and maintenance activities comprising regular activities such as monitoring and programmed maintenance (infrequently required) and unplanned maintenance and repairs. The latter is considered to be highly improbable given the reliability of modern wind turbines and technical monitoring and support provided by turbine manufacturers.

The potential effects of operation and maintenance primarily relate to:

- Visual and Landscape;
- Noise;
- Ecology; and
- Productive Land.

These are discussed further in the following sections.

Visual and Landscape

A detailed description of the site and potential effects is found in the Landscape Assessment Report (Appendix C), adding to location information already provided in Section 2.

The wind farm site is a grazed piece of land on Porteous Hill. Porteous Hill is a volcanic knoll reaching 401m asl above the Ōmihi to Blueskin Bay (Okahau) coast, and forms part of a series of knolls located to the north of Dunedin on the Otago Coast. From various viewpoints, Porteous Hill provides a backdrop that is disrupted by regenerating forests, shelterbelts, lower slope shrubland, plantings, housings and open grassed upper slopes. The landscape is one that is lived and worked in, particularly as the native forest has been cleared and replaced with roads, paddocks and plantings typical of a utilitarian farmland. From the inland State Highway route, Porteous Hill is covered with various land use activities including forestry on the western slopes up the the summit. The complex terrain and tree cover generally limit views of the summit. Overall, the landcover mosaic and gentle hill outline merging into the adjoining terrain mean that Porteous Hill is not a simple visual symbol or signature landmark.

The potential effects have been assessed relating to the rural landscape, visual amenity and significant views.

The rural landscape of Porteous Hill includes complex volcanic and depositional landforms that are mostly pasture-clad along with regenerating vegetational patches, interspersed with buildings and plantings. The summit lands are largely open, pastoral and uncluttered. Overall, the turbine structures would contribute an additional utilitarian activity to a landscape developed over centuries of activity, and therefore be compatible with a low input, sustainable farm and lifestyle context.

The scale of the windfarm development, being three mid-scale turbines, is also commensurate to serving the wider local community of the Blueskin area. The projecting rotors and turbines will be visually separate from the farming activity that will continue on the summit around the base of the towers, and distinct from vegetation and houses located downslope. The visual impact is not assessed to be an significant adverse effect, rather a negligible effect that keeps with the character of the surrounding district and land use activities in the rural aspect.

The addition of turbines will change the visual aspect of Porteous Hill, which in itself forms an important visual amenity to the coastal landscape, and inland hills and highway corridor. Particular consideration has been given to neighbours within 1.5km of the turbines and from most of these eight houses, the turbines will not be visible. Visibility from roads, and the State Highway, will be brief and usually only be the blade tips. This view of the turbines is likely to be perceived as a unique situation that adds interest to the visual landscape. From other viewpoints, the turbines will contribute to the complexity of the working landscape, and form a sculptural presence that will be visually separate from other structures appearing as tall slim towers and rotating turbines. Many viewpoints are at a distance, which mitigates any significant

visual effect. Perception is likely to be linked to the community relationship with the installation, whereby local ownership is a considerable factor that leads to visual amenity being predominantly positive.

In relation to significant views, a number of perspectives have been considered including visibility from State Highway 1, minor roads and from beaches and out on the water. Views of the turbines from lower lying areas will be of the towers and rotating blades and not include the bases. Views from the highway are mainly glimpses of blade tips above existing vegetation and landform. The clear views of the windfarm will generally be at a distance, in conjunction with several other features or from roads that are of low use. Any views are considered to be in line with the mix of utilitarian and natural character that is already present, with the turbines only appearing more prominently under certain lighting conditions (backlighting or low evening light). As a rural area with farming and lifestyle activity, the rotating structures will draw attention to Porteous Hill with visibility limited to the tower and turbine blade. The three turbines will not disrupt the open amenity of the areas, and provides an opportunity for sustainable energy production with farm production continuing uninterrupted underneath.

The wind farm turbines will introduce a new aspect that is considered to be an elegant and meaningful addition to this landscape. It will not conflict with the traditional landscape patterning, whilst maintaining its integrity. The mix of lifestyle and utilitarian land use does not occur on the summit of Porteous Hill that is generally open pastoral land with an access road and fencing. This hill landform is not considered to be interfered with by, or through the development of, the turbines. Three identical turbines will be located within the site envelope and the visual effects have been assessed to be minor. Visual impacts on residential dwellings are predominantly obscured by existing landform and vegetation.

Overall the wind farm is considered to result in predominantly positive landscape and visual effects due to the sculptural landmark character and associated value as a community project. When considering effects on landscape, visual and natural character, the wind farm is addressed as having landscape and visual impacts that are assessed to be less than minor.

Noise

A full acoustic assessment of the proposed wind farm during operations has been undertaken by Chiles Ltd, and can be found in Appendix D. The assessment considered the acoustic affects of the 3 wind turbines on the nearest neighbouring properties distributed around the wind farm site.

Assessment has been undertaken in accordance with the Dunedin City Council District Plan, and New Zealand Standard NZS 6808: 2010 'Acoustics – Wind Farm Noise' (and its predecessor NZS 6808: 1998).

From modelling, it was found that all predicted wind farm sound levels comply with a 40 dB L_{A90} noise limit, other than a potential minor exceedence (<1dB) modelled at one location. In the instance of an actual non-compliance at a location, turbines could be programmed to reduce sound levels (running at a sub-optimal power output) to maintain compliance if required in certain wind conditions.

Overall, it is predicted wind farm sound levels will result in noise effects that are considered to be less than minor.

Resource Consent conditions have also been proposed in the acoustic report.

Ecology

The Ecological Assessment (found in Appendix E and detailed in Section 8.2) also considered the ecological impacts of wind farm operations.

The study considered the only potential ecological risk of any potential substance is the risk of bird mortality during operation. It was noted that “the site itself does not contain significant habitat for either feeding or breeding of native birds” and judge that the risk of bird mortality “is judged to be minor, at most”.

It is recommended that taking a “precautionary approach of gathering baseline data on bird usage during the pre-construction and/or construction phases” will assist in the development of any further monitoring regime, if any is required and any real risk identified.

Productive Land

At the wind farm site, the only loss of productive land will be caused by the erection of structures or construction of access roads, with the balance of the site continuing to be available for grazing activities, as currently practiced at the site.

The footprint of each wind farm turbine is approximately 115m², giving a total turbine footprint of around 350m². When incorporating the development of access tracks (estimated at 1.1km, 5m width), the total reduction of productive land at the site is approximately 5500m, or 2% of the legal land parcel on which the development is taking place. It is also noted that the productive land at Mt Porteous is considerably larger than the land parcel, meaning the the loss of productive capacity is not considered to be significant.

9. Policy Statements and Plans

9.1. Section 104

Section 104 of the Resource Management Act 1991 requires that the relevant provisions of national environmental standards, national policy statements, coastal policy statements, regional policy statement(s) and/or plan(s) or any other matter the consent authority considers relevant and reasonably necessary, to be considered when assessing an application. In this instance, the NPS for Renewable Electricity Generation and Dunedin City District Plan (2006) are considered to be of most relevance to an assessment of the application.

In respect of Section 104(1)(b), the objectives and policies of the following district and regional planning documents are relevant to this proposal:

- National Policy Statement for Renewable Electricity Generation (2011);
- NZ Coastal Policy Statement (NZCPS) (2010);
- Otago Regional Policy Statement (RPS) (1998) – operative;
- Otago Regional Policy Statement (2015) – proposed;
- Dunedin City District Plan (2006) – operative; and
- Dunedin City District Plan – Second Generation Plan (2GP, 2015) – proposed.

9.2. NPS for Renewable Electricity Generation

This is specifically covered in Section 11 of this document.

9.3. NZ Coastal Policy Statement (NZCPS)

The NZCPS is relevant to the Blueskin wind farm application, as the site is part of the broad coastal environment in accordance with s6(a) of Part 2 of the RMA.

Policy 6 of the NZCPS covers activities in the coastal environment and recognises the generation and transmission of energy as important to the social, economic and cultural wellbeing of people and communities. The Blueskin wind farm proposal is consistent with this policy, and also delivers a social impact that is beyond the provision of renewable energy generation, with the activities of the BRCT seeking to deliver further activities to support community wellbeing (Section 8.1).

Policy 13 of the NZCPS seeks to preserve the natural character of the coastal environment. As discussed in Section 8.3, land typing and natural character at the proposed wind farm site has been assessed as a mix of residential, lifestyle and agriculture land use. As the site and coastal slopes of Porteous Hill are not assessed to have neither outstanding nor high natural character, the proposed wind farm is considered to be consistent with this policy.

9.4. Otago RPS (1998) - Operative

The proposed wind farm is consistent with the objectives and policies contained in the the Otago RPS. In particular, Chapter 5 relating to land, Chapter 9 relating to Built Environment and Chapter 12 relating to Energy are considered relevant to the Blueskin wind farm proposal.

In the RPS, there are numerous references to promoting the sustainable management of resources including land (Objective 5.4.1) and the built environment (Objective 9.4.1), and to avoid, remedy or mitigate adverse effects on land (Objective 5.4.2), outstanding natural features and landscapes (Objective 5.4.3), the built environment (Objective 9.4.3) and from energy development (Objective 12.4.1). As outlined in Section 8 of this application, the proposed wind farm will have minimal impact on the ongoing productive capacity of the rural site where it will be developed (Policy 5.5.3), will be located in a rural setting already characterised by land use and activities of a utilitarian nature, and will have effects (actual or potential) that are considered to be less than minor. Of particular note is that wind farm provides diversification of the development site for both rural use and for energy generation (Policy 5.5.4).

Sections 4, 5 and 8.1 of this application collectively outline the community development activities to be enabled by this project and lead by the BRCT that will enhance the quality of life, meet the current and future needs of communities (RPS Objective 9.4.2) and increase community resilience. In relation to RPS Policy 9.5.2, the Blueskin wind farm is a project that develops new local renewable energy generation and utilises existing network transmission assets.

Chapter 12 recognises Otago's unique current and future role in energy generation in NZ, in particular the opportunities associated with emerging technologies such as wind power. The RPS promotes the sustainable and efficient production of energy taking account community values and expectations (Objective 12.4.2); this is of major relevance to the Blueskin project, which is a community-driven energy project that is focussed on a renewable energy source (Objective 12.4.3) and is deliberately located near consumer demand to increase the efficiency of the

project by minimising transmission losses. The wind farm will contribute to the further transition away from thermal electricity generation (coal and gas) in NZ (RPS Policy 12.5.2). Of significant is the delivery of direct local benefits (in line with RPS Policy 12.5.4) by generating renewable electricity, and funding BRCT's community development activities that will provide immediate and ongoing benefit to the Blueskin communities. The project will also realise wider positive impacts including employment, training and research opportunities to greater Dunedin.

Overall, the proposed wind farm is consistent and aligned with the objectives and policies provided for in the operative Otago RPS.

9.5. Otago RPS (2015) - Proposed

The proposed Otago RPS (dated May 2015, currently in consultation) includes the following sections of particular relevance to the proposed wind farm:

- Part B, Chapter 2 – recognises the high quality natural resources and ecosystems;
- Part B, Chapter 3 – outlines the aspiration for resilient, safe and healthy communities;
- Part B, Chapter 4 – recognises that people are able to use and enjoy the natural and built environment.

As discussed previously, Section 8 of this document outlines the assessment of environmental effects that concludes that the proposed wind farm project will have actual or potential effects that are considered to be less than minor. This is consistent with the objectives and policies of Chapter 2 that seek to protect soil, ecosystems, landscapes and natural character, particularly those natural resources of significant or outstanding value.

Chapter 3 is of relevance to the Blueskin wind farm in that it recognises the need to increase community resilience including preparing and adapting to climate change, to develop good quality infrastructure and to provide secure and sustainable energy supplies. The proposed wind farm aspires to be an exemplar for the development of renewable energy generation infrastructure that is driven by, and directly supports, community resilience in the small settlements of Blueskin Bay. The proposed infrastructure will also be recognised to be of national and regional significance in the RPS when developed (see Policy 3.5.1) and is aligned with the intent to support the development of small scale renewable electricity generation (Policy 3.6.2).

The Blueskin wind farm seeks to develop and utilise a renewable energy source to support the local Blueskin Bay settlements. This is consistent with the objectives and policies of Chapter 4, whereby this activity will be undertaken alongside other rural activities that contribute to the local economy without degrading natural resources, or any adverse effects on the natural environment.

Overall, the proposed wind farm is consistent and aligned with the objectives and policies provided for in the proposed Otago RPS.

9.6. Dunedin City District Plan (2006) - Operative

The operative DCDP (2006) includes the following objectives and policies that are of relevance to the Blueskin wind farm project:

- Section 6 – Rural; and
- Section 14 – Landscape.

Rural

The DCDP recognises the character of the rural area as an area dominated by farming, typified by lower-density development and enhance by natural and environmental values. It is an area of a complex pattern of land use, with resources and amenity that require protection to maintain the rural character.

The relevant objectives and policies of Section 6 are outlined as follows:

Objective 6.2.1	Maintain the ability of the land resource to meet the needs of future generations.
Policy 6.3.1	Provide for activities based on the productive use of rural land.
Policy 6.3.2	Sustain the productive capacity of the Rural Zone by controlling the adverse effects of activities.
Objective 6.2.2	Maintain and enhance the amenity values associated with the character of the rural area.
Policy 6.3.6	Avoid, remedy or mitigate the adverse effects of buildings, structures and vegetation on the amenity of adjoining properties.
Policy 6.3.11	Provide for the establishment of activities that are appropriate in the Rural Zone if their adverse effects can be avoided, remedied or mitigated.
Objective 6.2.5	Avoid or minimise conflict between different land use activities in rural areas.
Policy 6.3.12	Avoid or minimise conflict between differing land uses which may adversely affect rural amenity, the ability of rural land to be used for productive purposes, or the viability of productive rural activities.

Objective 6.2.1 seeks to ensure sustainable development of natural resources, in particular the productivity of rural land, and is supported by Policy 6.3.1 and Policy 6.3.2. As outlined in Section 8.3, the proposed Blueskin wind farm will reduce the availability of productive land of the legal land parcel on which the development will take place by less than 2%, but increase the economic productivity of the site for the landowners by way of the lease for the wind farm site. As such, the proposal is not considered to be inconsistent with Objective 6.2.1 or Policy 6.3.1 and 6.3.2.

Objective 6.2.2 seeks to maintain the amenity values of the rural area, with Policy 6.3.6 seeking to avoid, remedy or mitigate the impacts of structures on neighbouring properties. As outlined in Section 8.3, the visual effects of the wind turbines have been considered in relation to neighbouring dwellings and communities in the district, and it was determined that turbines are not visible from most of the nearby properties (<1.5km away), partially visible from roads and only typically fully visible at a distance. In relation to Policy 6.3.11, the establishment of a wind farm is not considered to be in conflict with the current landscape patterning which is complex and utilitarian in nature, and actual or potential effects are considered to be less than minor (see Section 8). Therefore, the Blueskin wind farm proposal is not considered to be inconsistent with Objective 6.2.2 or Policy 6.3.6 and 6.3.11.

Objective 6.2.5 seeks to minimise conflict between land use activities in rural areas, supported by Policy 6.3.12 that affect amenity or reduce productivity. As stated previously, land productivity will likely be enhanced due to the lease of the site by the wind farm, with normal grazing activities also allowed to continue with minimal loss of available land. In addition, the effect on amenity is considered to be less than minor (Section 8). As such, the proposal is not considered to be inconsistent with Objective 6.2.5 or Policy 6.3.12.

Landscape

The DCDP recognises landscape as an amenity value, particularly in relation to the coastal part of the city, and the need to conserve landscape value as part of quality of life.

The relevant objectives and policies of Section 14 are outlined as follows:

Objective 14.2.2	Ensure that the natural landscape characteristics of the coastal environment, wetlands, lakes, rivers and their margins are preserved and protected.
Policy 14.3.2	Identify and preserve the important characteristics that create the natural landscape character in the coastal environment, wetlands, lakes, rivers and their margins (as listed).

As stated previously, part of the wind farm land parcel is overlain by the North Coast Coastal Landscape Preservation Area (CLPA) defined by Section 14.5.2 (a) of the DCDP. The CLPA relates to Objective 14.2.2 and Policy 14.3.2 that seek to preserve and protect the landscape characteristics of the coastal environment. The wind turbines are expected to be located inland from the CLPA, and therefore any impacts on the CLPA are limited to visual impact, which has been assessed in Section 8 of this document, and effects are considered to be less than minor. As such, the proposal is not considered to be inconsistent with Objective 14.2.2 and Policy 14.3.2.

Overall, the proposed wind farm is consistent and aligned with the objectives and policies provided for in the operative Dunedin City District Plan.

9.7. Dunedin City District Plan (2015) - Proposed

The proposed DCDP second-generation plan (2GP, September 2015) includes the following objectives and policies that are of particular relevance to the Blueskin wind farm project:

- Section 5 – Network Utilities and Energy Generation (City-wide Activity);
- Section 10 – Natural Environment (City-wide Provisions); and
- Section 16 – Rural Zones (Management Zones).

Network Utilities and Energy Generation

The DCDP 2GP recognises the increasingly important role of renewable energy generation, and categorises these assets as “network utilities activities” in the new plan. Objective 2.2.2 encourages energy resilience through supporting the development of local renewable electricity generation in appropriate locations. Under the plan, the proposed Blueskin wind farm would be defined as “Wind Generators – Community Scale” as the scale of the activity does not exceed three wind turbines, each with a maximum height of 125m.

Objective 5.2.1, and the supporting Policies, seek to encourage the development of renewable energy generation and support activities that are undertaken in a manner that is appropriate for the zone where it occurs. Community-scale energy generation in the rural zone is considered as a restricted discretionary activity, while performance standards relating to noise and setbacks are also outlined. When considering the effects of the proposed activity (outlined in Section 8 of this document, the Blueskin wind farm is considered to be consistent with Objective 5.2.1 and the supporting Policies.



Natural Environment

The Objectives and associated Policies of the DCDP 2GP (10.2.1 to 10.2.5) seek to protect biodiversity and natural character, with a particular focus on areas of significant or outstanding character, landscapes or features. Section 8 of this document outlines that the land typing and natural character of the Porteous Hill site is not considered to have high ecological value, nor is it included as an area of significant or outstanding character/landscape. As such, the proposed activity is considered to be consistent with the Objectives

Rural

Section 16 of the DCDP 2GP (Rural) describes the large rural land area of Dunedin City, the potential conflict between non-rural and rural activities and the need to protect the productive capacity and landscape value of rural land. Objective 16.2.3 seeks to maintain rural character and amenity by using measures such as setbacks (Policy 16.2.3.1) from boundaries and ridgelines for activities. Objective 16.2.5 addresses earthworks in a manner that avoids or mitigates adverse effects (Policy 16.2.5.3). As described in Section 8 of this application, the effects of the installation and operation of the wind farm, and earthworks associated with site development are considered to be less than minor, and in keeping with the mix of activity in the rural zone. As such, the proposal is not considered to be inconsistent with the Objectives and Policies of the Rural management zone.

Overall, the proposed wind farm is consistent and aligned with the objectives and policies provided for in the proposed Dunedin City District Plan.

10. Resource Management Act

In considering this application the purpose of the Act should be taken as the primary point of reference. This purpose is contained in Section 5 of Part 2:

- (1) *The purpose of this Act is to promote the sustainable management of natural and physical resources.*
- (2) *In this Act, “sustainable management” means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural wellbeing and for their health and safety while-*
 - (a) *Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and*
 - (b) *Safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and*
 - (c) *Avoiding, remedying, or mitigating any adverse effects of activities on the environment.*

Applying Section 5 involves a broad overall judgement of whether a proposal will promote the single purpose of the Act and this allows a balancing of conflicting considerations in terms of their respective significance. The relevant considerations in this application are:

- The proposal will provide for the community's social, economic, and cultural wellbeing and for their health and safety through the provision of a renewable source of energy, and by supporting ongoing activities that contribute to increasing community resilience;
- The activity will not impact adversely on the life supporting capacity of air, water, soil and ecosystems;
- There are no significant adverse effects on the environment that cannot be avoided, remedied or mitigated;
- The activity is not considered to be located in an area of outstanding nor high natural character within the Coastal environment, and is recognised as an activity that supports the social and economic well-being of people and the community; and

Regard should be had to the efficient use and development of natural and physical resources (7b), maintenance and enhancement of amenity values and the quality of the environment (7c) and (7f), and the benefits to be derived from the use and development of renewable energy (7j). In that regard:



For the reasons contained within the AEE, the proposed Blueskin wind farm represents an efficient use and development of natural and physical resources because it will enable the local generation of renewable electricity near a major NZ urban area, reduce dependency on fossil fuel electricity generation and directly support the increase of community resilience. Amenity values and the quality of the environment will be maintained and any potential adverse effects on the environment are not considered to be significant and are acceptable for the location.

There are no matters of the Treaty of Waitangi from Section 8 that come into play.

Accordingly, having taken into account all of the relevant considerations in Part 2 that apply in this case, and having exercised a broad overall judgement, it is concluded that the proposed wind farm at Blueskin Bay promotes the purpose of the RMA.

11. NPS for Renewable Electricity Generation 2011

Relationship to the RMA

The NPS for Renewable Electricity Generation (NPSREG) 2011 “sets out an objective and policies to enable the sustainable management of renewable electricity generation under the Resource Management Act 2011”. The NPS for Renewable Electricity Generation 2011 took effect in mid 2011, with the objective “To recognise the national significance of renewable electricity generation activities by providing for the development, operation, maintenance and upgrading of new and existing renewable electricity generation activities, such that the proportion of New Zealand’s electricity generated from renewable energy sources increases to a level that meets or exceeds the New Zealand Government’s national target for renewable electricity generation”.

Policy implications for local government

The Government’s target for renewable electricity generation is 90 per cent from renewable sources by 2025. To achieve this target, the proportion of electricity generated from renewable sources must be significantly increased. The NPSREG required all Local Authorities to amend their planning documents within 24 months of the release of the NPSREG to give effect to the policies of the NPSREG. The Council is required to give regard to, and give effect to, the NPSREG through the decision making process under the RMA. As stated previously, the NPSREG, along with the District Plan, is deemed the most significant statutory document in the consideration of this application.

NPSREG Policy relevance to the Blueskin development

- **Policy A** requests that decision makers recognise and provide for the national significance of renewable electricity generation activities, including local benefits. This proposal has all the benefits listed in the policy. However two of the benefits listed are particularly relevant to this proposal and notably set it apart from generic renewable projects. Firstly, because the electricity generated from the wind farm is to be fed straight into the local distribution network, the security of electricity supply at the local level will be enhanced by the diversification of supply. Secondly, wind farms are relatively easy to decommission when compared to other forms of electricity generation. Thus, the reversibility of any effects on the environment is a positive feature of this project. This policy is particularly relevant to the Blueskin development.

- **Policy B** requests that decision makers acknowledge the practical implications of achieving the renewables target and states that significant development of renewable electricity generation activities will be required. As a consequence of this policy, it is BEL's belief that projects that have minimal environmental effects should be given priority. As will be evident from the discussion on environmental effects in Section 8 of this application, BEL believes that this is an appropriate wind farm development to assist in achieving the Government's target.
- **Policy C and C2** request that decision makers acknowledge the practical constraints of developing new generation, and encourages decision makers to look to offsetting for any adverse impact resulting from the development. Of particular relevance to this proposal is the need to locate the renewable electricity generation activity where the renewable energy resource is available, and close to the location of existing infrastructure such as the distribution network. The Blueskin wind farm is located so as to connect to existing transmission infrastructure, utilise existing roading, and take advantage of a high quality wind resource in an efficient way by minimising transmission losses due to its close proximity to a significant population centre.
- **Policy E3** requires the NPS to be incorporated into appropriate plans such as the District Plan.
- **Policy F** is the most relevant policy to the Blueskin development, and it requests that decision makers "provide for the development [...] of small and community-scale distributed renewable electricity generation from any renewable energy source". It seeks to reduce unnecessary barriers to obtaining resource consent for such developments. This project is at a scale consistent with a "small and community scale renewable electricity generation project". Given its minimal environmental impact, enabling its development would give effect to the NPSREG.

Overall, the Blueskin wind farm proposal is considered to be consistent with the policies of the NPS for Renewable Electricity Generation.

12. Conclusion

This report has been prepared to accompany the application by the Blueskin Energy Limited establish, operate and maintain a community wind farm at Porteous Hill, Blueskin Bay.

Based on the assessment and consultation process, the effects of the proposal can be summarised as follows:

- There are a number of significant positive benefits of the proposal (local and national) relating to the establishment and ongoing secure funding of community support activities, a new renewable energy generation source in Dunedin assisting local security of supply, avoidance of greenhouse gas emissions, regional development and the development of a 'role-model' project with potential to scale nationally and internationally;
- The landscape and visual impact has been assessed in the context of the wind farm site being within the rural zone. The scale of the landscape and its previous substantial modification for farming activities, mean that the development of the wind cluster will not adversely affect the values of landscape, and has been assessed to contribute to the legible and no nonsense land cover and land use of the character of the hill and surrounding slopes;
- Sound levels from the wind cluster will meet applicable national standards and District Plan standards to the nearest existing dwelling;
- The site development works, in particularly earthworks, will have effects that are considered less than minor;
- The wind farm is to be developed on a site that is not considered to be ecologically significant and the infrastructure will have no direct effects because of the lack of natural habitat currently present at the site;
- There are no sites of archaeological or cultural significance that would be adversely affected. Kāti Huirapa Runaka has been engaged with throughout the evolution of this project and are valued as a close community partner for this project;
- The effects of transportation and construction on the public road users will be minor and mitigated using appropriate traffic management planning, agreed with authorities prior to construction;
- The effects of any electrical transmission connection to existing infrastructure will be minor, as the connection distance is relatively short and most infrastructure will be underground and/or not visible.

For the reasons outlined in the AEE, the actual and potential effects of the Blueskin wind farm are either minor, or can be appropriately avoided, remedied or mitigated, and appropriate in the context of activities already occurring on site. It follows that the proposal is considered to be consistent with the relevant, policies and assessment matters of the Resource Management Act and its supporting documents. Given the significant community support for this project, resource consent is sought to allow the project to proceed.



Appendix A - Certificate of Title



Appendix B - Community Consultation Documentation



Appendix C - Landscape Assessment Report and Appendices



Appendix D - Acoustic Assessment Report



Appendix E - Ecological Assessment Report



Appendix F - Transportation Report