

SUBMISSIONS



DUNEDIN CITY
COUNCIL
Kaunihara-a-rohe o Otago

SUBMISSION FORM 13

Submission concerning resource consent on publicly notified application under section 95A

Sections 95A, Resource Management Act 1991

Submission Pg 51



To: Dunedin City Council, PO Box 5045, Moray Place, Dunedin 9058

Resource Consent Number:

LUC-2015-469

Applicant: Blueskin Energy Limited

Site Address:

147 Church Road, Merton

Description of Proposal:

Establish a community wind farm comprising three turbines

I/We wish to lodge a submission on the above resource consent application:

Your Full Name: ALAN ROBERT + WENDY ISOBEL CHAPMAN

Address for Service (Postal Address):

Post Code: 9071

Telephone:

Facsimile:

Email Address:

I: **Support/Neutral/Oppose** this Application I: **Do/Do Not** wish to be heard in support of this submission at a hearing

If others make a similar submission, I will consider presenting a joint case with them at a hearing.

(Delete the above statement if you would not consider presenting a joint case at a hearing)

Please use the back of this form or attach other pages as required

The specific parts of the application that this submission relates to are:

OUR SUBMISSION RELATES TO ALL PARTS OF THIS
RESOURCE CONSENT APPLICATION.

My submission is [Include the reasons for your views]: THAT THIS APPLICATION BE DECLINED

AS WE DO NOT BELIEVE THE WIND FARM IS REQUIRED AND
CERTAINLY NOT IN WARRINGTON. WE DO NOT BELIEVE THIS
WILL BENEFIT THE LOCAL COMMUNITY IN ANY WAY.
WE ALSO UNDERSTAND THAT THIS GROUP CARRIED OUT THEIR
OWN FEASIBILITY STUDY ON THIS PROJECT AND THAT
STUDY DID NOT SUPPORT PROCEEDING WITH THE PROJECT.
THE APPLICATION ALSO SUGGESTS THAT THERE WAS COMMUNITY
CONSULTATION HOWEVER I WOULD DISPUTE THIS AS WE
ONLY EVER RECEIVED ONE NOTIFICATION OF A COMMUNITY
MEETING IN WARRINGTON BACK IN 2011 OR 2012.

The decision I wish the Council to make is [give precise details, including the parts of the application you wish to have amended and the general nature of any conditions sought]:

WE WISH THE COUNCIL TO DECLINE THIS APPLICATION
IN FULL

Signature of submitter:

(or person authorised to sign on behalf of submitter)

Date: 29/11/15

Notes to Submitter:

Closing Date: The closing date for serving submissions on the Dunedin City Council is **Wednesday 2 December at 5pm**. A copy of your submission must be served on the applicant as soon as reasonably practicable after the service of your submission on the Dunedin City Council. The applicant's address for service is 1121 Mount Cargill Road, RD 2, Waitati 9085.

Electronic Submissions: A signature is not required if you make your submission by electronic means. Submissions can be made online at <http://www.dunedin.govt.nz/rma> or sent by email to planning@dcc.govt.nz

Privacy: Please note that submissions are public. Your name and submission will be included in papers that are available to the media and the public. Your submission will only be used for the purpose of the notified resource consent process.

Subject: Resource consent LUC-2015-469

From: [REDACTED]

Date: 2/12/2015 6:30 a.m.

To: planning@dcc.govt.nz

I am writing to lodge a submission on LUC-2015-469.

My name and address

Charles A. Landis, [REDACTED]

I oppose this application. I do not want to be heard at hearing.

I oppose the application.

I am specifically concerned about high visibility of hill-top installation, associated sound, flashing reflections, and unintended bird kill.

My submission--

I am broadly in favour of wind generation of electricity and have visited wind farms elsewhere in NZ and also in USA:-- Unfortunately, this proposed installation would be sited much too near to residences (particularly the Warrington and Seacliff communities) and to a very scenic coastal situation. The turbines would dominate the landscape and have an audible as well as visual effect. They would also pose a threat to bird populations.

I wish the applicatiion to be declined.

Charles A. Landis

2 Dec 2015

Dear Scott,

This is a hard one! unfortunately I must object.

Chuck

From: Andrew Barratt
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 27/11/2015 2:58:20 p.m.
Subject: Resource consent application submission - 526518

This resource consent application submission has been made via the Council website on **27 Nov 2015 2:57pm**. The details are listed below.

Personal information

Name Andy Barratt

Address [REDACTED]
[REDACTED]

Fax n/a

Email address [REDACTED]

Submission details

Consent number LUC-215-469

Position I oppose this application

Wish to speak? Yes

Present jointly to hearing? Yes

Parts of application that

submission relates to Activity Status; Precedent Effect; Environmental Impact

Reasons for submission Whilst I support the overall principles and objectives the Blueskin Community Resilience Trust, I have substantial concerns about the proposed windfarm development. I will cover these under three headings. (1) Activity Status. The proposal describes this as a "Community Support Activity". I contend that windfarm project itself hardly fits this classification. In effect, this is a venture which differs from a commercial enterprise only in the end-use of any money it might generate in the long term. As far as the environmental and other impacts are concerned, I contend that the community benefits claimed in the consent application are irrelevant. (2) Precedent effect. The consent application refers specifically to the potential precedent that would be set if approval is granted in this case. Although this is cast in a positive light in terms of a "community support activity", there are good reasons to consider the precedent effect more carefully. First, this would create the precedent of allowing the location of a windmill within 500 metres of a dwelling. The implications in terms of noise and danger in the case of malfunction or accident are obvious. Second, if this project goes ahead there would appear to be no mechanism to prevent a proliferation of such windfarms in the rural zone. At present the DCC includes some provisions about small-scale windfarms in its Second Generation District Plan. This document is out for consultation

at present and is likely to generate considerable public comment. Whilst the panel considering this application is obliged to take the 2GP into account, I would urge that they exercise caution with regard to the current formulation of that part of the proposed District Plan. (3) Environmental Impact. The Porteous Hill site sits within the recently notified Hazard Zone, level 2, for land instability. Policy 11.2.1.5 of the notified 2GP states: "In the hazard 2 overlay zones only allow the establishment of sensitive activities where the scale, location and design of the activity or other factors mean risk is avoided or is no more than minor". The list of sensitive activities includes "Commercial activities". This windfarm is a commercial activity. It would, in any case, seem to defy common sense to consider the erection of three large towers in a zone where the community has been told, in public meetings with DCC staff, that the intention is to allow only very modest structures and minimal disturbance of earth. I could find no reference to the hazard zoning in my reading of the proposal, which would be a major oversight. Apart from the issue of land instability, there are also hydrological implications of the work involved in providing foundations for the windmills. My understanding is that the proposed site is the source of spring water which supplies water to neighbouring properties for both domestic and farming use. At the very least, this proposal would need to be supported by expert evidence that these rural activities would not be put at risk by the proposed development, which would contravene the existing and proposed District Plans.

Desired decision Turn down the proposal



**DUNEDIN CITY
COUNCIL**
Kaitiaki Take Kōwhiri o Dunedin

SUBMISSION FORM 13

Submission concerning resource consent on publicly notified application under section 95A

Sections 95A, Resource Management Act 1991

To: Dunedin City Council, PO Box 5045, Moray Place, Dunedin 9058

Resource Consent Number:

LUC-2015-469

Applicant: Blueskin Energy Limited

Site Address:

147 Church Road, Merton

Description of Proposal:

Establish a community wind farm comprising three turbines

I/We wish to lodge a submission on the above resource consent application:

Your Full Name: ALASDAR CAMPBELL MORRISON

Address for Service (Postal Address): P.O. BOX 116, WAITATI 9069

Post Code: _____

Telephone: 03 482 2505

Facsimile: MOBILE - 0274 354 384

Email Address: INFO@CALMARINE.CO.NZ

I: **Support/Neutral** ☒ **Oppose** this Application I: **Do** ☒ **Do Not** wish to be heard in support of this submission at a hearing

If others make a similar submission, I will consider presenting a joint case with them at a hearing.

(Delete the above statement if you would not consider presenting a joint case at a hearing)

Please use the back of this form or attach other pages as required

The specific parts of the application that this submission relates to are:

ALL OF IT

My submission is [include the reasons for your views]:

PLEASE REFER TO THE ATTACHED DOCUMENTS -

"A. C. MORRISON SUBMISSION NOTES LUC 2015 469"

The decision I wish the Council to make is [give precise details, including the parts of the application you wish to have amended and the general nature of any conditions sought]:

I WISH YOU TO DECLINE THE APPLICATION

Signature of submitter:

(or person authorised to sign on behalf of submitter)

Date:

1/12/2015

Notes to Submitter:

Closing Date: The closing date for serving submissions on the Dunedin City Council is **Wednesday 2 December at 5pm**. A copy of your submission must be served on the applicant as soon as reasonably practicable after the service of your submission on the Dunedin City Council. The applicant's address for service is 1121 Mount Cargill Road, RD 2, Waitati 9085.

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Privacy: Please note that submissions are public. Your name and submission will be included in papers that are available to the media and the public. Your submission will only be used for the purpose of the notified resource consent process.

Dunedin City Council
P.O. Box 5045
Moray Place
Dunedin 9058

1st December 2015

Submission Regarding Resource Consent No. LUC-2015-469 “Establish a community wind farm comprising three turbines”

This submission addresses four main areas of the applicant’s proposal, namely:

- Visual
- Inadequate consultation
- Community ownership/benefit?
- Financial and actual viability

In this submission I make no comment about general issues surrounding various forms of electrical generation, nor do I comment here on any past achievements of the Blueskin Resilient Communities Trust.

I intend to focus on the proposal to erect three large wind turbines on Porteous Hill in full view of our property at 23 Thornicroft Road.

Visual

I moved from Auckland to my current dwelling overlooking Doctors Point around thirty one years ago. One of the main reasons for moving here was the view from my house and garden, where Porteous Hill dominates the landscape across Blueskin Bay.

In this current application there are many descriptions relating to these structures. It seems that, to those involved in compiling this rather lengthy application, wind turbine towers are ‘graceful sculptural structures’. To others, they can be considered an eyesore, particularly when erected in front of one’s dwelling. I fit into the latter category.

From Page 30 of The Application : *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.*

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 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.

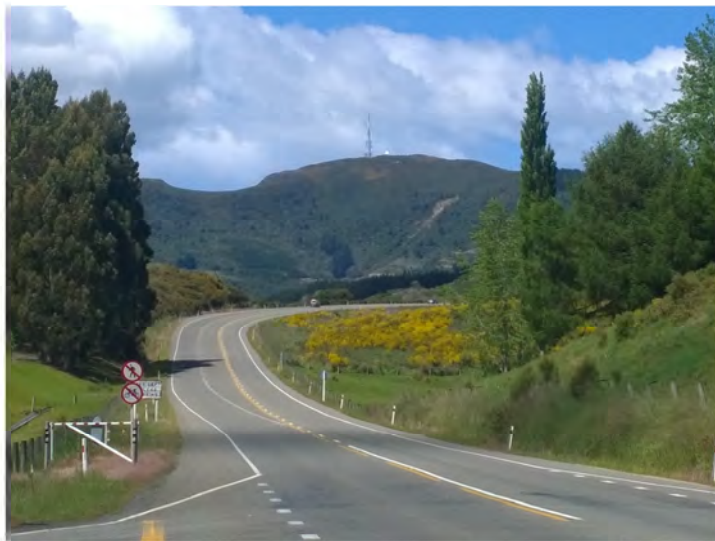
From Page 31 of The Application : *The wind farm turbines will introduce a new aspect that is considered to be an elegant and meaningful addition to this landscape. It will not conflict with the traditional landscape patterning, whilst maintaining its integrity.*

There is a great deal of long-winded and rather flowery waffle in this application and I will address the sentence marked *** later.

One of the most prominent items on the Dunedin landscape is the transmission mast on Mount Cargill.

It is clearly visible from Dunedin city, as well as from much of the north coast area.

This photograph is taken from the junction of Waitati Valley Road and State Highway 1.



The transmission mast on Mount Cargill is 104.5 metres in height, very close to the suggested height of 102 metres for the Porteous Hill turbines.

In Appendix C3 of The Application, quite an effort has gone in to suggesting that the three wind turbines will not have an adverse visual impact. I would suggest otherwise. The photographs below, taken from my place, show that Porteous Hill is a dominant feature of the landscape.



The installation of three wind turbines, of similar height to the transmitter mast on Mount Cargill, but each with three large blades attached, would have a more than minor negative effect on the Blueskin Bay landscape.

In the current Dunedin City District Plan we have the following statement:-

"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"

Having regard for the above, it is my contention that the proposed three turbine wind farm would be a blot on the landscape and therefore against the intent of the current District Plan.

Consultation

I have been a resident of Waitati for 31 years, and a member of the Waikouaiti Coast Community Board for a little over half of that time.

The first I heard of the proposal to erect a three turbine wind farm on Porteous Hill was when I (and other Community Board Members) received an email from Dunedin City Council Planner John Sule on 3rd November this year.

Some years ago there was talk of a small single blade turbine to be located somewhere in the area and, in August 2011, the applicant made a submission to the Community Board asking for funds to assist with advertising posters for community discussions about a 'Wind Cluster'. [Some funding was granted]

In The Application there is much mention of 'community consultation'. It is interesting that, in Section 1.3, mention is made of "1,000+ Blueskin homes", yet the numbers of people involved in meetings and feedback are very small. There is mention of leaflet drops to all households. I didn't get one, nor did I get a visit to check on the potential impact on my view.

On 19th November 2015, after this Resource Consent was publicly notified, a meeting had been called by concerned residents and approximately seventy local folk arrived at Warrington Hall. A report from the meeting was reported in the Otago Daily Times and it seems that this three turbine project was rather vehemently opposed and a number of questions were not answered by the applicant.

It is interesting to note that, on the following week, there was a 'Letter to the Editor' emanating from the applicant's residence. The tone of the letter, far from answering questions posed at the meeting, suggests that this three turbine wind farm proposal may be more a part of a political process, rather than a realistic and viable project.

Note: The Otago Daily Times article and letter to the editor are included here as Appendix 1.

On page 44 of The Application the last sentence is - *"Given the significant community support for this project, resource consent is sought to allow the project to proceed".*

I would suggest that there is not significant community support for this project.

Community Involvement/Ownership/Benefit

a) In The Application there is much mention of such things as 'Community Ownership', 'Benefit to the Community' and the likes, but there is no actual detail as to how this could, or would, be achieved.

On the first page of my submission I highlighted the following sentence :

*** *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.*

I have studied English to a fairly high level but I struggle to see how that statement gives any detail about local ownership.

b) On page 14 of The Application, the first sentence has "*The Blueskin Wind Farm will return an annual dividend to Blueskin Energy Ltd's sole shareholder, the Blueskin Resilient Communities Trust*".

It is interesting to note that the Blueskin Resilient Communities Trust's only full-time paid employee is the applicant himself. Some detailed questions need to be asked to explore this further.

Financial and Actual Viability

When we strip back all the flowery rhetoric and look at the actual nuts and bolts of this application we have to ask some questions.

a) It is stated that the project will cost six million dollars [NZ\$6,000,000.00], yet it will only have a lifespan of twenty years. It is not clear from where that funding will come, nor how much of a return the 'investors' will require, nor how much of a dividend will be returned to the Blueskin Resilient Communities Trust, nor how 'the community' would benefit financially.

Some detailed questions have to be asked regarding this, and also the resilience and ongoing viability of the Trust itself.

b) Is this three turbine wind farm actually needed? The answer to that is in the negative. If, as seems likely, Rio Tinto were to close the Tiwai Point Aluminium Smelter - which consumes 15% of this country's electricity - then there would be a large surfeit of hydro-electric power availability at some stage in the not too distant future.

c) Is this proposed wind farm a practical reality, or is this just a political opportunity for the applicant's Blueskin Resilient Communities Trust to promote itself?

Summary

Having regard for all of the foregoing information I request that this application to establish a wind farm on Porteous Hill should be declined.

I also request that the applicant's request for a ten year Lapse Period should also be declined.

I wish to be heard in support of my submission when a hearing is convened to consider this application for a Resource Consent.

Alasdair Morrison
23 Thornicroft Road
Waitati

APPENDIX 1

1. Report from digital edition of Otago Daily Times - 20th November 2015
2. A letter to the editor, Otago Daily Times 26th November 2015, attributed to the wife of the applicant

Publication:Otago Daily Times;**Date:**Nov 20, 2015;**Section:**INSIDE ONE;**Page Number:**3

Wind farm dissent vented

By TIMOTHY BROWN

THE winds of change were met by local turbulence at a meeting on the proposed Porteous Hill wind farm.

About 70 people attended the meeting in Warrington organised by the Porteous Hill Landscape protection group last night and growing applause greeted each dissenting voice heard towards the end of the two-hour session.

Affected residents pointed to the three-turbine farm's potential effect on local birds, the Waitati landscape and farmland when speaking of their opposition to the proposed \$5 million-\$6 million project. Resident Lyndon Clayton described the proposed site as "bloody fragile". "It's not Taieri land, it's not Central Otago land, this is movement land," he said. "I'm dismayed this is even being proposed on that site." Murray Cumming said the turbines could affect the viability of farming on the hill. Springs and waterways on the hill were used for stock and household supply and any interference "wrecks the resilience of the community instead of increasing it", he said.

Another resident, Jamie Pickford, said he chose to live in the area because of its beauty and the potential visual impact of the wind farm was concerning.

"What's it going to be like with those three turbines up there?" he asked.

Jennifer Ashby said her concern lay with the wildlife in the area.

"I'm a bird lover and we live on a hill where you see falcons regularly," she said.

"I don't want you to kill them with these turbines.

"If you try and put those turbines up there, I will tie myself to them."

Earlier, Blueskin Energy project manager Scott Willis attempted to quell some of the concerns of residents, but he conceded he could not provide all the answers to the questions posed because of commercial sensitivities.

He told the audience Blueskin Energy was already in contact with a potential buyer for the energy produced by the farm and any profits generated would be reinvested into the community in a similar manner to the Central Lakes Trust.

Only three turbines would ever be built on the site under the proposed consent conditions, he said.

Submissions on the proposed wind farm close on December 2.



Airing their views . . . Blueskin Energy project manager Scott Willis (left) and meeting adjudicator Suzanne Robbins (centre) listen to a question during a community meeting at the Warrington Memorial Hall last night about Blueskin Energy's proposed wind farm on Porteous Hill. PHOTO: LINDA ROBERTSON

Publication: Otago Daily Times; Date: Nov 26, 2015; Section: EDITORIAL; Page: 12

Wind farm meeting questions

REGARDING your stories on the Blueskin Energy wind farm and the public meeting called to oppose it (22, 23 and 24.11.15), I submitted the public meeting on Thursday. Although the chairwoman's opening remarks were excellent, I thought she did a very fair job of trying to keep questions to the point, and to rein in attacks. However, once the floor was given over to only those identifying as concerned landowners, fair discussion fell away. There was no right of reply, no opportunity to either address fears or misinformation, or to ask questions. I had many questions. On reflection though, these are the ones I would really like answered, if someone from the anti-wind project lobby is willing to drop their anonymity and do that?

1. Do you hope your public campaign will help stop the spread of small-scale wind farms throughout New Zealand?
2. Do you think, Oil Free Otago members, that aligning with deep-sea oil drilling supporters will damage your credibility in opposing deep-sea oil drilling off the Otago coast?
3. Do you hope this public campaign against wind energy will help prevent the wider uptake in the race to switch from fossil fuels to renewables?
4. Do you hope that opposing wind energy will help prevent global warming and save threatened species, including our own?

This debate is not simply about one small wind project. One of the hopes the supporters of the wind project have is that this project will seed other grass-roots, small-scale generation across the country; small communities disenchanted with government apathy, taking climate action ourselves.

Please consider the repercussions of your stance.

Jenna Packer
Waitati

Talei Anderson

From: [REDACTED]
Sent: Saturday, 14 November 2015 01:40 a.m.
To: planning@dcc.govt.nz
Subject: Resource consent application submission - 525344

This resource consent application submission has been made via the Council website on **14 Nov 2015 1:40am**. The details are listed below.

Personal information

Name Anake Goodall

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number Wind Farm - 147 Church Road - LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that submission relates to I support the entirety of this application, including the self-imposed conditions proposed by the applicants.

Reasons for submission I hold and have held a number of positions relevant to this application: - current Chairman of the Ākina Foundation - director Meridian Energy - Resource Management Act: Making Good Decisions qualified - director of PledgeMe Limited - Establishment Board Member, and past Member, of the Environmental Protection Authority - former Chief Executive Officer of Te Rūnanga o Ngāi Tahu From all of these perspectives I consider the current Blueskin application to be both appropriate and desirable. It represents an early example of the low carbon, localised energy production and locally-funded, owned and operated energy generation facility that will make up an increasing share of our collective energy future. This is a beacon project of which the wider Otago community should be very proud. The nation needs these early projects to proceed as exemplars of the technologies and approaches that are already available to us. They are our future.

Desired decision I request the Council to: a) grant this consent, as lodged b) adopt the conditions proposed by the applicant c) implement an 'adaptive management' approach to any uncertainties associated with the application, so that learnings from the implementation of the project can inform its subsequent operation d) recognise that the applicant is a resource-constrained community and reflect this in any conditions attached to the consent, i.e. ensure that they are reasonable and practicable in the circumstances. Thank you.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 29/11/2015 8:12:33 p.m.
Subject: Resource consent application submission - 526661

This resource consent application submission has been made via the Council website on **29 Nov 2015 8:12pm**. The details are listed below.

Personal information

Name Alyth Grant (for ONHT)

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I am neutral towards this application

Wish to speak? Yes

Present jointly to hearing? Yes

Parts of application that

submission relates to Appendix E Environmental impact statement

Reasons for submission The Otago Natural History Trust is, through the Orokonui Ecosanctuary, part of the Blueskin community, and is generally supportive of renewable energy projects. Indeed, our Visitor Centre on Blueskin Road is an example of such a project, deriving much of its power from solar energy. We share with the Blueskin Energy project the goal of sustainability. For that reason we would seek an ongoing discussion with the community. Our submission is directed primarily at the environmental impact assessment (Appendix E) of the application. The ONHT's primary responsibility is for the Orokonui Ecosanctuary and the welfare of the birds living there. For our birds – with the exception perhaps of the kaka – which are known to fly across to the northern side of Blueskin Bay – there is probably little to be feared from three wind turbines. But as an organisation concerned with the health and protection of the environment, our interest extends beyond the fence around our 307 hectares to the wider avian environment of which the ecosanctuary is part. The application's assessment of the effects of the wind farm on birds considers potential habitat loss and the possibility of bird strike, coming to the conclusion that any adverse environmental effects would be minor or less than minor. We recommend a study of the use made of the area by birds be carried out, as only limited anecdotal evidence is available at

present. Birds potentially affected by the turbines include the following:

- Falcons have been observed around Porteous Hill, just as they are seen around the Orokonui Ecosanctuary. But it is not known where their local nesting sites may be. Porteous Hill may well be one.
- The Blueskin area is also known as an important area for considerable populations of seabirds and coastal birds: godwits, blackbilled gulls, pied and variable oystercatchers, sooty shearwaters, all of which have protected status. The possibility of birds being attracted to the lights attached to the turbines requires further investigation. Lights are a factor not present in the only bird strike figures (for the Mahinerangi wind farm) locally available. The coastal site of the current proposal presents a quite different set of issues from the inland Mahinerangi site. A study of the risk to birds should be carried out by ornithologically qualified specialists. The time required for such a study, involving regular bird-counts and behavioural observations, could be up to two years. Such work needs to be done before any construction begins. We are aware that technical developments in wind turbine design are ongoing. Should the resource application be consented, we would ask that the best possible design is selected on the basis of published research and advice on minimising bird strike.

Desired decision Approve with conditions

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 1/12/2015 3:35:07 p.m.
Subject: Resource consent application submission - 527134

This resource consent application submission has been made via the Council website on **01 Dec 2015 3:35pm**. The details are listed below.

Personal information

Name Arthur John Grooby

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that

submission relates to The full application for the construction and operation of a community wind farm.

Reasons for submission This is a community lead project that will strengthen the energy and financial independence of Blueskin Bay. There has been nine years of dialogue and preparation to get to this point. The consent application has been carefully and thoughtfully prepared. The thorough Assessment of Environmental Effects that accompanies the application contains expert reports addressing all the key concerns that have been raised. The project will provide a net benefit for the community of Blueskin Bay through the action of the Blueskin Resilient Communities Trust. The positive visual impact as a symbol of renewable energy and low carbon community action Noise falling within New Zealand Standard NZS 6808 (see appendix D) Minor or less-than-minor adverse ecological impact, after all potential risks have been considered Contribution to reducing greenhouse gas emissions from local electricity generation and transmission

Desired decision I request that the Council grants this resource consent application, adopts the conditions proposed by the applicant, and works with the applicant to address any outstanding issues, noting that this is a community-initiated and led project from a resource-constrained organisation that is recognised as a NZ exemplar of

community engagement and action.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 19/11/2015 6:30:08 a.m.
Subject: Resource consent application submission - 525726

This resource consent application submission has been made via the Council website on **19 Nov 2015 6:30am**. The details are listed below.

Personal information

Name Alistair Paterson

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I oppose this application

Wish to speak? No

Present jointly to hearing? Yes

Parts of application that

submission relates to Location of turbines on skyline.

Reasons for submission Visual degradation of natural landscape

Desired decision Refuse consent

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 22/11/2015 7:43:28 p.m.
Subject: Resource consent application submission - 525914

This resource consent application submission has been made via the Council website on **22 Nov 2015 7:43pm**. The details are listed below.

Personal information

Name anna lise seifert

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number 90396

Position I support this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that submission relates to 3 windmills

Reasons for submission to use natural resource to create electricity

Desired decision to give consent to this project

From: [REDACTED] <[REDACTED]@dcc.govt.nz>
Date: 1/12/2015 8:57:11 a.m.
Subject: Resource consent application submission - 526951

This resource consent application submission has been made via the Council website on **01 Dec 2015 8:57am**. The details are listed below.

Personal information

Name Alfie West

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that

submission relates to The application as a whole.

Reasons for submission As a resident of the Blueskin area, I wholeheartedly support this venture. I was cheered by the council's recent climate change resolutions -- it's great to see our city taking a lead in reducing greenhouse gas emissions. The proposed Blueskin wind farm will help demonstrate Dunedin City's commitment to move towards a renewable energy future. I'm one of those people who see windmills as things of beauty. I believe that the applicant has researched this project diligently and has fully considered the minimal environmental impacts involved. This innovative scheme will continue to provide benefits to the local community by supporting the good work being carried out by the Blueskin Resilient Communities Trust. Let's make this community-owned windfarm happen. Thank you.

Desired decision I urge the Council to grant this consent, with the conditions proposed by the applicant.



DUNEDIN CITY
COUNCIL
Kaitiaki Take Kōwhiri o Dunedin

SUBMISSION FORM 13

Submission concerning resource consent on publicly notified application under
section 95A

Sections 95A, Resource Management Act 1991

To: Dunedin City Council, PO Box 5045, Moray Place, Dunedin 9058

Resource Consent Number:

LUC-2015-469

Applicant: Blueskin Energy Limited

Site Address:

147 Church Road, Merton

Description of Proposal:

Establish a community wind farm comprising three turbines

I/We wish to lodge a submission on the above resource consent application:

Your Full Name: DENIS JOHN ALBERT

Address for Service (Postal Address):

Facsimile:

Email Address:

I: Support/Neutral/~~Oppose~~ this Application I: Do/Do Not wish to be heard in support of this submission at a hearing

If others make a similar submission, I will consider presenting a joint case with them at a hearing.

(Delete the above statement if you would not consider presenting a joint case at a hearing)

Please use the back of this form or attach other pages as required

The specific parts of the application that this submission relates to are:

All of the Documentation supplied.

My submission is [include the reasons for your views]:

See Attachment

DCC

- 9 NOV 2015

Business Information

The decision I wish the Council to make is [give precise details, including the parts of the application you wish to have amended and the general nature of any conditions sought]:

REFUSE TO GRANT THE RESOURCE CONSENT

Signature of submitter:

(or person authorised to sign on behalf of submitter)

Date:

5/11/15

Notes to Submitter:

Closing Date: The closing date for serving submissions on the Dunedin City Council is **Wednesday 2 December at 5pm**. A copy of your submission must be served on the applicant as soon as reasonably practicable after the service of your submission on the Dunedin City Council. The applicant's address for service is 1121 Mount Cargill Road, RD 2, Waitati 9085.

Electronic Submissions: A signature is not required if you make your submission by electronic means. Submissions can be made online at <http://www.dunedin.govt.nz/rma> or sent by email to planning@dcc.govt.nz

Privacy: Please note that submissions are public. Your name and submission will be included in papers that are available to the media and the public. Your submission will only be used for the purpose of the notified resource consent process.

Submission of Denis John Albert
on the Blueskin Energy Limited application for Resource consent to
establish and run a Wind Farm on Porteous Hill, Blueskin Bay

Classification as "community Support Activity"

Under the definition given in the application the proposed activity falls into none of the classifications listed. It is simply an industrial activity and use of land, to produce electricity.

The hearing should proceed on the basis that the activity in question is industrial.

Need for Wind Farm

There is no requirement for extra electricity generation in the Dunedin area for any of the reasons put forward.

Electricity in the South Island is not in short supply, and Blueskin Bay's requirements are not under any threat. There is currently approval for a wind farm at Lake Mahinerangi of up to 100, 3 megawatt turbines, of which 11 have so far been commissioned. This development alone will take care of future increases in demand. The output of a single turbine at Lake Mahinerangi will be greater than all three turbines proposed for Porteous Hill.

Security of supply for Blueskin Bay has never been more resilient. The new feeder line down Manse road, and "Swan proofing" of the line across Blueskin Bay has ensured that. Additionally this summer there will be a new substation at Manse road to ensure backup to the Waitati substation.

There will be **no** decarbonisation of the Blueskin Bay(or South Island) electricity supply due to this proposal. Currently the South Island electricity supply is 98% hydropower and 2% wind power. There are no thermal plants in the South Island of any significance. The only significant non-renewable power generation occurs in the North Island which is itself a net importer of electricity from the South Island.

The BRCT seeks an investment strategy to generate income to underpin its activities. The Strategy does not need to include this investment in a wind farm; indeed this activity would appear to be well outside of the skill/experience base of the BRCT. It also appears that funding for the investment strategy is non-existent. Without funding for the project, the resource consent application is frivolous, a waste of time for all involved. Is it really going to take 10 years to get funding for what is a very small project? This is what the applicant is suggesting that Blueskin Energy Limited will require in terms of the resource consent.

There is no requirement for a wind farm in Blueskin Bay.

Sustainability

There is a lot of talk about sustainability in the application and its supporting documents, but how real is this?

Fundamentally, this project is a tradeoff between the vested interests of the BRCT, in ensuring its own survival, and the vandalisation of the landscape of Blueskin Bay. It is the 1,500 or so residents of

Blueskin Bay who will have to put up with the adverse effects the most, and a very small group, the BRCT and its camp followers, who will benefit.

In the process they will make a "novel introduction to the landscape" (P9 landscape report), which by its very novelty is not compatible with the existing landscape. The introduction of an industrial activity into a farming/lifestyle/coastal landscape does not enhance it, it destroys it forever.

The applicant is apparently not satisfied with the existing landscape, even though it is protected under the North coast preservation area designation, but waxes lyrical on the virtues of introducing "graceful sculptural structures" (P9 landscape report) into this protected zone.

The applicant is also dismissive of the existing landscape values of the NCCLPA saying that Porteous Hill does not have a natural appearance but has been modified by human activity. Yet it was this very same human modified landscape that council has protected under the NCCLPA, indicating that the community at large values the existing landscape.

And the key word in the North Coast central Landscape **Preservation** Area is the word "**Preservation**". Which means to keep in its present state, as valued by the community.

If this proposal is allowed to proceed in this zone, then no other part of the coastal zone is safe from developments of this sort. The whole of the Otago peninsular is ideal for wind farm development, if it is allowed by Council.

The applicants proposal is clearly unsustainable.

Community Support

The applicant has provided volumes of material to show the extent of the community support for BRCT and the wind turbine project. This started in September 2006, so what has been presented is **nine years of effort** to get the community support needed.

What is abundantly clear is that there is **no widespread support** for either the BRCT or the wind turbine project. In the table on page 18 of the application, only 137 participated in the 5 surveys conducted. Perhaps it was the same 27 people each time? Some of the surveys note that the participants were not representative of the total population (1,500) of Blueskin Bay. In any case the numbers surveyed are tiny compared to the total population of the Bay, and are highly skewed towards those with links to the BRCT, and their camp followers.

Most if not all of the residents of Blueskin Bay have a LIFE. They do not feel predisposed to go to meetings on subjects they have little interest in, or interact with a fringe group of the community pursuing agendas that they don't agree with.

Any claim by the BRCT that they have widespread community support, either for themselves or for the wind turbine project will need to be backed up by a far greater weight of evidence than has been presented to date.

If this is the level of support garnered after nine years of effort, then the project does not deserve Councils support by way of the resource consent sought.

Landscape report

This report is not so much an objective assessment of landscape values, but a personalised view of the assessor. It also fails to include the special position of the residents of Blueskin Bay, those who will ultimately be left with the consequences of the proposed windfarm.

The landscape views are assessed from the viewpoint of the travelling public, from public land. However the residents don't live on public land, but generally own their houses/farms/lifestyle blocks. This changes the way that the landscape is perceived by the residents, as opposed to people passing through. This important perspective has been ignored in this study, and no attempt was made to actually find out what any of the residents thought about the landscape, the project and the impact on the landscape from the residents point of view.

Instead assumptions have been made, and prescriptions abound through the document, leading to a consistently patronising tone. Time and again the reader is told that the turbines "will read" or "will be perceived" as this or that. "we will get used to it when they are installed"!!! (will we have any choice I wonder?) "Turbines will appear as significant sculptural installations"!!! (in the NCCLPA no less!)

The reality is that the residents of Blueskin bay are going to have 3, 100metre high windmills on top of a 400 metre high hill, in the North Coast Coastal Landscape Preservation Area, next door to communities and houses. And to top it all off these turbines will each be topped with a flashing red strobe light which will operate all night to warn the rescue helicopter and other aviation of the new threat they pose. (aka, light pollution)

This is a major, irreparable, and unsustainable degeneration of the landscape of Blueskin Bay.

Acoustics Assessment

This assessment is based on **Modelled sound levels produced by the BRCT**. This is not an independent report.

There are no confidence limits given in the report. As each of the assessment values are necessarily based on estimates, these **MUST** be included to give the reader some idea of the real differences between sound levels at different locations. Otherwise we have no idea if the difference between the predicted sound levels given in Table 4 are real or not. If for example the confidence limits are plus or minus 5 DB, then there would be no difference between any of the sites, and all would be of concern given the 40DB limit.

Also, there has been no sensitivity analysis of the model inputs presented. This needs to be carried out to vary each of the model inputs to demonstrate the robustness of the inputs chosen for the model. Otherwise it is a simple matter to provide model inputs so that a favourable result is obtained.

Only "light downwind conditions" have been modelled. What if the conditions are different from this??

From my own experience of the winds in this area there is a pronounced propensity to NE or SW winds. This will tend to place all of the closest 8 houses within the greater than 40db zone.

Only one parameter of noise, namely the DB rating has been examined. Overseas research on Infrasound, (low frequency sound waves) has demonstrated that around 15% of the population react adversely to these sound waves, making them feel ill.

The peculiar landforms and reflective water surfaces of the Bay may well result in sound dispersing in ways that are not predictable, and which could cause real discomfort to people at a distance from the turbines themselves. No attempt has been made to model these effects.

As a result it may well be that the chosen monitoring sites may not be the most appropriate, and that these will only become apparent after the turbines are installed, by which time it will be too late.

What will the DCC do then to enforce the conditions of the resource consent? Will it really have the balls to shut down a 6\$Million investment? On my own experience, the DCC is woeful in its enforcement of its own District Plan. So I have no confidence there.

This assessment is inadequate. At stake are certainly the 8 identified households, and their ability to enjoy life as they deserve to. But it is likely that many more of the Bays residents will be affected by intrusive sounds from the Wind Farm.

Locating this wind farm so close to existing houses and communities flies in the face of common sense. The inadequacy of the assessment, in all its aspects, is simply not acceptable.

Conclusion

I submit that Council should refuse to grant this resource consent.

Denis John Albert

5/11/2015

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 24/11/2015 8:23:53 p.m.
Subject: Resource consent application submission - 526131

This resource consent application submission has been made via the Council website on **24 Nov 2015 8:23pm**. The details are listed below.

Personal information

Name Michelle Ashbury

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number Wind Farm - 147 Church Road - LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that submission relates to All parts

Reasons for submission The wind farm will generate over 7 Gigawatt hours per year - enough power to supply all of the Blueskin community's annual electricity needs, and more.

Desired decision To grant resource consent

From: [REDACTED] nz <planning@dcc.govt.nz>
Date: 1/12/2015 9:01:07 a.m.
Subject: Resource consent application submission - 526952

This resource consent application submission has been made via the Council website on **01 Dec 2015 9:01am**. The details are listed below.

Personal information

Name Neville Auton

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that submission relates to All aspects

Reasons for submission The size and location of the proposed site is expected to have minor to negligible environmental impact. The generation of renewable electricity from a community based wind farm aligns well with the government energy strategy target of 90% renewable electricity by 2025 . There are number of key outcomes that the energy committee supports • This energy project will inject \$1.5-\$2.0M into the local economy during construction. It will provide ongoing jobs related to maintenance and management of the turbines. It will provide a training facility for community wind farm maintenance that could be offered by Otago Polytechnic. • This wind farm will assist in retaining energy dollars within the city and be part of the economic growth • This will be the first community based wind farm in New Zealand and it will place Dunedin at the forefront of local embedded generation • There will be national and international interest in how this community managed to achieve a wind farm that provides funding back to its community. • It is expected that there will be an increase in energy tourist's and visitations from similar community representatives • Local energy generation contributes to environmental reduction of carbon emissions and will assist in creating greater renewable energy awareness within the wider Dunedin community • This wind farm will assist Dunedin in its ability to respond to future energy challenges and constraints,

while maintaining local productive capacity. The granting of consent will provide positive benefits for both community and the environment. The revenue streams generated and returned to the community will allow further community investment in renewable energy technologies that will further reduce reliance on non-renewable energy forms.

Desired decision Approve the application.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 1/12/2015 8:19:12 p.m.
Subject: Resource consent application submission - 527163

This resource consent application submission has been made via the Council website on **01 Dec 2015 8:19pm**. The details are listed below.

Personal information

Name [REDACTED]

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I oppose this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that

submission relates to Community project,Scenery,Birds,Property

Reasons for submission I have always believed this was a community project,until the last meeting at Warrington Hall,then to learn that maybe the community may or may not receive any benefits directly. I feel there is not enough evidence to support it being a community project. I also feel strongly that this is one person trying to further his own business interest's. Also reading online about other wind farms in a similar situation that many birds have been killed by the turbines. Our community has a highly rated ecosanctuary My property also has many trees with Bellbirds,Tui's,and wood pigeon's these have increased in numbers since I have lived in this community for over twelve years. My house view from my lounge window incorporates Porteous Hill as well as my property I do not want this in my views. As these turbines will be very high and being on a flight path the night lights will destroy my view. At this last meeting it was stated that five sites had been investigated,that this was not the preferred site,but this was what the community had chosen who in the community decided as I have spoken to many in my community who never would have chosen this site. Our community has many beautiful views all around us this wind farm will destroy our scenery. I have also read online that property values will drop between 30 to 50 per cent as they have in other wind farm areas is the council or the submitter of this wind farm willing to compensate my loss.

Even if the community was to benefit with buying cheaper power directly I would still have the same feelings as above.

Desired decision I want the Council to decline this resource consent.

Talei Anderson

From: [REDACTED]
Sent: Monday, 23 November 2015 11:59 a.m.
To: planning@dcc.govt.nz
Subject: Resource consent application submission - 525966

This resource consent application submission has been made via the Council website on **23 Nov 2015 11:57am**. The details are listed below.

Personal information

Name Brittany Chreptyk

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number Wind Farm-147 Church Road- LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? Yes

Parts of application that submission relates to the entire project and process

Reasons for submission I am in support of the building and maintenance of a wind farm in my area. I believe that the submission in favor of the wind farm was robust and I am satisfied with the environmental impact report and feel it will benefit the area.

Desired decision I wish for the council to be in support of the wind farm project without any constraints.

Talei Anderson

From: [REDACTED]
Sent: Tuesday, 24 November 2015 10:14 a.m.
To: planning@dcc.govt.nz
Subject: Resource consent application submission - 526030

This resource consent application submission has been made via the Council website on **24 Nov 2015 10:14am**. The details are listed below.

Personal information

Name Bronwyn Dean

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that submission relates to Erection of wind farm on Porteous Hill, Warrington

Reasons for submission To support a forward thinking project.

Desired decision To allow the wind farm to proceed.

Talei Anderson

From: [REDACTED]
Sent: Monday, 23 November 2015 10:30 a.m.
To: planning@dcc.govt.nz
Subject: Resource consent application submission - 525955

This resource consent application submission has been made via the Council website on **23 Nov 2015 10:29am**. The details are listed below.

Personal information

Name Basil Harrison

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number Wind Farm - 147 Church Road - LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? Yes

Parts of application that submission relates to The entire project and the process undertaken.

Reasons for submission This project is a fantastic example of a grass roots community group taking steps to ensure a more resilient and sustainable energy network in New Zealand. We are fortunate in NZ to produce approximately 65% of our electricity from renewable sources. rather than patting ourselves on the back we should see this as an opportunity to move toward a 100% renewable electricity network and provide a positive example to the rest of the world. I applaud the project undertaken by BRCT which acknowledges this opportunity and is addressing it in a way that involves the community and engages them with where their energy comes from. They have maintained fantastic communication with the community throughout the process to date and have sought input and feedback. They have provided very thorough research into the environmental impact of the turbines as well as the visual and acoustic affects.

Desired decision I would like the council to grant resource consent without additional constraints for the project to proceed.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 1/12/2015 1:52:54 p.m.
Subject: Resource consent application submission - 527110

This resource consent application submission has been made via the Council website on **01 Dec 2015 1:52pm**. The details are listed below.

Personal information

Name Brett Hayes

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I oppose this application

Wish to speak? Yes

Present jointly to hearing? Yes

Parts of application that

submission relates to The effect on my life, the effect on the local wildlife & the validity of the entire project. This does not meet the Health, Welfare or Spiritual well being of the community, it is actually detrimental to these. The community consultation that is mentioned several times appears to exclude Warrington. Refers to Waitati, Purakanui & Blueskin Bay. I live within 2.4km of the proposed site and I have no contact or consultation with Blueskin Energy Ltd.

Reasons for submission I believe that this Wind Farm will be detrimental to myself & my neighbors through the noise pollution, the visual pollution i.e the lights at night. I am concerned about the effect it will have on the local bird life. I am also concerned about the hazard presented to aircraft as the hill is frequently covered in low cloud or fog. This does not improve the Health, Welfare or Spiritual well being of the community. This land is not stable has a long history of movement. The results from the monitoring of the wind speeds does not support the installation of the Wind Farm. The cost of the connection from the Wind Farm to the Grid (2km) will be put onto the local consumer.

Desired decision I wish the for Council to decline this application and to investigate the running of Blueskin Energy as a Community Organisation.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 1/12/2015 8:19:12 p.m.
Subject: Resource consent application submission - 527163

This resource consent application submission has been made via the Council website on **01 Dec 2015 8:19pm**. The details are listed below.

Personal information

Name BRENT BELL

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I oppose this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that

submission relates to Community project,Scenery,Birds,Property

Reasons for submission I have always believed this was a community project,until the last meeting at Warrington Hall,then to learn that maybe the community may or may not receive any benefits directly. I feel there is not enough evidence to support it being a community project. I also feel strongly that this is one person trying to further his own business interest's. Also reading online about other wind farms in a similar situation that many birds have been killed by the turbines. Our community has a highly rated ecosanctuary My property also has many trees with Bellbirds,Tui's,and wood pigeon's these have increased in numbers since I have lived in this community for over twelve years. My house view from my lounge window incorporates Porteous Hill as well as my property I do not want this in my views. As these turbines will be very high and being on a flight path the night lights will destroy my view. At this last meeting it was stated that five sites had been investigated,that this was not the preferred site,but this was what the community had chosen who in the community decided as I have spoken to many in my community who never would have chosen this site. Our community has many beautiful views all around us this wind farm will destroy our scenery. I have also read online that property values will drop between 30 to 50 per cent as they have in other wind farm areas is the council or the submitter of this wind farm willing to compensate my loss.

Even if the community was to benefit with buying cheaper power directly I would still have the same feelings as above.

Desired decision I want the Council to decline this resource consent.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 2/12/2015 9:29:54 a.m.
Subject: Resource consent application submission - 527206

This resource consent application submission has been made via the Council website on **02 Dec 2015 9:29am**. The details are listed below.

Personal information

Name john bentham

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number luc 2015-469

Position I support this application

Wish to speak? Yes

Present jointly to hearing? Yes

Parts of application that

submission relates to Offering full support for Blueskin Energy going ahead with their wind project

Reasons for submission As a local resident of some years and an individual interested in progressive and sustainable technology I have been very excited to see this project on my doorstep. I am full of admiration for the time and enthusiasm that has gone into this, much of it voluntary. Personally I do not see the visual impact as negative -they are quite graceful and lets face it we have all got used to power lines and they are nothing great to look at. With regard to the noise issue apart from the fact that much care has been taken for the generation equipment to have low noise levels (to quite an acceptable standard I believe) the reality is that when it is windy there is a lot of noise in the environment anyway -it is only on still day that noise is obvious. Apart from this our predominant winds here are southerly and westerly with the odd easterly- none of which inspire you to be outside. If someone is standing around below the wind farm in a howling southerly becoming distressed at the noise level one must wonder at the smallness of their life. There are so many positives in this proposition and so much potential for not only the local community but the region (and indeed the country) that I am fully in support of this innovative development to be installed locally.

Desired decision I would like the council to accept Blueskin Energy Ltds submission and grant this consent as lodged

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 1/12/2015 9:38:33 p.m.
Subject: Resource consent application submission - 527174

This resource consent application submission has been made via the Council website on **01 Dec 2015 9:38pm**. The details are listed below.

Personal information

Name Sally Blackwell-Jaques

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number Wind Farm - 147 Church Road - LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that

submission relates to The application in total

Reasons for submission The proposal has been well scoped, researched and planned and extensive community engagement has been undertaken. Based on the resource consent application, no further work is required to demonstrate the anticipated effects. I support the proposal because of the example it will provide of small - medium scale community renewable generation and the opportunities it provides for Dunedin City and the Blueskin community in terms of distributed low-carbon electricity generation.

Desired decision I would like the Council to support the decision

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 27/11/2015 2:17:56 p.m.
Subject: Resource consent application submission - 526516

This resource consent application submission has been made via the Council website on **27 Nov 2015 2:17pm**. The details are listed below.

Personal information

Name Blueskin Project Ltd Blueskin Project Ltd
Address [REDACTED]
Contact phone [REDACTED]
Fax
Email address [REDACTED]

Submission details

Consent number LUC-2015-469
Position I oppose this application
Wish to speak? Yes
Present jointly to hearing? Yes
Parts of application that

submission relates to Zoning(inappropriate for wind farm use) Visual effects are major. Landscape, environment, and ecology. Lack of community consultation.

Reasons for submission The placement of a wind farm on Porteous Hill is inappropriate in the following ways: The zoning of this area is formulated to specifically exclude this type of development. The visual impact of this wind farm is extremely wide ranging. The farm, at a height of 125 metres above ground level, is obviously visible from very long distances. Add to this rotating angled blades, which will reflect sunlight in many directions, giving an appearance of flashing, from many viewpoints. These towers would need lighting to warn approaching aircraft, as the farm is on a flight path. All of these visual effects added together, mean the effect on the visual environment must be considered major. All of the properties, existing and future, especially on the hillsides to the south of the wind farm site, would be badly effected by this wind farm. The houses are almost all orientated to the north (for views and sun) which places this wind farm (depending on the height of the subject house) as a very predominant feature in the views available. With the required warning lights, this feature would be predominant even at night. With this ugly wind farm placed centrally in the views of these properties, the effect would, undoubtedly be to reduce the value of said properties. The effects on local wildlife, bird life and the environment in the local area would be wide ranging and

undesirable. We have concerns about the way this applicant company is portraying itself as a community based company, when in fact it is a private company, which is unwilling to divulge detail about funding. They also suggest any power generated would be used locally, when in fact it is just to be feed to the national grid. We are struggling to see any upside for the community. The consultation process has been non existent. The only information we have received regarding this proposal, was a notification of a meeting to discuss matters of concern, held in the Warrington Hall on November 19th 2015.

Desired decision We wish for the consent to be declined in total, on this site.

Talei Anderson

From: [REDACTED] 11:37 a.m.
To: planning@dcc.govt.nz
Subject: Resource consent application submission - 525468

This resource consent application submission has been made via the Council website on **16 Nov 2015 11:36am**. The details are listed below.

Personal information

Name colin campbell-hunt

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? Yes

Parts of application that submission relates to wind farm located at 147 Church Road, Merton, being that land legally described as Lot 1-2 Deposited Plan 473199 held in Computer Freehold Register 646829

Reasons for submission This wind farm is a central part of a community-led initiative to develop a sustainable low-carbon community. It is a pilot for the way our city will have to develop over the next couple of decades. The city has a great deal to learn from the Blueskin Project and it is vital that the local community be given permission to create a sustainable power source to their project.

Desired decision Council should give its consent to this submission.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 2/12/2015 3:09:10 p.m.
Subject: Resource consent application submission - 527287

This resource consent application submission has been made via the Council website on **02 Dec 2015 3:09pm**. The details are listed below.

Personal information

Name Callum Milburn

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I oppose this application

Wish to speak? No

Present jointly to hearing? Yes

Parts of application that

submission relates to -Change to landscape including visual impact and water course changes. -Loss of property value -Noise and light pollution -Danger/Risk to bird life

Reasons for submission We have recently moved to the area and our house is located 2km away from the proposed wind turbines. We purchased this property for the remote and tranquil setting. I would like to know why the submission has only considered that the properties within 1.5km are considered significant and not the many others that are just a stone's throw away including the childcare centre and school. The disturbance to this is a concern. This includes turbine noise, light glare, and the danger to birdlife including sea and land based birds

Desired decision I wish the council to decline this submission.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 1/12/2015 4:22:36 p.m.
Subject: Resource consent application submission - 527148

This resource consent application submission has been made via the Council website on **01 Dec 2015 4:22pm**. The details are listed below.

Personal information

Name Christopher Nelson

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number CONSENT NUMBER LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that

submission relates to The installation of the wind turbines

Reasons for submission Contribution to reducing greenhouse gas emissions from local electricity generation and transmission, which is especially important to combat climate change.

Desired decision To go ahead with the installation of the wind turbines



DUNEDIN CITY COUNCIL
Sustainable Growth & Prosperity

SUBMISSION FORM 13

Submission concerning resource consent on publicly notified application under section 95A

Sections 95A, Resource Management Act 1991

To: Dunedin City Council, PO Box 5045, Moray Place, Dunedin 9058

Resource Consent Number:

LUC-2015-469

Applicant: Blueskin Energy Limited

Site Address:

147 Church Road, Merton

Description of Proposal:

Establish a community wind farm comprising three turbines

I/We wish to lodge a submission on the above resource consent application:

Your Full Name: Dr August OBERMAYER

Address for Service (Postal Address):

[Redacted Address]

Post Code: 9014

Telephone:

[Redacted Telephone]

Facsimile:

[Redacted Facsimile]

Email Address:

I: ~~Support~~ / ~~Neutral~~ / Oppose this Application I: ~~Do~~ / Do Not wish to be heard in support of this submission at a hearing

If others make a similar submission, I will consider presenting a joint case with them at a hearing.

(Delete the above statement if you would not consider presenting a joint case at a hearing)

Please use the back of this form or attach other pages as required

The specific parts of the application that this submission relates to are:

Establishing of wind farm

My submission is [include the reasons for your views]:

Not consent will not be granted because of

1. noise pollution

2. light pollution

3. negative impact on bird life

4. no benefit to the community

5. negative impact on the value of people's properties

The decision I wish the Council to make is [give precise details, including the parts of the application you wish to have amended and the general nature of any conditions sought]:

Refuse resource consent

Signature of submitter:

[Signature]
(or person authorised to sign on behalf of submitter)

Date: 16.11.2015

Notes to Submitter:

Closing Date: The closing date for serving submissions on the Dunedin City Council is **Wednesday 2 December at 5pm**. A copy of your submission must be served on the applicant as soon as reasonably practicable after the service of your submission on the Dunedin City Council. The applicant's address for service is 1121 Mount Cargill Road, RD 2, Waitati 9085.

Electronic Submissions: A signature is not required if you make your submission by electronic means. Submissions can be made online at <http://www.dunedin.govt.nz/rma> or sent by email to planning@dcc.govt.nz

Privacy: Please note that submissions are public. Your name and submission will be included in papers that are available to the media and the public. Your submission will only be used for the purpose of the notified resource consent process.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 27/11/2015 4:45:14 p.m.
Subject: Resource consent application submission - 526564

This resource consent application submission has been made via the Council website on **27 Nov 2015 4:45pm**. The details are listed below.

Personal information

Name Craig Werner

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC2015-469

Position I oppose this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that

submission relates to Rural amenity, landscape visual impact, environmental impact, poor project longevity due to technological change.

Reasons for submission The first 3 issues above will certainly be well addressed by other submitters. However as much as I favour local energy generation, I fear that technology advances have in time overtaken the necessary gestation period for such a complex proposal. The cost, reliability, maintainence, and efficiency of most newer photovoltaic arrays has somewhat recently overtaken that of wind generators in the opinion of the broad engineering community. The application table of contents does not indicate that a recent PV vs. Wind power comparative analysis has been done. Nor is it evident that any analysis has been done comparing the various wind turbine manufacturer engineering details to insure that Waitati residents receive the best local energy alternative. A concern is that the proposed scheme would be abandoned in the near term in favour of a far better system. This could result in a second construction project, and further damage to the site.

Desired decision Decline approval unless a recent PV-Wind feasibility study by an accredited outside consulting engineering firm supports the proposal.

Submission concerning resource consent on publicly notified application under section 95A.

Resource consent number: LUC-2015-469

Site address: 147 Church road, Merton.

Description of proposal: Establish a community wind farm comprising 3 turbines.

We wish to lodge a submission on the above resource consent application.

Thomas Cardy and Jamie Pickford

[REDACTED]
[REDACTED]
[REDACTED]

Telephone: [REDACTED]

E-mail: [REDACTED]

We oppose this application and wish to be heard in support of this submission at a hearing.

I will not consider presenting a joint case at the hearing.

We wish to oppose the application in regards to:

- The impact on our living environment
- The visual impact on the landscape
- The loss of recreational use
- The lack of risk management and financial planning
- The impact on the wildlife

We have lived at 139 Pryde road for more than 7 years now. The decision to live here was carefully taken as we both wanted to live rurally and away from the main roads or close neighbours. Therefore it took us 2 years to find the property that met our needs. A small block with no direct neighbours except a farm on one side and a quarry with restricted usage on the other. Our block is also within the north Dunedin coastal landscape protection area. We both support renewable energy generation and would like to see benefits for the local Waitati community however we feel that the proposal will significantly impact on the community living amenities. The proposal is also not clear on how the community would actually benefit from it.

1) Impact on living environment:

A) Noise pollution:

As stated above we chose to live at 139 Pryde road to be away from traffic noise, neighbours and the general public. We live at the end of a dead end road and there is

virtually never any through traffic. It is a very quiet place where we can enjoy the peace and breathtaking views of the Kilmog hill, Otago coast and harbour mouth.

The acoustic assessment provided by Blueskin Energy Limited states that the area our dwelling is in will have a predicted sound level of 34db. However the assessment also states that the results are based for "light downwind conditions". Has consideration been given for the noise levels in moderate to strong wind conditions as this area of the coast regularly experiences moderate to strong winds.

In addition to the above, we have made our own assessment of our location and in light wind conditions the noise levels are at around 25db so it would be a significant increase to the current noise levels that we experience.

Blueskin energy limited needs to define the noise levels that the turbines will make for all the types of winds that are experienced in the area as well as provide some wind statistics over a long term period to substantiate the actual noise levels based on the actual wind strength.

It is our experience that the area often has moderate to strong southerly and north-westerly winds putting our dwelling directly upwind from the turbines and the dominant winds. No assessment of the noise levels in high winds was provided.

There are large amounts of literature that links high wind speed with higher noise levels and the acoustic assessment provided does not address this issue.

The operating range has also not been defined for the turbines What wind speed range are they capable of operating in and the impact of high winds on the noise as well as the production of energy needs to be clarified.

Noise levels cannot also only be defined by the strength of the DB but also by the frequency and the type of noise. Extensive research on the internet points out that the noise made by the wind farms is very different to other noises made by trees or the wind and can significantly impact on the quality of life of people living near the wind farm.

As we live in a rural area noise levels are very low especially at night and the noise made by the turbines has the potential to become a very dominant background noise. This was outlined in some European and American studies on windfarms.

We are not opposed to wind generation but believe that the wind cluster could be installed in a location with no dwellings nearby that would be impacted on. We do not live in a densely populated region and there are lots of opportunities and locations to install wind turbines away from living areas.

B) Increased traffic:

If the application was granted and the wind farm went ahead it would be inevitable that there would be a significant increase of the traffic on Pryde road. During the week end hordes of Dunedinites are likely to come and want to have a look at the wind farm.

Pryde road is not suited for heavy traffic and already has a quarry operating on it. The amenities would not sustain an increase in traffic and the road could become dangerous.

The increased traffic would also impact on the tranquillity of the area.

C) Value of our property:

If the wind farm went ahead the value of our property would be significantly affected as it would have lost its rural and secluded character and the noise levels would impact on our ability to secure a buyer if we were to sell the property.

2) Visual impact on the landscape:

A) Visual pollution:

We disagree with the landscape assessment that states that Porteous Hill will be "enhanced" by the installation of the wind turbines and that 3 turbines represent a "statement". We also disagree that Porteous Hill is not a "significant landmark". This is clearly the view of the landscape assessor who is not from the area.

The majority of Porteous Hill is included in the Coastal Landscape Preservation area and the erection of 3 wind turbines right on the edge of the area cannot be mitigated due to the enormous size of the structures. The proposed high of the turbines is 102 metres. To put this into perspective John Wickliffe House is only 42 metres high therefore the proposed structures are 2.4 times higher.

The application also goes against the NZ Coastal Policy statement policy 13 that states that the character of the coastal environment should be protected.

The turbines will be seen by anyone travelling in and out of Dunedin for a number of Kilometres. They will be visible the whole way from the top of the motorway at Pigeon flat to the Warrington turn off. They will also be visible from as far as Waikouaiti. The landscape assessor statement that the turbines will be "glimpsed briefly on the hill submit a kilometre distant. The turbines will be visible for a kilometre length between the Pullar and Pryde road intersection. Elsewhere it is likely only blade tips will be visible above the trees" is clearly misinformed and misleading and leads to question whether a site visit was even done or the assessment done from satellite images and google maps.

The tree cover for the visual mitigation as stated by the landscape assessor is also not a valid argument. The trees on Porteous hills are pines that will be harvested in the near future and

the rest of the trees are very old macrocarpas that are nearing the end of their life. They will eventually die off or fall due to high winds as it is often the case for old macrocarpas. Therefore they cannot be used as an argument for mitigating visual pollution.

We also disagree with the views and tone of the landscape assessment it is one sided and does not provide an objective assessment of the impact of the windfarm on the landscape. The landscape assessment seems to be purely the view of the landscape artist. We would like to request another landscape assessment from an assessor chosen by us at the cost of Blueskin Energy Limited.

B) Potential light pollution:

There does not seem to be any consideration given to the potential light pollution generated by the wind turbines. The turbines are right in the middle of the flight path for Dunedin bound flights and no statement is made in the application for the impact of safety lighting on the structures. Will they impact on the wildlife? Will they be significant and visible from a distance? Will they impact on neighbouring properties?

C) Coastal landscape preservation area:

The turbines are proposed to be installed right on the edge of the preservation area. If it goes ahead, they will permanently scar the landscape and will impact on the users of Warrington beach, Doctors point coastal area and all the beaches along the north Dunedin coast, Purakanui, long beach, Murderers beach...

The impact will also be significant for the cruise ships that visit Dunedin nearly every day in the summer.

It is difficult to understand how anyone living in the coastal preservation area is limited to develop their properties due to the conditions around building in the area but at the same time a wind cluster could be installed right on the boundary of the conservation area at a high than cannot be mitigated. The fact that it is not in the area but will impact on the value of the preservation area has to be considered by the council.

As a result we would like this application to be turned down due to the visual impact and risks for the area. As stated above we are not against wind generation but believe that the cluster could be installed in an area of less significant landscape value. For example the impact of the wind farm being installed in steep hill road in DCC forestry away from the coast and dwellings could be a good solution to this issue.

3) Loss of recreational use

We use the area frequently to go to the beach in Warrington or horse ride in the week end or after work. If the wind farm was to go ahead this could impact on our ability to cross the area and enjoyment of the landscape and scenery

4) Lack of risk management and financial planning.

A) Financial risk:

The application has no business case details on how the project is financially backed or funded. If the application was granted there is no guarantee that Blueskin Energy Limited has the ability to undertake and carry through the development of the wind farm. There is a significant risk that work could start and never be finished leaving a permanent scar on the landscape and a risk for adjoining properties and the local communities.

If the project was fully built once again there is no guarantee or evidence that Blueskin energy limited will be able to maintain the structures and ensure the safe and efficient operation of the wind cluster. Without financial information and backing guaranteeing that the project can be carried through and is financially sound, consent should not be granted.

Will Blueskin energy limited be required to provide a construction bond to ensure that the project can be carried through if consent is granted as it is generally the case for large constructions projects?

B) Ownership of the wind farm:

The windfarm will be owned by Blueskin Energy Limited which is owned by Blueksin Resilient Community Trust. This is a charity with no experience in large investment projects. For the return the trust filed for the year ending March 2014. The bank balance for the trust at the end of the period was only \$391 with \$52,709 of current fixed assets (sourced from the charities commission)

As published in the annual report of the Blueskin Community Resilient Trust. There also seems to be 2 other potential sites referred as sites "B" and "C" however this was never mentioned by Scott on the occasion when we met with him or discussed as an alternative to the Porteous Hill site. This leads us to believe that the submitter has kept the other options out of the debate to put more pressure on the community to accept the proposed site as the only viable alternative.

C) Local generation argument

We don't disagree that generation by fossil fuel has to decreased in the future even though in NZ currently only 25% of the energy produced comes from fossil fuels, the other 75% is from renewable energy.

In the South Island 98% of the electricity produced comes from hydroelectricity with the remaining 2% coming from wind. The South Island is therefore already virtually 100% renewable.

Below is a table outlining New Zealand energy generation as of 2013.

Installed capacity (MW) by island, 31 December 2012 ^[3]				Generation (GWh) in New Zealand 2013 year ^[1]			
Fuel	New Zealand	North Island	South Island	Fuel	New Zealand	North Island	South Island
Hydroelectric	5,254	1,818	3,436	Hydroelectric	22,815	5,471	17,344
Geothermal	731	731	–	Geothermal	6,053	6,053	–
Wind	622	517	105	Wind	2,000	1,695	305
Oil	164	164	-	Oil	3	3	tr
Coal	1,063	1,059	4	Coal	2,238	2,223	15
Gas	1,904	1,904	–	Gas	8,143	8,143	–
Other renewable	104	101	3	Other renewable	592	581	11
Other non-renewable	19	15	4	Other non-renewable	33	31	2
Total	9,861	6,308	3,553	Total	41,876	24,200	17,676

Source: https://en.m.wikipedia.org/wiki/Electricity_sector_in_New_Zealand

The South Island is also a net exporter of electricity to the North Island therefore any energy generated locally and pumped into the national grid is currently unnecessary and potentially exported to the north island. It would make more sense for local generation to be installed near the high populated and high demand areas of the north island rather than damaging the landscape for something that is clearly not a current necessity for our community.

The trust and Blueskin energy limited should support individual households to set up renewable energy in the form of solar panels and mini hydro schemes who are less likely to impact on the landscape.

An argument also needs to be formed around the need for additional generation over conservation when the current and future needs can be met with current generation if everyone conserves and use energy efficiently.

The real benefits and needs of our community are not articulated in the application, and there are significant risks for the project to be able to be carried through.

5) Local community cost and needs:

The cost of the project is somewhere in the vicinity of \$6,000,000.00. The statistics from the 2013 census points out that there are only 414 lived in dwellings in Warrington and Waitati. It is also highly unlikely that all households in the area would require any support or assistance with powering or insulating their homes.

The cost of the project amounts to \$14,492 per household. It seems like an extravagant amount and out of line with what a reasonable investment for our community needs.

The submitter should instead concentrate on individual solutions for those households that are in need without damaging the landscape value of the area and living environment of other locals.

It is also unclear who will benefit from the project and the number of people that would benefit from it over the number of people that are against the development.

6) Impact on the bird life:

The impact on the bird life has not been assessed correctly. In the application there is no mention of light on the turbines and what impact this would have.

Also there is no mention of the impact of the turbines on the NZ falcon or other native birds that have started to come back to the area thanks to the Orokonui eco sanctuary. We have noticed a significant increase in native birds in the area. If the windfarm went ahead it is not clear from the application what the impact on the bird life could be.

7) Conclusion:

We want the council to decline the resource consent application based on the above arguments. If the windfarm was to be installed in an area with no dwellings within a 2km radius around it and in an area where the visual pollution could be mitigated for the community and the coastal landscape i.e the silver peaks forest we would not be opposing the project even though there are some significant unanswered questions around the financial viability of the project, the local need for it and what is the best way to sustainably support the local Blueskin Bay community.

This is a philosophically driven project by a small group of people that has the potential to damage the outstanding landscape and local community forever. We strongly believe that no mitigating can be done due to the scale of the wind turbines and the damage that they could do to the outstanding coastal landscape of the north Dunedin coast. We chose to live in this area for the rural aspects, quietness and stunning views. If the proposal went ahead this would significantly change and divide the area and community forever.

Date : 02/12/15

Talei Anderson

From: [REDACTED]
Sent: Friday, 27 November 2015 09:40 a.m.
To: planning@dcc.govt.nz
Subject: Resource consent application submission - 526394

Follow Up Flag: Follow up
Flag Status: Flagged

This resource consent application submission has been made via the Council website on **27 Nov 2015 9:40am**. The details are listed below.

Personal information

Name Alison Copeman
Address [REDACTED]
Contact phone [REDACTED]
Fax
Email address [REDACTED]

Submission details

Consent number LUC 2015 469
Position I support this application
Wish to speak? No
Present jointly to hearing? No
Parts of application that submission relates to The construction and development of a wind farm at 147 Church Road Waitati
Reasons for submission A small wind farm of 3 turbines will, as proven by experts in their Assessment of Environmental Effects, have a low impact on the environment .. yet will have significant benefit in social, environmental and economic terms for the local community
Desired decision I request the council support this consent

From: Debbie Hayde
To: planning@luc.govt.nz <planning@luc.govt.nz>
Date: 02/12/2015 16:24
Subject: Resource consent application submission - 527297

This resource consent application submission has been made via the Council website on 02 Dec 2015 16:24. The details are listed below.

Personal information

Name: Debbie Hayde

Address:

Warrington

Contact phone:

Email address:

Submission details

Consent number: LUC-2015-489

Position: I oppose this application

Wish to speak? Yes

Present jointly to hearing? Yes

Parts of application that

submission relates to: "0.2 Construction Phase Effects

Earthworks

Noise

Health Reasons"

Reasons for Submission Earthworks - we have concerns regarding the foundations for the Turbines and how this will change the springs on the hills i.e. the water we use to feed stock and sustain our food growing. As well as flooding risks.

Noise - My partner is hypersensitive to noise, as are his other family members currently residing in our dwelling.

Health Issues - there is research suggesting a negative impact on young children's inner ear development when residing within close proximity of Wind turbines. As a young family this of great concern and worry to us.

Land Value - If this goes ahead, we will need to sell and move on, Land Value decreases in areas surrounding Wind Turbines - this is our primary investment and long term livelihood

Desired Decision Decline the application for the Construction of the wind farm so close to residential zoning.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 24/11/2015 5:20:54 p.m.
Subject: Resource consent application submission - 526121

This resource consent application submission has been made via the Council website on **24 Nov 2015 5:20pm**. The details are listed below.

Personal information

Name Denise Ives

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number Wind Farm - 147 Church Road - LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that

submission relates to Installation of a 3 turbine wind farm

Reasons for submission I believe that we should use this technology more wherever possible, and this would be a great way of seeing how well it works. I believe that there is limited negative impact to the environment and community with this kind of technology.

Desired decision Please approve the proposal in full.

Talei Anderson

From: [REDACTED] 2015 09:28 a.m.
To: planning@dcc.govt.nz
Subject: Resource consent application submission - 526026

This resource consent application submission has been made via the Council website on **24 Nov 2015 9:27am**. The details are listed below.

Personal information

Name Dylan Robertson

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that submission relates to Building and operating up to 3 wind generation turbines on Porteous Hill, Kilmog.

Reasons for submission 1) Spreading NZ's renewable energy supply over various resources makes sense for surety of supply into the future and especially considering climate change and the reduction of coal production in NZ. 2) the project will bring resourcing to a non-profit organisation for work to be undertaken within the immediate area of Blueskin Bay. 3) Local customers of the generated power will benefit from a renewable source of energy 4) I am satisfied that any environmental effects are well mitigated for in the application supporting information 5) the project is inline with various National, Regional and DIstrict policies including the proposed District Plan, the Proposed Regional Policy Statement and various National Policy Statements. It also meets the accepted requirements for noise, height and other environmental effects in the current District Plan.

Desired decision I would like the DCC to approve the application in it's entirety.



DUNEDIN CITY COUNCIL
Sustainable Growth & Prosperity

SUBMISSION FORM 13

Submission concerning resource consent on publicly notified application under section 95A

Sections 95A, Resource Management Act 1991

To: Dunedin City Council, PO Box 5045, Moray Place, Dunedin 9058

Resource Consent Number:

LUC-2015-469

Applicant: Blueskin Energy Limited

Site Address:

147 Church Road, Merton

Description of Proposal:

Establish a community wind farm comprising three turbines

I/We wish to lodge a submission on the above resource consent application:

Your Full Name: Dr August OBERMAYER

Address for Service (Postal Address):

[Redacted Address]

Post Code: 9014

Telephone:

[Redacted Telephone]

Facsimile:

[Redacted Facsimile]

Email Address:

I: ~~Support~~ / ~~Neutral~~ / Oppose this Application I: ~~Do~~ / Do Not wish to be heard in support of this submission at a hearing

If others make a similar submission, I will consider presenting a joint case with them at a hearing.

(Delete the above statement if you would not consider presenting a joint case at a hearing)

Please use the back of this form or attach other pages as required

The specific parts of the application that this submission relates to are:

Establishing of wind farm

My submission is [include the reasons for your views]:

Hut consent will not be granted because of

1. noise pollution
2. light pollution
3. negative impact on bird life
4. no benefit to the community
5. negative impact on the value of people's properties

The decision I wish the Council to make is [give precise details, including the parts of the application you wish to have amended and the general nature of any conditions sought]:

Refuse resource consent

Signature of submitter:

[Signature]
(or person authorised to sign on behalf of submitter)

Date: 16.11.2015

Notes to Submitter:

Closing Date: The closing date for serving submissions on the Dunedin City Council is **Wednesday 2 December at 5pm**. A copy of your submission must be served on the applicant as soon as reasonably practicable after the service of your submission on the Dunedin City Council. The applicant's address for service is 1121 Mount Cargill Road, RD 2, Waitati 9085.

Electronic Submissions: A signature is not required if you make your submission by electronic means. Submissions can be made online at <http://www.dunedin.govt.nz/rma> or sent by email to planning@dcc.govt.nz

Privacy: Please note that submissions are public. Your name and submission will be included in papers that are available to the media and the public. Your submission will only be used for the purpose of the notified resource consent process.

Talei Anderson

From: [REDACTED]
Sent: Thursday, 3 December 2015 04:27 p.m.
To: planning@dcc.govt.nz
Subject: Resource consent application submission - 527397

This resource consent application submission has been made via the Council website on **03 Dec 2015 4:27pm**. The details are listed below.

Personal information

Name Eve Jolly

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number CONSENT NUMBER LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? Yes

Parts of application that submission relates to The full application for the construction and operation of a community wind farm.

Reasons for submission The project has high strategic value and regulatory compliance and is consistent with the Policy statements of the Dunedin City Council, Otago Regional Council and the National Policy Statement for Renewable Energy Generation (2011).

Desired decision I request that the Council grants this resource consent application, adopts the conditions proposed by the applicant, and works with the applicant to address any outstanding issues, noting that this is a community-initiated and led project from a resource-constrained organisation that is recognised as a NZ exemplar of community engagement and action.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 20/11/2015 10:37:51 p.m.
Subject: Resource consent application submission - 525850

This resource consent application submission has been made via the Council website on **20 Nov 2015 10:37pm**. The details are listed below.

Personal information

Name Elizabeth Jane Kerr

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I oppose this application

Wish to speak? Yes

Present jointly to hearing? Yes

Parts of application that

submission relates to I strongly oppose the application as a whole.

Reasons for submission ■ Effects are more than minor for coastal Otago and pastoral landscapes. ■ Conserving energy is the most important way to minimise impact on the New Zealand environment including the coastal Otago environment and the subject site – the public, institutions and businesses should reduce the need for new power generation by conserving power and using it more efficiently. ■ Potential adverse impacts on wildlife are insufficiently gauged in the application. It is reported that wind turbines kill more birds of prey when the land beneath the blades is grazed by cattle or sheep. ■ The community at Blueskin Bay / Waitati district can easily avail themselves of alternative passive and renewable energy sources including solar, with less environmental impact in the short, medium and long term. ■ The application is just another example of 'greenwash'.

Desired decision Decline the application in its entirety.

From: [REDACTED]
To: planning@odcc.govt.nz; planning@odcc.govt.nz
Date: 01/12/2015 21:27
Subject: Resource consent application submission -
527173

This resource consent application submission has been made via the Council website on **01 Dec 2015 21:27**. The details are listed below.

Personal information

Name: Eric Neuman

Address: [REDACTED]

Otago 9471

Contact phone: [REDACTED]

Email address: [REDACTED]

Submission details

Consent number: LUC-2015-469

Position: I oppose this application

Wish to speak? No

Present jointly to hearing? Yes

Parts of application that

submission relates to: Appendix B1, B3, B4, C1, C2, C3,D,E

3

Reasons for Submissions "We live approximately 1.6 km from the proposed wind turbines, on the coast. We are directly affected by the proposal.

We really really do not want to have the constant noise, the light flicker, the visual impact and light pollution (esp at night) from the turbines.

We get some of our water from a spring below the proposed turbines and we are concerned that the excavation and placing of lots of concrete will disturb the fragile structure and destroy our water supply, (and 11 other households which share this spring and resulting stream).

We don't understand how these can be of benefit to our community when we don't get any power from them and are unlikely to receive any benefit from them. It is not a "Community Support Activity". We certainly will not be supporting this venture in any financial way. We were not consulted, and the decision is based on only 37 people, therefore not representative.

We are concerned about our property value decreasing.

The scientific study for the impact on the bird life is very poor, and represents the lack of concrete evidence throughout the application.

Desired decision Do not give consent for the wind farm to go ahead.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 17/11/2015 1:45:06 p.m.
Subject: Resource consent application submission - 525565

This resource consent application submission has been made via the Council website on **17 Nov 2015 1:45pm**. The details are listed below.

Personal information

Name Fatima McKague

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number Wind Farm - 147 Church Road - LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? Yes

Parts of application that

submission relates to I support the proposal of a community wind farm at Blueskin Bay.

Reasons for submission Community ownership of energy would ensure an equitable access and delivery of energy. This will help all members of the community, especially the most vulnerable, have accessible and affordable energy.

Desired decision Approve the proposal for the community wind farm at Blueskin bay.



DUNEDIN CITY
COUNCIL
Kaitiaki-a-Māori o Dunedin

SUBMISSION FORM 13

Submission Pg S64

Submission concerning resource consent on publicly notified application under section 95A

Sections 95A, Resource Management Act 1991

To: Dunedin City Council, PO Box 5045, Moray Place, Dunedin 9058

Resource Consent Number:

LUC-2015-469

Applicant: Blueskin Energy Limited Business Information

Site Address:

147 Church Road, Merton

Description of Proposal:

Establish a community wind farm comprising three turbines

DCC

02 DEC 2015

I/We wish to lodge a submission on the above resource consent application:

Your Full Name: Graeme Henry Bennett

ice (Postal Address):

Doctors Point RD2 Waitati

Post Code: 9085

Telephone:

Facsimile:

Email Address:

I: Support/Neutral/~~Oppose~~ this Application I: Do/Do Not wish to be heard in support of this submission at a hearing

~~If others make a similar submission, I will consider presenting a joint case with them at a hearing.~~

~~(Delete the above statement if you would not consider presenting a joint case at a hearing)~~

Please use the back of this form or attach other pages as required

The specific parts of the application that this submission relates to are:

The Visual Effects

The Claimed benefits

The Claimed mandate from the community

My submission is [include the reasons for your views]:

Please refer to the attached sheet

The decision I wish the Council to make is [give precise details, including the parts of the application you wish to have amended and the general nature of any conditions sought]:

I wish to have the application declined

Signature of submitter:

GHBennett

(or person authorised to sign on behalf of submitter)

Date:

27/11/15

Notes to Submitter:

Closing Date: The closing date for serving submissions on the Dunedin City Council is **Wednesday 2 December at 5pm**. A copy of your submission must be served on the applicant as soon as reasonably practicable after the service of your submission on the Dunedin City Council. The applicant's address for service is 1121 Mount Cargill Road, RD 2, Waitati 9085.

Electronic Submissions: A signature is not required if you make your submission by electronic means. Submissions can be made online at <http://www.dunedin.govt.nz/rma> or sent by email to planning@dcc.govt.nz

Privacy: Please note that submissions are public. Your name and submission will be included in papers that are available to the media and the public. Your submission will only be used for the purpose of the notified resource consent process.

i) Visual Effects

The application as presented is an in-your-face development that will annoy me and other residents. Given that it is lit up at night (and no details have been given as to how, the extent or even the colour) it will have the effect of blinking at night as the turbine blades pass through the light and especially against the black hillside. The visual effect will be quite significant. I won't just have to put up with having it all day, but all night, every day, day in, week in week out, year on year... and why. One wonders why such a proposal is being proposed in such a visually prominent area, as it will be able to be seen from most places in Blueskin Bay, including Warrington Wātati, Dons Creek and most importantly for me, Doctors Point where me and my family live.

ii) Claimed Benefits

Every development usually has pros and cons, and you weigh these up as you make up your mind as to where you stand on a given proposal. I see no upsides for our community, just downsides - it is not a community project as claimed, the power generated won't be used in our area, and any financial return to the community is dubious and certainly ^{has} not been quantified. Those behind this windfarm proposal could have achieved the same energy generating capacity anywhere in the country - but no they want to locate it in a very visible area upsetting everyone. It feels as if this is just a political statement by a small minority within our community who are passionate about climate change, fossil fuels etc. The whole community, me included is expected to shoulder the ongoing blight of this proposal for years and years just so these people can push their point.

iii) The claimed mandate and consultation with the community
Contrary to claims by the applicant this is not

a community project and it does not have the claimed backing of the district; it is driven by some within our community, but we have never been asked specifically whether we support such a proposal as this on a particular site - this particular site Consultation has amount to such general things as "do you think windfarms are a better alternative to fossil fuels" - - - such questions are designed to elicit an obvious answer, and then the answer is deemed to be support for this particular proposal. At no point can I recall being asked whether I would support a specific proposal such as this, on a specific site - never have we been asked. - and the answer for me is no I don't support it! In the 2013 census the Blueskin Bay area increased its population by 15-4%. Why would you locate a wind farm in an area that is actively growing and for which the Spatial Plan identifies as an area of future growth (I am referring to Doctors Point which looks direct at the site in question ie Porteous Hill.

Graeme Bennett.

2013 Census QuickStats about a place: Evansdale

Population and dwellings

Number of people counted

- 1,482 people usually live in Evansdale. This is an increase of 198 people, or 15.4 percent, since the 2006 Census.
- Evansdale has 1.2 percent of Dunedin City's population.

Population of Evansdale and Dunedin City

2013 Census

Sex	Evansdale	Dunedin City
Male	783	57,666
Female	696	62,583
Total people	1,482	120,246

Source: Statistics New Zealand



Note: All figures are for the census usually resident population count.

Number of dwellings counted

- There are 594 occupied dwellings and 141 unoccupied dwellings in Evansdale.
- For Dunedin City as a whole, there are 46,590 occupied dwellings and 3,915 unoccupied dwellings.
- There are 3 dwellings under construction in Evansdale, and 186 under construction in Dunedin City.

Note: This time series is irregular. Because the 2011 Census was cancelled after the Canterbury earthquake on 22 February 2011, the gap between this census and the last one is seven years. The change in the data between 2006 and 2013 may be greater than in the usual five-year gap between censuses. Be careful when comparing trends.

This data has been randomly rounded to protect confidentiality. Individual figures may not add up to totals, and values for the same data may vary in different text, tables and graphs. For areas with small populations, the data may not look as expected because of this rounding.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 24/11/2015 7:23:10 p.m.
Subject: Resource consent application submission - 526124

This resource consent application submission has been made via the Council website on **24 Nov 2015 7:23pm**. The details are listed below.

Personal information

Name Greg Bouwer

Address [REDACTED]
[REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that

submission relates to I support the creation of a community owned wind farm near Warrington.

Reasons for submission Minimal to no threat to local wildlife, creation of sustainable power.

Desired decision To support the creation of said wind farm.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 24/11/2015 9:32:25 p.m.
Subject: Resource consent application submission - 526132

This resource consent application submission has been made via the Council website on **24 Nov 2015 9:32pm**. The details are listed below.

Personal information

Name Grant Thomas Boyle

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I oppose this application

Wish to speak? No

Present jointly to hearing? Yes

Parts of application that

submission relates to 3.1 site earthworks 4 & 5 community consultation and support
8 Assessment of environmental effects

Reasons for submission A lack of consultation with the residents of Warrington, Seacliff, farms and areas that will be directly affected by the wind farm. I and my family have lived or own property in Warrington for ten years and have only seen what has been written in the blueskin news with no indication of the size of the project indicated or the fact that the power was been sold on the national grid so there is no benefit to the local community. There has been no direct effort to contact me or invite me to a meeting to gauge my opinion, the vast majority of people surveyed seen to live in Wataiti 10 km away from the wind farm. There is no study of the potential effects the site earth works and foundations will have on the stability of the land or the ground water. As a number of people who farm in the area have raised serious concerns over the suitability of building such large structures on this land. The visual effect has been seriously understated as Blueskin bay is an beautiful area that deserves to have it visual aspect protect as myself and my family and most of the residents in this area cherish the scenery and environment we live in. The proposal to study the bird strike rate after they build it makes no sense and there references to bird strike rates at other sites is very selective and only includes sites with low strike rates. No indication of of the light

pollution and environmental effect of having the towers lit up at night as they are under a major flight path. I can see no benefit in the extra power they produce as there is no economic requirement for more electrical production, after all they are closing down Huntley coal powered power station which will do more for NZ CO2 emissions than the proposed wind farm. I can see no benefit to the local community, the environment will be downgraded, the visual aspect of blueskin bay will be permanently degraded, local residents will have there lives and environment they cherish ruined to benefit the national grid and the non elected trustees of BRCT. There is no business plan, is it financially viable and is there a plan to decommission the site if it financially fails. Will it set a precedent to build other wind farms in the area, as once one is built it is a lot easier to put the next one up. We live in a beautiful area of Otago we don't need industrial size developments in the Blueskin Bay and Warrington areas it is not the place for them.

Desired decision The application to be declined as it is unsuitable project to be sited in the blueskin bay environment. A lack of public consultation and support especially with the residents of Warrington, Seacliff , farms and areas surrounding these 2 settlements. There is no requirement for extra electrical generation in the present NZ economy. The environmental impact especially relating to bird strike and effects on light pollution to bird life at night and the effects on close residents. The effect construction would have on local ground and water considering it will be sited in a high risk area are not showmen in the application

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 27/11/2015 9:20:22 a.m.
Subject: Resource consent application submission - 526389

This resource consent application submission has been made via the Council website on **27 Nov 2015 9:20am**. The details are listed below.

Personal information

Name Gregory Easton

Address [REDACTED]

Contact phone [REDACTED]

Fax [REDACTED]

Email address [REDACTED]

Submission details

Consent number Wind Farm - 147 Church Road - LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that submission relates to In total

Reasons for submission I would like to see the progression of renewable energy in close proximity to populations. I would also like to see a community initiative to build its own resilience rewarded

Desired decision Grant the Resource Consent

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 24/11/2015 7:36:11 p.m.
Subject: Resource consent application submission - 526127

This resource consent application submission has been made via the Council website on **24 Nov 2015 7:36pm**. The details are listed below.

Personal information

Name Graeme james Fyffe

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number luc-2015-469

Position I oppose this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that

submission relates to position of wind farm

Reasons for submission this position of this wind farm will lower our house prices,visual polution,noise polution,enviroment impact..

Desired decision i want the council to not give consent for this wind farm.....this will have a huge negative impact on the people of warrington

From: gareth.hughes@parliament.govt.nz
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 27/11/2015 3:18:29 p.m.
Subject: Resource consent application submission - 526532

This resource consent application submission has been made via the Council website on **27 Nov 2015 3:18pm**. The details are listed below.

Personal information

Name Gareth Hughes
Address 1 Museum St Te Aro 6011 Wellington
Contact phone 0274229290
Fax
Email address gareth.hughes@parliament.govt.nz

Submission details

Consent number Wind Farm - 147 Church Road - LUC-2015-469

Position I support this application

Wish to speak? Yes

Present jointly to hearing? No

Parts of application that

submission relates to This submission relates to the application in its entirety, though some specific points are related to the environmental and social impacts, the Treaty of Waitangi and local iwi, the community and its involvement and its fit with existing strategies and regulations.

Reasons for submission First off I would like to start by saying that I support this application. Below are the reasons why I am in support. The visual impact that structures can have on a landscape are, for the most part, quite subjective. In this case, though, we have heard from many who have presented quite positive opinions. In particular, Di Lucas, a well-known Christchurch-based landscape architect, can be quoted as saying "The cluster will not conflict with the traditional landscape patterning, but complement it. Landscape integrity is maintained with this proposal and much more so than for activities such as a quarry or forestry block." The noise level from this type of wind farm will be very low and will fall within the New Zealand Standard 6808, which is used to determine the octave-band downward sound levels of the turbines. This means the noise generated from a wind farm such as this will have absolute minimal impact on its surrounding inhabitants and cause minimal to no disturbance. Robin Mitchell and Katherine Dixon, two local ecologists, prepared an ecological assessment of the site in 2013. They found that the site was not ecologically significant; this refers to DCDP

Section 16 Method criteria for assessing ecological significance. They went on to say that there was no native vegetation or native fauna inhabiting the farmland. Also assessed was the likelihood of sediment transport as a result of ground disturbance. They note here that the potential effect is judged to be less than minor with a low likelihood of occurrence. Robin Mitchell was involved in the ecological assessment of the Mahinerangi wind farm, which has a New Zealand falcon population, and in the Blueskin Bay report an analysis of the magnitude of risk of bird strike from the proposed three turbine wind cluster is undertaken. They assess that a “significant adverse effect on native or conservation concern species is unlikely to result from wind farm mortalities at the site” and estimate that “the predicted adverse effect will be minor or less than minor.” They propose monitoring and offset conditions should any adverse effect be recorded, which are supported by Blueskin Energy Ltd. The wind farm will further reduce the need for thermal generation for peaking load (peaking load is the “top up” electricity generation needed at peak times, such as winter evenings when everyone gets home and turns on their heaters and cooks dinner). This will lead to a reduction in the consumption and use of fossil fuels for thermal generation, because coal and gas peaking plants are often used for peak time electricity supply. Because of this, Blueskin Bay is also helping to contribute to the government’s target of 90% renewable electricity supply by 2025. This is a large and positive step forwards for the future of clean, local, small-scale renewable energy technology. BEL works closely with the local iwi, Ngāi Tahu, and is discussing developing information panels from viewing locations with historical and contemporary information, as well as projects to improve the biodiversity of the area and supporting the Orokonui Halo project. The wind farm will plan to return an annual dividend to Blueskin Energy Ltd’s sole shareholder, the Blueskin Resilient Communities Trust (BRCT) who already provide a wide range of community support activities. The development of this wind farm will enable BRCT to maintain and increase the social and environmental services it provides to the community. The process for this farm aligns with the strategic directions set out to achieve the vision of Dunedin’s Social Wellbeing Strategy.

Desired decision I wish for the council to approve the resource consent.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 18/11/2015 12:29:50 p.m.
Subject: Resource consent application submission - 525656

This resource consent application submission has been made via the Council website on **18 Nov 2015 12:29pm**. The details are listed below.

Personal information

Name gareth hughes

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number blueskin energy ltd

Position I oppose this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that

submission relates to Building a wind farm on Porteous Hill

Reasons for submission I believe a wind farm at this location would be very visible and ugly and detrimental to the landscape, the blades would kill birds, and the rhythmic infrasound generated would cause health problems to people with sensitive ears. For your information, I am totally in favour of developing renewable energy sources. I think Blueskin Energy are doing a good job as regards installation of insulation, educating on energy efficiency etc., and they could do even better work in these areas if they dropped this wind farm project which is (I believe) yesterday's technology, uneconomic without subsidies, and being overtaken by solar.

Desired decision Reject application for wind farm on Porteous Hill

Consent Number: LUC-2015-469 Wind Farm - 147 Church Road -

Geraldine Tait

Address: 33 Reservoir Road, RD1 Waikouaiti, 9471 Otago

Phone: (03)4822517

Email: gstait@clear.net.nz

I oppose this application.

I wish to speak in support of my submission.

My submission relates to the following aspects of the application:

Site Location: The proposed wind farm location is near the top of Porteous Hill (401m) which is a significant landscape feature. The hill is one of a ring of medium sized hills which surround Blueskin Bay on three sides and are visible from most view points in the area. The ring of hills from South East to North are: Mopanui (276m), Mikiwaka (561m), Mt Kettle (545m), Weatherston Hill (396m), Double hill (423m), Kilmog Hill (234m), and Porteous Hill (401m). These hills have a mixture of farmland, small forestry blocks and bush on their upper slopes, none of them has any built features except a scattering of farm houses which are mostly well blended into their rural background with shelter belts and other plantings. Behind these to the South are Mt. Cargill (670m) and Swampy (739m), and the Silver Peaks to the West. Mt Cargill is a dominant landscape feature for the Blueskin Bay area and the rest of Dunedin it has a 105m TV repeater aerial which appears as a very large structure even viewed from many kilometres away. This aerial is a lattice work of steel which is a dull grey and not highly reflective, unlike the tower of a wind turbine which is a solid object with high reflectivity and moving parts.

Detailed description of proposed activity: The activity is described as a small scale development of 3 wind turbines less than 125m in height. The number of wind turbines may indeed make it small scale compared to other wind farms however the potential size of the turbines puts it into the large turbine bracket for New Zealand. Presently there are 17 wind farms operating in New Zealand, they can be grouped by turbine height, 7 have the largest turbines of between 100m and 130m, 7 have turbines between 60m and 72m and the smallest ones are 6 farms with turbines under 60m. This information was obtained from a leaflet by the New Zealand Wind Energy Association (www.windenergy.org.nz). When compared to the Mt. Cargill TV aerial at 105m on a hill of 670m, this proposal is for 3 enormous structures up to 125m on a hill of only 401m. To use the term small scale is completely false and misleading.

District plan zoning: The proposal is to site the turbines on an area which is partly zoned rural and partly zoned North Coast Coastal Landscape Preservation Area (CLPA). The flank of the hill which is included in the CLPA is highly visible from a range of perspectives; from the East it can clearly be seen from out at sea (this is a very popular recreational area for fishing, kayaking and sailing) and can also be seen from Tiaroa Head and the entrance to the harbour. Cruise ships pass through this area on a nearly daily basis for 5 months of the year. The whole of Haywards Coast looks towards the North Coast including Porteous Hill. The villages of Warrington and Waitati have clear views of the top of Porteous Hill and it can be viewed from the Northern motorway and the Kilmog which are part of State Highway One. The hill and proposed wind turbine site is also very visible from the main trunk railway line from above Doctors point beach around to Seacliff, this is another popular tourist route. The idea behind a landscape preservation area is to highlight the significance of the area and its need for special protection and controls. In this case it mainly relates to views of the area as

opposed to significant ecological features, anything which will detract from or degrade the appearance of the CLPA has to be considered very seriously. The three large wind turbines (up to 125m high) will be viewed as part of the landscape of Porteous Hill regardless of whether their base is in the rural or landscape zone. Just in the same way as the view of Mt. Cargill incorporates the TV aerial. The effect will be significant, these three structures with large reflective surfaces and moving blades will be almost 1/3 the height of the hill itself. Compared to other windfarm sites in New Zealand this wind farm is proposed to be very close to dwellings and settlements. Most windfarms in New Zealand are in the back country, in remote farming districts or high plateaus which are not in close view of towns, major highways or tourism and recreational areas.

Affected person's approvals: It is highly significant that there are no affected person's approvals. You will no doubt receive submissions from the affected persons who will tell you in their own words the massive impact this proposal will have on their quality of life and wellbeing. The affected persons were neither consulted nor considered when this concept was being developed. On the grounds of ethics and economics this proposal is very poorly thought through, it is a suboptimum site for wind generation and is far too close to people's homes and nearby settlements. For some perverse reason the trust only looked at a few possible turbine sites in the immediate area of Blueskin Bay. Other windfarm developers prioritise the quality of wind and the likelihood of disturbance to local people as their first priority when choosing a site.

Assessment of effects on Environment: The assessments are either completely inadequate or non-existent. The landscape assessment has used photo mock ups which do not give a true picture of what impact the turbines will have on the view of the Porteous hill landscape. There are no representations of what the windfarm will look like from the affected person's properties, this is a major omission. The impact on birds and other wildlife such as skinks is guess work, not proper research or missing altogether. There are no geological or hydrological reports. The whole North coast area is prone to slips and is part of the hazard zone in the draft 2GP. Any work on the road, access track and site preparation could result in serious land movement. Major excavation is required to create a platform for the concrete bases, as the underlying geology is not known the depth and extent of this excavation may be considerably more than has been anticipated. The hill has an underground network of streams which come to the surface as springs, all the local farmers and many of the lifestyle blocks totally rely on spring water for household and stock water. Disturbance at the top of the hill could lead to pollution of this water or diverting of underground streams away from where they are presently utilized. Due to issues associated with land movement and water, a Resource Consent should also be required from the Otago Regional Council.

1.3 Applicant Proposal: The applicant has not provided the model or make of wind turbines to be used therefore any information about the noise, height and other effects are assumptions which give the council and the community no actual facts to base a decision on. This is completely unacceptable.

Statements about the amount of power to be generated are also misleading, although some of the electricity produced may indeed end up in houses in Blueskin Bay, this is not how the electricity market works. The applicant has stated publicly and in written reports that the power will be sold to one organisation or company in Dunedin, it is not destined to be providing a secure or cheap source of power for local people, this is part of the myth about local power production which has allowed to be carried on for many years.

The applicant will no doubt contract out all the work associated with building, maintaining and managing the wind farm, there are unanswered questions about who will project manage this process as it is specialist work, what will the link and control be like between the trust and those carrying out this work?

1.4 Resource Consent requirements: As I have already stated only part of the proposed site is in the rural zone and more importantly it has a major visual impact on the North Coast Coastal Landscape Preservation Area (CLPA).

The applicant has made a poorly disguised attempt to lower the bar on how this application should be assessed. This is not a **Community Support Activity** such as a Play centre or library it is a company wanting to engage in a commercial activity which will have considerable effects and set a precedence for the siting of a wind farm near to homes and settlements in the Dunedin city area.

1.5 Lapse Period: The lapse period is far too long, especially as the huge amount of capital is needed to be raised, which means that this project is unlikely to get off the ground soon if at all. The neighbours and local landowners need to be given more certainty. If this project were to be given resource consent some people may wish to sell up and move away, there properties will be difficult to sell if the future of the proposal can hang on undetermined for 10 years.

2. Project Background: I was an early member of the trust when our focus was on local, household level, energy and insulation issues and to promote sustainability in Waitati. A grant was obtained for a coordinators salary from the Hikurangi Foundation to investigate the possibility of local wind generation to supply our community. Another grant of \$10,000 was used to employ Polson Higgs a Dunedin accounting firm to do a desk top analysis of various aspects of the wind proposal, these included; ownership structure (could it be a community cooperative rather than a private company), funding (how to raise capital and how much might be required), the economics of the venture (the amount of wind resource in our area). Unfortunately the resulting report ran contrary to the trusts aspirations, and showed that it would not be viable to have a cooperatively owned wind farm, and a company structure would be needed. The amount of capital required for such a project would run into the millions and be beyond the limited resources of a small community of a few 100 households. They also detailed that to make a wind generation project viable the reliability and amount of wind had to be more substantial than what was likely to be found close to Waitati (this may have been based on wind collection data from Haywards Point which was measured some years before).

The trust has only ever consisted of a small group of people who had similar interests in the environment and future for our area, as time went on there was a constant change in the trustees who were recruited to fill a gap rather than elected or nominated by the community as a whole. This small handful of people narrowed their focus over time until their main interest was in building a wind farm. The scale and level of ambition involved in this concept went far beyond the original idea of community owned and operated energy production, solely designed to meet local power needs. Somewhere along the way Community got dropped from the project, if it wasn't to be owned, controlled or to supply the Community or to increase local security of supply or cheaper energy costs, then it had become another beast. However the trust failed to communicate all this to the local people, many of whom were interested in or supported the original concept (which involved maybe one or two small turbines 60m or less), so there is a high level of misinformation about the current proposal. The concept of a local (community) wind farm has been promoted all over Dunedin and the rest of New Zealand, this is an illusion, the proposal is in fact for a small group of large wind turbines on a prominent hill which like every other wind farm in New Zealand is using wind to make a profit and selling it into the electricity market place. The background and economics of this proposal may not be seen as a major concern for the consenting authority but as the applicant repeatedly claims this is a community project this story has to be cleared up and the truth revealed. The bar should not be lowered just because some of the people involved with the project are volunteers rather than paid staff, the same rigor must be applied as if this application was from Pioneer Generation or Meridian.

3. Proposal: I will briefly list my areas of concern and the flaws in the application.

As stated earlier on, definite information has not been supplied about the type, brand, model or size of the proposed turbines, therefore any details about the foundations, earthworks, turbine layout, transmission connection (no easement has been obtained) and access corridor are all guess work, hardly good enough for a resource consent for an activity of this prominence and scale.

3.2 Operation and Maintenance Activity: This section talks about repairs, replacement and removal. It is a great concern to the local people what will happen to the windfarm if the project fails financially, who will be responsible to removal and decommissioning of the windfarm. The other possibility is if it runs into financial difficulty it may have to be sold to pay back debt. If the windfarm were consented on the false premise that it is of some benefit to the community this is a tenuous connection, it is unlikely that a new owner would be obliged to contribute to local causes.

4. Community support Activity: I have already outlined some of the history of the trust and the minor community involvement. A large number of activities are listed under the services the trust provides, it is difficult to quantify what they actually do, who they are, how much true community involvement there is and what they have achieved. However two aspects of this section need to be challenged. Building a wind farm does not contribute towards decarbonisation of the local economy. Most electricity production in New Zealand is from renewable sources, the big coal powered plants are being closed down, all the wind farms in New Zealand together (and there are some big ones) only produce 4.5% of our annual electricity production, just a drop in the bucket. The Tiwai Point aluminium smelter uses about 15% of the total electricity produced in New Zealand, this is likely to close in the next few years due to reduced international demand and the age of the plant. New Zealand will be flush with power and prices paid for electricity will drop. How would we reduce carbon emissions? Reduce our reliance on transport fuels for cars, trucks, trains and planes would be the best way. Get Fonterra to stop using coal to power its milk processing plants. The type of projects that think small, local and for the benefit of people at the household level would be the best focus for a community organisation interested in energy issues and sustainability.

The other major concern that arises from this application under the guise of a Community project is that a lot of claims have been made about benefits including profits which will go back to the community for worthy social and environmental services. There is not definitive list of what the trust will donate funds to, who can apply, how much is likely to be available, who will be on a committee to distribute funds and how grants will be made. This is a glaring hole in the application, we now know it is not going to be owned by the community (the \$6m cost of the project will require outside investors), the power is to be sold to an organisation or company beyond Blueskin Bay, the trust is a loose, frequently changing group of volunteers who may but probably don't represent the local population, and if there are profits for the trust as well as the investors there is no transparent process for these to be distributed fairly.

This project does not service the Blueskin townships and will not lead to greater resilience, this is completely false.

5. Community engagement in the Project: The trust has failed to follow the best practice principles of inform, consult and involve. The process described as to how the community was engaged is incorrect. Most people who knew anything about it, or took the slightest bit of notice (not everyone is interested in energy and sustainability) thought it was a small scale project which would be community owned and would help resolve local issues of "power cuts and high energy prices". A few student projects only involving small numbers of interviewees (possible handpicked for high approval rating) were undertaken. This is not consultation. Multiple articles were written in the local newsletter, the Blueskin News, read by how many people we don't know. One series of information meetings were held in local halls some years ago, 95 attended out of 1000 invites sent out. There

have been no recent meetings, minimal contact with the affected parties and many local people are totally in the dark about the scale, size, ownership and economic viability of this project.

Where is the evidence of formal consultation and support from the local Iwi?

Many people beyond Blueskin Bay have been drawn in to support this project without full information as to what the impacts are, the risks, the lack of local control and benefits. For example as a member of the Waikouaiti Coast Community Board we have never endorsed or given our support for this project, it is very dangerous to list a whole lot of organisations to say you have consulted them and engaged them when this is completely untrue.

The trust has never been nor will this wind farm project be community controlled. There are many community groups within the Blueskin Bay area which have different interests and memberships. They are groups within the community such as the Garden club for people who are interested in gardening, the Playcentres which offer preschool services to young children, the Volunteer Fire Brigade, these groups have specific roles or aims, engage some people but not others from the community, do good work, have elected committees and accountable processes for handling their finances, they are run by volunteers. They do offer services to the community but don't claim to represent the whole community, they may be open to all but not everyone is involved in their activities. The BRCT trust is an organisation within the community, people who are interested in their aims can join, decisions are made by unelected trustees. On the whole it is a less transparent and open organisation than most other groups in our area. They do not have a mandate from the local community.

I also wish to comment on other aspects of the consent in my oral submission.

6. Manawhenua.

7. Sustainability.

8. Assessment of Environmental Effects.

9. Policy Statements and Plans.



DUNEDIN CITY
COUNCIL
Resource Management Office

SUBMISSION FORM 13

Submission concerning resource consent on publicly notified application under
section 95A

Sections 95A, Resource Management Act 1991

To: Dunedin City Council, PO Box 5045, Moray Place, Dunedin 9058

Resource Consent Number:

LUC-2015-469

Applicant: Blueskin Energy Limited

Site Address:

147 Church Road, Merton

Description of Proposal:

Establish a community wind farm comprising three turbines

I/We wish to lodge a submission on the above resource consent application:

Your Full Name: Geoff Scurr Contracting Ltd

Address for Service (Postal Address):

[Redacted]

Post Code: 9510

Telephone:

[Redacted]

Facsimile:

Email Address:

[Redacted]

I: Support Neutral Oppose this Application I Do Do Not wish to be heard in support of this submission at a hearing

If others make a similar submission, I will consider presenting a joint case with them at a hearing.

(Delete the above statement if you would not consider presenting a joint case at a hearing)

Please use the back of this form or attach other pages as required

The specific parts of the application that this submission relates to are:

See attached

My submission is [Include the reasons for your views]:

See attached

The decision I wish the Council to make is [give precise details, including the parts of the application you wish to have amended and the general nature of any conditions sought]:

See attached

Signature of submitter:

[Signature]

(Tracey Scurr)
Director

Date: 2/12/15

(or person authorised to sign on behalf of submitter)

Notes to Submitter:

Closing Date: The closing date for serving submissions on the Dunedin City Council is **Wednesday 2 December at 5pm**. A copy of your submission must be served on the applicant as soon as reasonably practicable after the service of your submission on the Dunedin City Council. The applicant's address for service is 1121 Mount Cargill Road, RD 2, Waitati 9085.

Electronic Submissions: A signature is not required if you make your submission by electronic means. Submissions can be made online at <http://www.dunedin.govt.nz/rma> or sent by email to planning@dcc.govt.nz

The specific parts of the application that this submission relates to are:

- Assessment of Environmental Effects and Resource Consent Application Dunedin City Council (October 2015):
 - 5. *Community Engagement in the Project. 5.1. Community Engagement, Page 16.*
 - 8. *Assessment of Environmental Effects, 8.1. Positive Effects, Page 23.*
Assessment of Environmental Effects, 8.3. Operation and Maintenance Effects, Page 30, 31 and 32.
- Landscape Assessment (2015). *Vegetation Map, Page 12.*
- Landscape Assessment (2015). *Page 9.*

My submission is:

1. **5. Community Engagement in the Project. 5.1. Community Engagement, Page 16.**

Geoff Scurr Contracting Ltd (GSCL) has been consulted on the windfarm project several times over the past two to three years which has given ample time and opportunity to consider any possible implications. This engagement has been helpful and the application for resource consent came as no surprise. GSCL appreciates the early engagement and recognises that this went beyond what the Applicant was obliged to do.

2. **8. Assessment of Environmental Effects, 8.3. Operation and Maintenance Effects.**

Visual and Landscape, page 30:

GSCL agrees with the assessment that the visual and landscape effects on the quarry at Pryde Rd will be minor. The upper benches of the quarry will have a direct view of the turbines, however, the operation of the quarry is unlikely to be directly affected by this.

Noise, page 31:

GSCL has no concerns regarding the noise effects of the windfarm on the quarry operation.

Ecology, page 32:

"The study considered the only potential ecological risk of any potential substance is the risk of bird mortality during operation."

GSCL agrees that there is a risk of bird mortality (see point 4.)

Productive Land, page 32:

GSCL agrees with the assessment that the loss of productive capacity of land is not considered to be significant.

However GSCL has the following concerns regarding effects which could, if not mitigated, have a more than minor impact on the productivity of the quarry operation. We would prefer these effects to be addressed by appropriate conditions of consent.

3. 8. Assessment of Environmental Effects, 8.1. Positive Effects, Page 23.

"Flow on positive effects will be an increase in tourist and visitor numbers."

We consider that Pryde Road will provide the best viewing opportunities for tourists and casual observers wanting to take photographs or get a closer look at the windfarm.

Furthermore, we consider that the passing bays constructed at GSCL's cost on Pryde Road as a condition of the quarry consent for the purpose of allowing trucks to pull over allowing the easy passage of passenger vehicles, could be used as parking spaces by tourists and casual observers. There are currently no other suitable places to pull over and take photographs, either on the relevant section of state highway 1, or on Pryde Road.

There is currently neither exit nor turning space at the top of Pryde Road.

Should tourists and casual observers of the windfarm use Pryde Road in such a manner as predicted then it is expected that there will be more than minor effects on GSCL and other property owners who access their properties from Pryde Road.

We consider that because an increase in tourism is anticipated by the Applicant then the effects of increased tourism should also be anticipated, assessed, and provided for.

We seek that appropriate conditions be included, should consent be granted, to mitigate any effects of increased tourism in the direct area. GSCL would expect this condition to be specific about how these effects, if accepted, will be managed, rather than general, such as requiring a Traffic Management Plan to be developed after consent has been granted.

4. Landscape Assessment (2015). Vegetation Map, Page 12.

The Vegetation Map neglects to identify a QEII covenanted 1.6ha area of native shrub above the quarry (located just outside the top edge where the map cuts off). This is a habitat for birds in the area.

Birdlife in the covenanted area could be reduced as a result of the windfarm.

Birdsong is often observed to be quite loud in and around the quarry and from offsite it is audible above quarry noise. Therefore birdlife present in the covenanted area provides a pleasant balance to noises which are typical from a quarry operation.

We seek that appropriate conditions be included, should consent be granted, to mitigate any effects on bird populations so that the level of birdlife present in the covenanted area does not decline.

5. Landscape Assessment (2015). Page 9.

"Turbines will be visible from the highway for a kilometre length between the Pullar and Pryde Road intersections."

"They will be a surprise, as seeing windturbines from state highway 1 is currently a rare site."

We consider that the introduction of a rare sight and a "surprise" at the same point along a one kilometre stretch of state highway 1 where truck and trailer units from both directions slow to turn into the Pryde Road intersection, and also pull out of the intersection onto the highway, will introduce a potentially hazardous effect for quarry traffic and other road users.

We accept that the windfarm would indeed be a rare sight from state highway 1 - a situation which could not be avoided in the proposed location. We therefore seek that appropriate and specific conditions be included, should consent be granted, to mitigate the surprise element for road users.

The decision I wish the Council to make is:

If the Council decides to grant consent, to include specific conditions to address the effects raised in this submission.

From: Jay Glubb
To: Talei Anderson <Talei.Anderson@dcc.govt.nz>
Date: 2/12/2015 12:02:48 p.m.
Subject: RE: wind project (#57D19C)

Oh and full name is Jay Glubb.

From: Talei.Anderson@dcc.govt.nz
To: [REDACTED]
Subject: RE: wind project (#57D19C)
Date: Tue, 1 Dec 2015 22:54:27 +0000

Good morning Jay

Thank you for your submission for LUC-2015-469 – 147 Church Road.

Could you please provide the following information for your submission

- Postal Address
- Contact phone number
- Whether or not you wish to speak to your submission
- Whether or not you wish to present a joint case with others with a similar submission

Regards

Talei Anderson

From: Jay Glubb [mailto:jugglerjay@hotmail.com]
Sent: Tuesday, 1 December 2015 11:02 a.m.
To: planning@dcc.govt.nz
Subject: wind project (#57D19C)

Hi,

I would like to make a submission about the proposed wind project out in Waitati (wind project (#57D19C)). I am a Waitati local and I suspect the wind turbine will be visible from certain parts of our land.

I am in favour of it going ahead for the following reasons:

It is an ambitious project which could can lead the way for future developments of this kind in the country.

The community has been kept up to date and been made to feel involved in the development (mainly through our local newsletter, the Blueskin News).

From my reading of the investigation of the available information and my own thinking on the subject I think the harm caused by this project will be minimal.

And finally.....

A huge amount of time and work have gone into attempting to get this off the ground and I personally would like to support anyone who is willing to try to achieve something like this. Of course it is very hard to see all the pluses and minuses in something like this but at each stage I have felt that the process has been very open and transparent.

we live in a changing world- and as such we need to learn to move and change with it. New Ventures carry risks and challenges but ultimately and ironically staying still and not changing is just as much a risk. I am very much in favour of this project.

Many thanks for your time, Jay

If this message is not intended for you please delete it and notify us immediately; you are warned that any further use, dissemination, distribution or reproduction of this material by you is prohibited.



DUNEDIN CITY COUNCIL
Kaitiaki - te kōwhiri o te Ora

SUBMISSION FORM 13 Submission Pg S88

Submission concerning resource consent on publicly notified application under section 95A

Sections 95A, Resource Management Act 1991

To: Dunedin City Council, PO Box 5045, Moray Place, Dunedin 9058

Resource Consent Number:

LUC-2015-469

Applicant: Blueskin Energy Limited

Site Address:

147 Church Road, Merton

Description of Proposal:

Establish a community wind farm comprising three turbines

DCC

I/We wish to lodge a submission on the above resource consent application:

03 DEC 2015

Your Full Name:

Alan John Greenall

Business Information

Address for Service (Postal Address):

[Redacted Address]

Post Code:

Telephone:

[Redacted Telephone]

Facsimile:

Email Address:

I ~~Support/Neutral~~ Oppose this Application

I: Do/Do Not wish to be heard in support of this submission at a hearing

If others make a similar submission, I will consider presenting a joint case with them at a hearing.

(Delete the above statement if you would not consider presenting a joint case at a hearing)

Please use the back of this form or attach other pages as required

The specific parts of the application that this submission relates to are:

Failing To supply Full and Accurate Information regarding application.
Trying To make out it is a community project, when it is certainly not.
A Huge risk To our Native Birds, Seabirds etc. with Bird strike.

My submission is (include the reasons for your views):

Failing to give accurate Information To the Community by not accurately painting out The site ie 147 church road on the application, when it is Porteous ~~just~~ ~~the~~ road site on Left when Facing east.
I have spoken to a Lot of people in the community and They New nothing ~~that~~ ~~stems~~ in the regards to it being a community project.
I have been here 4 years and it is the first I have heard about it. So there fore I take it as just Talk to help the project for those concerned. In wellington There has been a Lot of bird strikes To kaka and birds that have taken ~~at~~ residence in there bird Sanctuary The same as Orakeiwhai Sanctuary.

The decision I wish the Council to make is (give precise details, including the parts of the application you wish to have amended and the general nature of any conditions sought):

I submit That The council should say No to any wind Farm on The Otago Coast and especially This Area of Coast in particular. The Dunedin City Council plan for The Coastal areas 11th of Dunedin, in my view Rules out These Three Turbines completely.

Signature of submitter:

[Signature]

Date: 29/11/15

(or person authorised to sign on behalf of submitter)

Notes to Submitter:

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Privacy: Please note that submissions are public. Your name and submission will be included in papers that are available to the media and the public. Your submission will only be used for the purpose of the notified resource consent process.

From: Murray Grimwood
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 2/12/2015 3:43:57 p.m.
Subject: Blueskin Wind submission - ref LUC-2015-469

From: Murray James Grimwood.

[REDACTED]

[REDACTED]

[REDACTED]

I support, with qualifications.

I wish to be heard.

Windfarm submission.

I support this application, with qualifications.

I also challenge much of what I hear in the way of opposition.

Overview

We are rapidly approaching several global bottlenecks, of which Climate Change is but one. Draw-down of Natural Capital, overpopulation and under-addressing of pollution are all parts of the compounding problem.

We need to put society – locally, nationally and globally – on a sustainable footing, and we are seriously late in doing so. Locally and nationally we are fundamentally hamstrung in that we have to operate under the Brundtland definition of sustainability,

key to our RMA. Unfortunately, whatever else it is, the Brundtland definition is not a definition of sustainability. We may end up challenging it before this process finishes.

The use of fossil energy is not sustainable – it's a one-off draw-down. Currently, fossil energy is essential to human life at all levels; a paradigm with only one possible end result; collapse. That is not up for debate (only the pathway is).

That being a clearly stupid goal, we must change to renewable energy (fossil resources do much more as feedstock too, but that is not the issue here) using the remaining fossil energy. Given that we are already using it full-noise, and that we have already dug up and burnt the best, the move to renewables cannot be fast enough.

Nimbyism – while understandable – cannot possibly carry the same weight in terms of social urgency. Many of the objectors are indulging in land-use practices which are – in a word – unsustainable (see Para 2).

So we are left with one question; is this proposal the best use of the time and resources remaining? This question is obscured by our societal conversation being almost totally about 'money' – which is irrelevant to a large degree. In a truly sustainable society/economy/ecology, you cannot 'make a return' on 'investment'; the return would expect to be spent, which represents 'growth'. Growth and sustainability are incompatible.

So we simply ask; Is this the best thing – or one of the best things – that can be done at this time?

It certainly beats producing meat from Abbotsford clay terrain using fossil fuels.

Given that I live close-by, I could claim to be worried by the noise possibility; this would be somewhat hypocritical given the incessant highway noise we all currently accept.

Aesthetics? We all accept the Mt Cargill tower; unbolt these things and the terrain is unaltered; the same cannot be said of most other land-use practices.

A longer-term question is whether this proposal can be severed from the 'grid', in the face of societal/fiscal breakdown. If it cannot – and local storage would seem to be a pertinent factor – then is there a better way of building local energy resilience?

But basically I look to the applicant to convince me that the proposal is better here than at a windier site, and that it is better – more sustainable, more resilient - than the alternatives (local hydro, solar PV, other). If that is done, it has my support.

Murray Grimwood.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 2/12/2015 12:06:09 p.m.
Subject: Resource consent application submission - 527260

This resource consent application submission has been made via the Council website on **02 Dec 2015 12:06pm**. The details are listed below.

Personal information

Name Heather Fleming

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number Wind farm-147 Church Road-LUC-2015-469

Position I oppose this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that

submission relates to Landscape, Environment, Ecology, Community

Reasons for submission It will have significant visual impact on the prominent Porteous Hill from every part of the Blueskin Bay area (a recent resource consent on Potato Point was declined for this reason). It will be a visual blight on the landscape of a natural area where, under the 2GP plan, parts of Blueskin Bay are identified as significant natural landscapes. It will pose a risk to bird strike in an area renowned for its birdlife including godwits, terns, spoonbills, herons, kingfishers and gulls. There will be negligible benefit to the Blueskin Bay community as the electricity market is flat and will continue to be flat in the short to medium term, especially with Tiwai Point likely to close. So what little electricity might be generated will sell cheaply to the national grid. This company is unlikely to make a profit for many years, if at all. The Blueskin bay community is under the misconception that the community will be provided with cheap electricity as a result of this project, with many unaware that this is not the case. Whilst there has been communication with the community via newsletters etc, there has been little detail on the cost-benefit of this project. The community must be provided with more detailed information, particularly how the company will provide benefits, what those benefits will be and who will benefit in particular? My view is that the costs (direct and indirect) far exceed any potential benefits.

Desired decision I would like to see this application declined.



DUNEDIN CITY
COUNCIL
Kaitiaki-ārahe o Ōtēpoi

SUBMISSION FORM 13

Submission Pg S94

Submission concerning resource consent on publicly notified application under section 95A

Sections 95A, Resource Management Act 1991

To: Dunedin City Council, PO Box 5045, Moray Place, Dunedin 9058

Resource Consent Number:

LUC-2015-469

Applicant: Blueskin Energy Limited

Site Address:

147 Church Road, Merton

Description of Proposal:

Establish a community wind farm comprising three turbines

DCC

16 NOV 2015

I/We wish to lodge a submission on the above resource consent application:

Your Full Name:

Hilary Jane Rowley

Address for Service (Postal Address):

[Redacted Address]

Post Code: 9085

Telephone:

N/A

Facsimile:

Email Address:

[Redacted Email Address]

I: Support/Neutral/Oppose this Application

I: Do/Do Not wish to be heard in support of this submission at a hearing

If others make a similar submission, I will consider presenting a joint case with them at a hearing.

(Delete the above statement if you would not consider presenting a joint case at a hearing)

Please use the back of this form or attach other pages as required

The specific parts of the application that this submission relates to are:

The visuals

The birds

My submission is [include the reasons for your views]:

I think the visuals have been presented well, and in a realistic manner. I will be able to see the turbines from my house and am looking forward to being able to see them in action.

I used to live high up in a similar Rural environment in Seaford, and there were very few native birds. Black birds, Magpies, Skylarks. I don't think birdstrike will be a problem, especially of native or special birds.

The decision I wish the Council to make is [give precise details, including the parts of the application you wish to have amended and the general nature of any conditions sought]:

To approve the application as it is.

Signature of submitter:

H. Rowley

Date:

11.11.2015

(or person authorised to sign on behalf of submitter)

Notes to Submitter:

Closing Date: The closing date for serving submissions on the Dunedin City Council is **Wednesday 2 December at 5pm**. A copy of your submission must be served on the applicant as soon as reasonably practicable after the service of your submission on the Dunedin City Council. The applicant's address for service is 1121 Mount Cargill Road, RD 2, Waitati 9085.

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Privacy: Please note that submissions are public. Your name and submission will be included in papers that are available to the media and the public. Your submission will only be used for the purpose of the notified resource consent process.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 1/12/2015 2:49:35 p.m.
Subject: Resource consent application submission - 527126

This resource consent application submission has been made via the Council website on **01 Dec 2015 2:49pm**. The details are listed below.

Personal information

Name martin Hickley

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC 2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that

submission relates to establish a wind farm Porteous Hill near Warrington

Reasons for submission It is an important step in establishing renewable energy options in the area. Sustainable, low carbon renewable energy sources that create resilient communities should be supported. Council should support a community that has a great deal of positive initiative.

Desired decision Council should support such initiatives. DCC should be seen as a leader in renewable energy.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 2/12/2015 2:18:12 p.m.
Subject: Resource consent application submission - 527272

This resource consent application submission has been made via the Council website on **02 Dec 2015 2:18pm**. The details are listed below.

Personal information

Name Jeffory Peter Higbee

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number Wind Farm - 147 Church Road - LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? Yes

Parts of application that

submission relates to Small Scale wind farm development.

Reasons for submission I believe this is the right location the right direction for a community energy project. This project will strengthen our communities in the immediate, mid and long-term future.

Desired decision I would like the council to approve the resource consent for the Blueskin Wind Farm at 147 Church Road, Waikouaiti.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 30/11/2015 6:34:29 p.m.
Subject: Resource consent application submission - 526916

This resource consent application submission has been made via the Council website on **30 Nov 2015 6:34pm**. The details are listed below.

Personal information

Name Marian Hobbs

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number Wind farm: LUC-2015-469

Position I oppose this application

Wish to speak? Yes

Present jointly to hearing? No

Parts of application that

submission relates to 1) Community engagement in the Project 2) Assessment of Environmental Effects: Ecology 3) NPS for renewable Electricity Generation 2011.

Reasons for submission Community Engagement. While this project has a long and worthy history, built around the nature of resilience, be it food or energy, the project has changed since its beginnings. Most of the community engagement occurred some years ago. I was asked to attend a public meeting in Warrington in the evening of 19th November. As I listened I became aware of some frustration among the residents. They had questions that were not answered; they had concerns around ground stability and bird safety that were not dealt with in the meeting or in the submission. Telling people that you are planning to carry out a project is not community engagement and I do not believe, despite the studies and the years of meetings, that this has been achieved with the Warrington community, particularly those who live on Porteous Hill. Assessment of Environmental Effects: Ecology. The Ecological Report provided with this application admits that it was "not possible to assess the potential adverse effects of turbine air strike at this time, owing to the lack of data on the species, numbers, and use frequency of birds flying through the site." So what followed was an educated guess rather than a study of the site for at least a year (four seasons). In contrast, the residents of Porteous Hill cited a familiarity with native falcons and they expressed concern for their safety.

The application notes that you could site/position the turbines to lessen the chance of birdstrike, but it does not go into detail over the mists that predominate in the area and what effect this has on bird flight, particularly if lights have to be put on top of the turbines for aircraft safety. I have been advised that birds are attracted to lights in fog/mist. The precautionary approach cited in this application should result in a year long study of bird movements in the area, including testing with high lights in mist. I cannot accept that it is a valid practice of the precautionary approach, to limit the study to some observations made during the construction phase. NPS for Renewable Electricity Generation(NPSREG) The application cites the relevance of the National Policy Statement on Renewable Electricity Generation to this application. "The Council is required to give regard to, and give effect to, the NPSREG through the decision making process under the RMA." The application argues that this proposal should be viewed positively because "the electricity generated from the wind farm is to be fed straight into the local distribution network" and that this will enhance the security of the electricity supply at the local level. I struggle with this. I understand from information gleaned at the public meeting that the electricity generated by these three windmills will be linked to the national grid, along with all the electricity from Waipori, Waitaki, Manapouri et alia. What is in that pot gets distributed to local areas. My limited understanding of physics suggests that you cannot identify which is which. I understand that originally the Blueskin Trust thought that they might generate electricity, bypass the national grid and distribute it directly to the Blueskin community. That is an attractive idea. It is what attracts several local families who use windmills and voltaics to provide their household energy and why they have subsequently cut themselves from the national grid. If that were still the case, then maybe with a standby generator and more extensive use of voltaics, Blueskin Community could be independent and self reliant and secure. But with the electricity generated going directly to the national grid there is no guarantee that Blueskin residents are any more secure than the residents of Sawyers Bay! From comments at the meeting I understand that direct access to electricity from the windmills has been replaced with a promise of a substantial cash dividend to the community. That is a very different argument. Please note: I am strongly in favour of renewable energy , to replace fossil fuels. And I like wind farms...but it is not helpful to favour one environmental positive by ignoring other environmental negatives.

Desired decision I am not sure of all the variables available to the Council. My preference would be for the applicants to be asked to complete a year long bird survey; to engage with the community where the questions can be answered about ground stability and birdstrike and then to reapply. If that is not an option then I do not want to see this application approved.

From: admin@puketeraki.nz
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 2/12/2015 10:37:21 a.m.
Subject: Resource consent application submission - 527240

This resource consent application submission has been made via the Council website on **02 Dec 2015 10:37am**. The details are listed below.

Personal information

Name Kati Huirapa Runaka ki Puketeraki Inc Soc
Address 121 Grimness St Karitane 9440 Dunedin
Contact phone 03 465 7300
Fax 03 465 7318
Email address admin@puketeraki.nz

Submission details

Consent number LUC-2015-469

Position I support this application

Wish to speak? Yes

Present jointly to hearing? No

Parts of application that submission relates to All

Reasons for submission We wish to support the application of Blueskin Energy Limited to install a small windfarm on Porteous Hill. We see this as a significant project operating on a community wide, bio-regional and multi generational level and as such it fits with many of our beliefs and goals as manawhenua. We want to acknowledge that the period and level of engagement and consultation about this project has been high and thoughtful between the applicants and the runaka. We endorse the commitment of the trust organising this project to return a dividend to the community and would see this as an opportunity to build and strengthen relationships and projects with the runaka and wider communities in the Blueskin Bay Area. This could be on several levels including environmental and ecological restoration, support for whanau to deal with climate change impacts, support to whanau and local organisations to become more energy efficient and resilient. We see this as a positive project representing an active kaitiaki or guardianship duty on behalf of the wider Blueskin Bay community. We applaud the stated goals of the project to fund an ongoing response to climate change locally. We are already concerned about the capacity of stressed eco-systems in this rohe to cope with the added stress and complications bought about by climate change, that is, changing sea levels, temperatures and weather patterns. We hope that this project

succeeds as intended and is able to support mitigation of these impacts for our taonga species in the area. We believe that the proposed windfarm project sends a clear message to our tamariki and rangatahi that the current generation of pakeke (adults) in this community have taken up the responsibility and the challenge to act like true guardians of the land and natural resources. This is an important message and not one that is obviously seen elsewhere. We believe that the proposed windfarm has the potential to become a tourist attraction as they have in other parts of the country. We see this as an opportunity to not only introduce visitors to the beauty and history of our area but that it creates further opportunities for local businesses. We have listened to respected ecologists at Wildlands suggest need for ongoing monitoring of birds at various times of day and year to monitor any concerns to birds and would support this as a condition of granting consent.

Desired decision To grant consent for the windfarm in its entirety



Kāti Huirapa Rūnaka ki Puketeraki

2 December 2015

John Sule
Dunedin City Council
PO Box 5045
Dunedin 9054

Tēnā koe John

Re: LUC-2015-469 – Blueskin Energy Ltd Windfarm Church Road consent application

We wish to support the application of Blueskin Energy Limited, in its entirety, to install a small windfarm on Porteous Hill, in East Otago. We see this as a significant project operating on a community wide, bio-regional and multi-generational level and as such it fits with many of our beliefs and goals as manawhenua.

We want to acknowledge that the period and level of engagement and consultation about this project has been high and thoughtful between the applicants and the runaka.

We endorse the commitment of the trust organising this project to return a dividend to the community and would see this as an opportunity to build and strengthen relationships and projects with the runaka and wider communities in the Blueskin Bay Area. This could be on several levels including environmental and ecological restoration, support for whanau to deal with climate change impacts, support to whanau and local organisations to become more energy efficient and resilient.

We see this as a positive project representing an active kaitiaki or guardianship duty on behalf of the wider Blueskin Bay community. We applaud the stated goals of the project to fund an ongoing response to climate change locally. We are already concerned about the capacity of stressed eco-systems in this rohe to cope with the added stress and complications brought about by climate change, that is, changing sea levels, temperatures and weather patterns. We hope that this project succeeds as intended and is able to support mitigation of these impacts for our taonga species in the area.

We believe that the proposed windfarm project sends a clear message to our tamariki and rangatahi that the current generation of pakeke (adults) in this community have taken up the responsibility

Marae: Apes Road, Puketeraki. Office: 121 Grimness Street C/0- Post Office, Karitane, 9440,

Phone (03) 465 7300, Fax (03) 465 7318, Email: manager@puketeraki.co.nz

and the challenge to act like true guardians of the land and natural resources. This is an important message and not one that is obviously seen elsewhere.

Kāti Huirapa Runaka believes that the proposed windfarm has the potential to become a tourist attraction as they have in other parts of the country. We see this as an opportunity to not only introduce visitors to the beauty and history of our area but that it creates further opportunities for local businesses.

We have listened to respected ecologists at Wildlands suggest need for ongoing monitoring of birds at various times of day and year to monitor any concerns to birds and would support this as a condition of granting consent.

Kāti Huirapa wishes to speak to a consents hearings committee in support of this submission, if it arises.

Ngā mihi

A handwritten signature in black ink, consisting of several fluid, overlapping strokes that form a stylized representation of the name Justine Marshall.

Justine Marshall
Office Manager

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 22/11/2015 5:45:56 p.m.
Subject: Resource consent application submission - 525913

This resource consent application submission has been made via the Council website on **22 Nov 2015 5:45pm**. The details are listed below.

Personal information

Name Isabel Smith

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC 2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that submission relates to The whole.

Reasons for submission I would like renewable energy to form a greater percentage of our electricity supply.

Desired decision Grant the consent.

From: Initial Volco Trust
To: planning@dc.govt.nz - planning@dc.govt.nz
Date: 02/12/2015 17:01
Subject: Resource consent application submission - 027305

This resource consent application submission has been made via the Council website on 02 Dec 2015 17:01 The details are listed below.

Personal information

Name: Initial Volco Trust
Address: PO Box 5322 Dunedin
9050
Contact phone: 03 477 2014
Email address:
[REDACTED]

Submission details

Consent number: LUC-2015-460
Position: I support this application
Wish to speak? Yes
Present jointly to hearing? Yes
Parts of application that submission relates to: Its entirety.

Reasons for submission Initial Volco Trust is a charitable trust. We were formed in 1976 to care for land on Mt Cargill Road and to advance a range of environmental and social goals. We manage one of the largest blocks of native forest covenanted to QEII Trust in Coastal Otago, as well as several other blocks of land on Mt Cargill Road, residential housing, plantation forestry, a farm and orchards. Our land has been toxin free for 40 years. We have used our funds to support numerous ecological and environmental campaigns. This has included the nuclear free movement, the organic / soil & health movement, animal rights movement and recently the Orokonui Eco-Sanctuary. Over the last 40 years we have provided short and long term accommodation to 100s of people that have taken an active role in different environmental, cultural and social activities, campaigns and projects around the wider region.

We see the campaign to shift to a low carbon future and mitigate the effects of climate change as the greatest challenge of our present time. Our trust is gearing its resources and activities towards providing experience, funding and access to our land and assets that means we can actively play our part in meeting the challenge of climate change.

We therefore strongly support the work of Blueskin Resilient Communities Trust and the company Blueskin Energy Limited. We have donated money to their work and may invest funds in the company should the project to establish the wind farm on Porteous Hill come to fruition.

We believe the wind farm will add an important visual element to the landscape in the proposed area. The area is currently barren land typified by a commercial farming landscape and as such is already heavily modified. We believe the wind farm will be attractive and create an important symbol to all that live in the district and pass through about our need to respond positively to climate change and transform the nature of energy generation to a small scale low carbon and localised model. Distributed local energy generation is ultimately the most efficient model.

We support the project developers (BRCT & BEL) model to support local investment in community focused social enterprise. We see the community dividend from the wind farm operation as a fantastic initiative that will have the capacity to provide ongoing support to a range of social and environmental outcomes, much like our trust does, but with a greater capacity.

We congratulate the project developers for their commitment to community consultation and engagement which from our perspective as been thorough and exhaustive. Our trust members have attended various meetings and have received very good information following any enquiries about the proposed wind farm.

Desired decision That the resource consent application be approved.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 30/11/2015 1:25:51 p.m.
Subject: Resource consent application submission - 526833

This resource consent application submission has been made via the Council website on **30 Nov 2015 1:25pm**. The details are listed below.

Personal information

Name Jen Rodgers

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number 2015-469

Position I support this application

Wish to speak? Yes

Present jointly to hearing? Yes

Parts of application that

submission relates to purpose/description to support and increase BRCT community work environmental effects are minimal

Reasons for submission I'm a local resident of Blueskin bay-BRCT bringing our community together to learn more and to take action towards community resilience. the wind farm dividend will enable more great work to be done. there is good community support for the windfarm. energy will be fed back to the grid so it will reduce greenhouse gases by reducing need for thermal + coal generated energy at peak load times (this contributes to the NZ government's target of 90% renewable energy by 2025. The environmental effects are less than minimal- as found in the environmental assessment report- the area is pasture and no native vegetation exists. the issue of bird strike has been assessed and unlikely to be significant

Desired decision grant permission for the wind farm to proceed/ give the windfarm resource consent

Talei Anderson

From: [REDACTED]
Sent: Tuesday, 10 November 2015 08:52 p.m.
To: planning@dcc.govt.nz
Subject: Resource consent application submission - 524779

This resource consent application submission has been made via the Council website on **10 Nov 2015 8:51pm**. The details are listed below.

Personal information

Name Jeremy Alexander Clayton
Address [REDACTED]
Contact phone [REDACTED]
Fax
Email address [REDACTED]

Submission details

Consent number Wind farm 147 Church Road LUC 2015 469

Position I oppose this application

Wish to speak? Yes

Present jointly to hearing? Yes

Parts of application that submission relates to Position of turbines, negative effect on locals

Reasons for submission The negatives far out whey the positives. It will compromise locals lives financially by devaluing the farms and farmlets near the turbines because of noise, impeding views and flashing lights. Possibly upto 50% which is huge. It will ruin the perfect view you have all the way from pigeon flat to waikouaiti. Why try to reduce the footprint a tiny village has with giant turbines rather than a city or a much bigger town? It's hard to believe investors would fork out 6 MILLION DOLLARS for such a small operation which will not provide a lot of electricity for not many people therefor not a lot of profit for the community so where is the money coming from? Also why can't they find a more appropriate place where they won't effect any locals or views like near Mt Cargil. It is not fair on anyone it effects

Desired decision Please do not allow this project to go forward

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 2/12/2015 3:10:40 p.m.
Subject: Resource consent application submission - 527290

This resource consent application submission has been made via the Council website on **02 Dec 2015 3:10pm**. The details are listed below.

Personal information

Name Jenny Coatham (on behalf of Generation Zero
Address [REDACTED]
Contact phone [REDACTED]
Fax
Email address [REDACTED]

Submission details

Consent number Wind Farm - 147 Church Road - LUC-2015-469

Position I support this application

Wish to speak? Yes

Present jointly to hearing? No

Parts of application that

submission relates to 1. Specify the specific parts of the application that this submission relates to (Required) - Section 9.6. - referring to DCDP (2006). - Objective 6.2.1 - "Maintain the ability of the land resources to meet the needs of future generations" - Section 9.7 - referring to DCDP (2015) proposed. - Section 5 - Network Utilities and Energy Generation (City-wide Activity) - Objective 2.2.2. - "Encourages energy resilience through supporting the development of local renewable electricity generation in appropriate locations". - Objective 5.2.1. - "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." - Section 10. RMA - 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." with sub-sections (a), (b), and (c). - Section 11. NPS for Renewable Electricity Generation 2011 (NPSREG 2011) - Relationship to the RMA - "sets out an objective and policies to enable the sustainable management of renewable electricity generation under the Resource Management Act 2011" - "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 the local government

Reasons for submission Generation Zero supports the Blueskin Energy Wind cluster. The following points, further clarify our position.

1. Increasing renewable energy capacity
 - a. Reducing GHG emissions from electricity supply
 - i. Currently Dunedin's Greenhouse Gas emissions profile is estimated at 599 Kt Co2-e, of which 14% can be attributed to electricity supply. The Blueskin Wind Energy cluster has the potential to contribute to the renewable energy capacity of Dunedin (currently 31% of energy supply is from renewable sources in Dunedin), and decrease the carbon emissions resulting from electricity production within the city. This is win-win solution, firstly to decreasing our emissions contribution to global climate change and secondly to the carbon footprint of Dunedin.
 - b. Climate Action Motion - implementation
 - i. Recently Council passed a number of actions to take steps toward stronger action on climate change; 'Support goal by reducing Dunedin GHG emissions' and ' joining the compact of Mayors'. The Blueskin Wind Cluster can contribute significantly to both of these points as both entail the reduction of GHG emissions, specifically those related to electricity use.
 2. Improving Energy security of Dunedin
 - a. Supporting distributed energy development
 - i. Distributed energy development is an increasingly important facet of the energy network. The main electricity grid, is vulnerable to a variety of issues due to it being the main form of electricity generation and distribution. The ability to have a local supply of electricity, would seem like a logical step in increasing the resilience and security of the city's energy supply. This is also noted as a key aim of the Dunedin Energy Plan.
 3. Example development to improve regional plan guidelines for this type of development
 - b. Projects can fail because they do not properly engage with the community.
 - i. Generation Zero would like to invite Council to consider the challenges and barriers to the development of wind energy in the wider Otago region. Given that the Blueskin Wind Energy Cluster is the first of its kind in New Zealand, Dunedin Council has an opportunity to understand how this process could be improved
 - ii. Supporting community enterprise in the renewable energy space is part of both a Generation Zero and Dunedin City Council vision for the future. ● As a grassroots organisation ourselves, Generation Zero supports the actions of this community led initiative in creating a resilient and sustainable energy future. The benefits of such a project extend beyond energy security and emissions reductions to potential job creation and further technological developments in the 'smart energy' space. This is also a key objective within the Dunedin Energy Plan.
 4. Positive implications of high community input.
 - a. With reference to community engagement, it is the position of Generation Zero that 'grass-roots' projects with extensive community involvement and consultation hold greater prestige within the population. We believe the high levels of community engagement, as exemplified in Table 1- Summary of Community Consultation, show large amounts of public support for this programme.
 - b. It is our belief that early public engagement and input into renewable energy projects provides optimal environmental and community outcomes as "community-based

renewable energy projects, with high levels of public participation, are more likely to be accepted by the public than top-down development of large-scale schemes and may bring additional benefits such as increased engagement with sustainable energy issues”

. i. This is necessary as it is “now widely acknowledged that [there is a] need to increase renewable energy capacity” and that community based projects, such as the Blueskin Energy Wind Cluster, will provide a great opportunity to do so. ii. Furthermore, we believe it should be acknowledged that the Blueskin Energy Trust through prolonged community participation as well as extensive consultation with the Dunedin City Council, the Department of Conservation, Kāti Huirapa, and other interested parties has achieved what previously has been found lacking in past submissions of a similar nature. 5. Positive effect on the landscape a. Visual representation of renewable energy. b. Generation Zero see's this Wind Cluster as a visible representation of the Council's actions with respect to Climate Change.

Desired decision Generation Zero would like the Dunedin City Council to fully grant the consent to build the Blueskin Energy Wind Cluster, with no conditions attached.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 1/12/2015 2:23:33 p.m.
Subject: Resource consent application submission - 527119

This resource consent application submission has been made via the Council website on **01 Dec 2015 2:23pm**. The details are listed below.

Personal information

Name Jody Connor

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that

submission relates to To establish a wind farm

Reasons for submission They're making a positive move toward alternative energy resource use, and it's the right way for NZ to go. I commend them!

Desired decision Give them full resource consent, please.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 26/11/2015 9:58:56 p.m.
Subject: Resource consent application submission - 526372

This resource consent application submission has been made via the Council website on **26 Nov 2015 9:58pm**. The details are listed below.

Personal information

Name Juergen Gnoth

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? Yes

Parts of application that submission relates to All of the application

Reasons for submission My family (4) are in full support of this turbines and the ideas behind them, technically and socially, and environmentally, doubting the argument of threats to birds that could not be overcome technologically - if really necessary. The community will benefit. The 'visual pollution' is negligible given all other less feasible options towards resilience, and will be overtaken by existing and future housing developments in Warrington anyway.

Desired decision to give resource consent.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 1/12/2015 12:40:06 p.m.
Subject: Resource consent application submission - 527060

This resource consent application submission has been made via the Council website on **01 Dec 2015 12:40pm**. The details are listed below.

Personal information

Name John Kaiser

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that

submission relates to I support the intent of this application to construct a small scale windfarm in the Blueskin Area.

Reasons for submission Refer to attached document.

Desired decision Support this application as long as the environmental impact can be shown to be minor or less than minor.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 24/11/2015 4:27:09 p.m.
Subject: Resource consent application submission - 526116

This resource consent application submission has been made via the Council website on **24 Nov 2015 4:27pm**. The details are listed below.

Personal information

Name Judy Martin

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number Wind Farm - 147 Church Road - LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? Yes

Parts of application that submission relates to The whole application

Reasons for submission I support this resource consent because windfarms in general (and this one in particular) are sustainable, beautiful and community enhancing. I am sorry to see from the application that the windmills will be barely visible from SH1, because it would lift my heart to see them from the Kilmog, turning in the wind generating green fossil-fuel free energy, stability and income for the local community. Almost all the arguments put forward by opponents of windfarms - noise, bird kill, ill health effects, visual pollution, etc have been shown to be untrue or grossly exaggerated, especially when compared to common hazards and eyesores of modern life. I commend the Blueskin Resilience Community Trust for their dedicated effort in pursuing this enterprise and wish them every success in their efforts to make Dunedin a more sustainable community.

Desired decision I would like the Council to grant consent to this application



**DUNEDIN CITY
COUNCIL**
Kaitiaki Take Kōwhiri o Dunedin

SUBMISSION FORM 13

Submission concerning resource consent on publicly notified application under
section 95A

Sections 95A, Resource Management Act 1991

To: Dunedin City Council, PO Box 5045, Moray Place, Dunedin 9058

Resource Consent Number:

LUC-2015-469

Applicant: Blueskin Energy Limited

Site Address:

147 Church Road, Merton

Description of Proposal:

Establish a community wind farm comprising three turbines

I/We wish to lodge a submission on the above resource consent application:

Your Full Name: Jenny McDonald

Address for Service (Postal Address):

[Redacted]

[Redacted]

Post Code: 9085

Telephone: [Redacted] 4

Facsimile:

Email Address:

[Redacted]

I: **Oppose** this Application

I: **Do** wish to be heard in support of this submission at a hearing

If others make a similar submission, I will consider presenting a joint case with them at a hearing.

(Delete the above statement if you would not consider presenting a joint case at a hearing)

Please use the back of this form or attach other pages as required

The specific parts of the application that this submission relates to are:

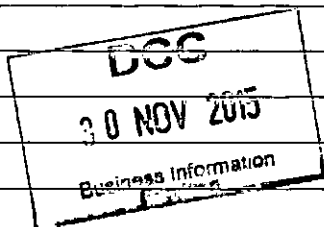
Community Engagement in the Project

Sustainability

Assessment of Environmental Effects

My submission is [include the reasons for your views]:

Attached



The decision I wish the Council to make is [give precise details, including the parts of the application you wish to have amended and the general nature of any conditions sought]:

Decline the application.

Signature of submitter:

(or person authorised to sign on behalf of submitter)

Date:

25/11/2015

Notes to Submitter:

Closing Date: The closing date for serving submissions on the Dunedin City Council is **Wednesday 2 December at 5pm**. A copy of your submission must be served on the applicant as soon as reasonably practicable after the service of your submission on the Dunedin City Council. The applicant's address for service is 1121 Mount Cargill Road, RD 2, Waitati 9085.

Electronic Submissions: A signature is not required if you make your submission by electronic means. Submissions can be made online at <http://www.dunedin.govt.nz/rma> or sent by email to planning@dcc.govt.nz

Privacy: Please note that submissions are public. Your name and submission will be included in papers that are available to the media and the public. Your submission will only be used for the purpose of the notified resource consent process.

Jenny McDonald

24/11/15

My submission is that: Resource Consent should not be granted to application LUC-2015-469.

1. Background

I am an alternative energy enthusiast. I live off the grid on the slopes of Mt Kettle on the Waitati side of Blueskin Bay and I can see Porteous Hill from my property. Electricity in my home comes from a combination of solar and wind power. I use local firewood for heating and a small amount of natural gas for cooking and hot water. My land is some distance from on-grid power sources and I therefore chose to be off the grid because using alternative energy made good economic sense as well as fitting with my lifestyle and values.

While I am strongly opposed to the proposed Porteous Hill Wind Turbine Development, I am absolutely not opposed to the use of alternative energy, including larger-scale developments, where such developments make good sense, have low environmental impact and are supported by the local community.

From my perspective, the BRCT/Blueskin Energy Ltd proposal has no mandate from the local community, makes no financial sense and could have negative environmental impact. I say this not only as a member of the Blueskin Community but also as a former trustee of the BRCT (2012-2014).

My concerns are briefly outlined under the headings of community consultation, community benefits and effects on residents, the landscape, the environment and ecology.

2. Community Consultation

In early 2012 I wrote a piece for the *Blueskin News* expressing my concerns about the proposed wind farm development on Porteous Hill. Shortly after the piece was published I received a number of calls and texts from people who felt similarly troubled including a BRCT trustee who wished to resign. The person who approached me felt strongly that a range of voices were required on the Trust, not only those who supported the wind turbine development. I agreed. With the support of the nominating trustee and one other I found myself on the Trust later in 2012.

In my time on BRCT I regularly felt that governance of the BRCT office and community consultation, were not handled well and expressed these concerns where I could with some small gains. However, in the end, I felt that the promotional material and rhetoric from BRCT about the value and benefits of the wind turbine proposal were misleading when a business case had not been established and when only a tiny proportion of Blueskin residents were actually engaging with BRCT and the project. I resigned from the Trust in 2014.

I believe the documents provided in the resource consent application as evidence of community support and engagement (Appendix B1-7) fail to establish strong community support for three turbines on Porteous Hill at the present time. Specifically:

- i) There is little evidence of community support provided since 2013. The most recent report of community feedback (*Appendix B7*) is simply a series of quotes from a selective sample of 13 people, not all of whom reside in the Blueskin Bay area. The quotes raise questions and arguments for and against a local wind farm development. They are not an endorsement of community support.
- ii) *Appendix B 6* is a good example of the failure of BRCT to really listen to the community, including to those who are broadly supportive of its aims. What is presented as an 'exit survey' was in fact a straw poll of a handful of attendees who were encouraged to fill in a form as they left meetings called by BRCT in 2012. Three meetings were held in Long Beach, Waitati and Warrington. Only a handful of people turned up in Warrington and Long Beach. Waitati probably had around 30-40 people but a number of these folk were not Blueskin Bay residents. I was present at both the Waitati and Warrington meetings.

The wording of the poll was ambiguous. The question, "How do you feel about the proposed Blueskin Wind Cluster Project?" can be and was interpreted widely. Even where the question was answered positively ("Love the idea" or "Yeah, ok") many of the comments make clear that the respondent is far from endorsing the construction of wind turbines on Porteous Hill. Here are just three examples:

"...this for me raises concerns esp. re corporate influence + morphing further away from the community..."
 "The community really needs to have more financial control ..."
 "... the wind cluster needs more detail and honesty to really facilitate BRCT's work..."

To therefore claim in the submission that 88% of the 38 attendees (plus three extras) supported the project, now a firm proposal to construct 3 turbines on Porteous Hill, is a stretch. Even if they did, attendance at the meetings was very low, arguably not representative and in stark contrast to the 70+ folk who packed into Warrington Hall for the 17th November, 2015 for the meeting organised by *Friends of Porteous Hill*.

- iii) *Appendix B2* is an honours dissertation undertaken more than 7 years ago in which 13 residents were interviewed. The current wind farm proposal is quite different in character to that being considered in 2008. The dissertation findings indicate only that there is local interest in the idea of local power generation. It does not provide evidence of community support for turbines on Porteous Hill:

"Generally speaking, it can be said that the Waitati residents interviewed in this study were interested in the idea of generating energy at the local level, although they felt that there would be some difficult financial, political and engineering issues to overcome."

- iv) *Appendices B1, B3, B4 and B5* are dated and while they demonstrate an interest in alternative energy options and sustainable values within the

Blueskin community, they do not provide evidence of support and engagement with the current proposal. It is a shame that much of the advice contained in B1 regarding meaningful community engagement has not been followed, more particularly as plans to seek resource consent have advanced.

Overall, the evidence presented in support of community consultation for the resource consent application seems to me to be dated, ad hoc and incomplete. While BRCT sends out long emails, regularly contributes to the Blueskin news and is clearly passionate about a wind farm development, this does not constitute meaningful engagement. Engagement requires a two-way conversation and I do not believe that this has occurred in relation to the proposed development on Porteous Hill. For me, the palpable and understandable anger of some Porteous Hill residents at the meeting in Warrington Hall on 17th November, 2015 confirms beyond all doubt that the BRCT has not appropriately engaged the community thus far.

3. Community Benefits

The benefits to the community cannot be known or even estimated until a business case has been prepared and shared with the Blueskin community. To date no business case has been presented. My clear preference, when I was a Trustee, was that the business case should come before the resource consent. I could see no good reason then and I can still see no good reason why the business case has not been prepared and shared with the Blueskin Bay community, in whose name the wind turbine development is proposed.

I find it deeply concerning that in the Resource Consent application the misleading rhetoric persists:

"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." p. 23

This is simply not true. BRCT is not now, nor has it ever been in the happy position of the Central Lakes Trust. Blueskin Energy Ltd may be wholly owned by BRCT now, before development has begun. It will certainly not be wholly owned by BRCT if the project proceeds to the tune of \$6 million. Substantial investment and/or borrowing will be required. At present, the community is completely in the dark about the extent of their control, or lack thereof, over the proposed development.

Finally, in the absence of evidence to the contrary, I believe that Porteous Hill is likely to be a marginal site at best for a wind farm. If we want wind power in the Dunedin area I believe there are better options with better wind than Porteous Hill or Blueskin Bay. There are many ways for the BRCT to demonstrate its passion for alternative energy and sustainable living that are more in keeping with its environment, its budget and its community, than a multi-million dollar wind farm development.

4. Effects on Residents of Porteous Hill and Others, Landscape, Environment and Ecology

I feel for the residents of Porteous Hill. For BRCT/BEL to propose a wind turbine cluster on Porteous Hill is muddle-headed: there is no community mandate, no business case, no requirement for additional power infrastructure and potentially damaging effects on local land-use, water supplies and birdlife. I'm sure other submissions will address these issues in detail.

Wind turbines without clear benefits, strong community endorsement and confidence regarding environmental effects will be a sorry blot on our stunning landscape.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 22/11/2015 1:30:26 p.m.
Subject: Resource consent application submission - 525906

This resource consent application submission has been made via the Council website on **22 Nov 2015 1:30pm**. The details are listed below.

Personal information

Name Janet Stephenson

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I support this application

Wish to speak? Yes

Present jointly to hearing? Yes

Parts of application that submission relates to The entire proposal.

Reasons for submission I strongly support the proposal by Blueskin Energy Ltd to establish a 3-turbine wind farm at Porteous Hill. The proposal has been developed through lengthy and detailed engagement with the Blueskin community and has been progressed because of the widespread support and interest in the proposal. The windfarm is of a scale and scope appropriate to the location. The assessments of effects are thorough and conclude that the effects will be minor or less than minor. I consider the visual effects of the windfarm will be positive, both in terms of the relationship to landscape features, and as an attractive feature in their own right. The proposal will have significant benefits for the community and for Dunedin as a whole. In providing a local renewable source of electricity the proposal has an excellent fit with the National Policy Statement on Renewable Electricity Generation 2011, the Dunedin Spatial Plan, Dunedin's Economic Development Strategy, the 2GP (Second Generation District Plan), the Social Wellbeing Strategy, the draft Energy Plan, and the draft Environment Strategy. Moreover, as New Zealand's first community-initiated windfarm, the proposal shows leadership in the NZ context. Internationally, there are many examples of community and cooperative energy generation schemes, but this is new to New Zealand and the leadership of BRCT and BEL has been far-sighted and pathbreaking.

The community engagement undertaken for the proposal is far in excess of that undertaken for any prior windfarm development in New Zealand and leads the way in terms of exemplary consultation with community. I have supervised or collaborated in a number of research projects in the area which have examined community attitudes and perceptions of the proposal, many of which form part of the application, and I am happy to speak to these at the hearing.

Desired decision Grant consent to the proposal

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 1/12/2015 1:05:04 p.m.
Subject: Resource consent application submission - 527065

This resource consent application submission has been made via the Council website on **01 Dec 2015 1:04pm**. The details are listed below.

Personal information

Name Jean Tilleyshort

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that submission relates to all

Reasons for submission The size and location will have minor to negligible environmental impact. The generation of renewable electricity from a community based wind farm aligns well with the government energy strategy target of 90% renewable electricity by 2025 . There are number of key outcomes that the energy committee supports • This energy project will inject \$1.5-\$2.0M into the local economy during construction. It will provide ongoing jobs related to maintenance and management of the turbines. It will provide a training facility for community wind farm maintenance that could be offered by Otago Polytechnic. • This wind farm will assist in retaining energy dollars within the city and be part of the economic growth • This will be the first community based wind farm in New Zealand and it will place Dunedin at the forefront of local embedded generation • There will be national and international interest in how this community managed to achieve a wind farm that provides funding back to its community. • It is expected that there will be an increase in energy tourist's and visitations from similar community representatives • Local energy generation contributes to environmental reduction of carbon emissions and will assist in creating greater renewable energy awareness within the wider Dunedin community • This wind farm will assist Dunedin in its ability to respond to future energy challenges and constraints, while

maintaining local productive capacity. The granting of consent will provide positive benefits for both community and the environment. The revenue streams generated and returned to the community will allow further community investment in renewable energy technologies that will further reduce reliance on non-renewable energy forms.

Desired decision approve

From: [REDACTED]
To: planning@dcc.govt.nz
Subject: Resource consent application submission - 526662
Date: Sunday, 29 November 2015 08:17:34 p.m.

This resource consent application submission has been made via the Council website on **29 Nov 2015 8:17pm**. The details are listed below.

Personal information

Name Paul Jouanides

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number Wind Farm - 147 Church Road - LUC-2015-469

Position I oppose this application

Wish to speak? Yes

Present jointly to hearing? Yes

Parts of application that submission relates to Wind farm construction within our neighborhood

Having only discovered a week prior to the submission end, that this application is in progress, am deeply frustrated by the lack of advertising, for something as significant as this in our community and only wonder how many other people are simply unknowing. (A letter drop; I would expect to have been the required minimum). I as part of the community have also not been consulted on being part owner of the project and am seeking some clarification, as to who the key benefactors of the project really are. Despite such short notice, my formalized reasons for objection are: - I) Transparency: Lack of transparency within the community as to who the key benefactors are and what they stand to gain; from our limited allowed to research, It does not really appear to be the residence. II) Visual Eye Sore: - To quote the resource application - "Is small beautiful" - these are 100m high structures; not small or beautiful - "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" therefore is negative, put simply, cannot within anybody's wildest dreams, keep with the character of the district and it is an out right perversion to state - "The wind farm turbines will introduce a new aspect

**Reasons
for
submission**

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". III) Noise: Despite assurances about noise. Simply type wind turbine noise or any other phrase relating to sound into google and it returns a multitude of results with regards to significant pollution. It as I found out has even been classified as having a medical related syndrome. I have children and do not wish them or anybody else to be subjected to such the horrid effects of high energy harmonics. IV) Poor Concept / Resilience: The wind turbine especially given its geological footing, does not reassure in case of earth quake or movement over time. It does nothing to increase resilience of supply to the community; if the lines bringing power to or within the area are down, we are still without power. A better model that answers yes to "Is small beautiful" would be to invest in local solar for residences houses or subsidy for low energy equipment. V) Project Creep: What next a hydro-scheme across the mouth of the Blue Skin or Purakanui inlet. (This is not a suggestion) VI) Property Value: Compensation should be factored into the application, the developer should be made to be responsible for loss of value, or even compensate to the value of the entire property, as who in there right mind would want to buy a house, afflicted by all the consequences of living under a giant wind turbine. VII) Nature: There are as I am aware a number of special and protected bird species such as the Kereru in the area, given the location to Orokonui Ecosanctuary, Evansdale Glen and the inlets. Protected birds will without question be reduced in number by the development and therefore knowing this prior to its construction, would mean that the developer is deliberately breaking the law. VIII) Aviation: There is a increased risk to aviation in this area, particularly in foggy conditions; a clipped wing could see loss of life depending upon where the craft lands, I also do not wish further light pollution emanating from its beacon lighting up the night sky. IX) Green Economy: The pollution caused during manufacture of components especially rare earth materials such as neomodium etc, produce great harm and toxic lakes, there is no shortage of evidence to support this. Is it justified to destroy peoples back yard from China to Chile to Evansdale to ensure a select few are able to profit.

**Desired
decision**

I request to the Dunedin City Council, that the time open for submission of objections, be increased, with proactive advertising to the community, to allow further discussion. For the all the reasons above It is my families strong opinion that the council prevent the structures from being built.

From: Just Doi
To: Talei Anderson <Talei.Anderson@dcc.govt.nz>
Date: 3/12/2015 5:28:22 p.m.
Subject: Re: Resource consent application submission - 527309

- **Blueskinwindfarm**
Your details

- Consent number:

LUC-2015-469

- First name(s):

Just

- Last name:

Doi

- Street number:

■

- Street name:

■

- Suburb:

■

- Postcode:

9082

- City / town:

Dunedin

- Contact phone:

[REDACTED]

- Fax number:

- Email address:

[REDACTED]

Submission details

- Your position:

I support this application

- Do you wish to speak in support of your submission to the Consent Hearings Committee:

No

- If others make a similar submission, I will consider presenting a joint case with them at a hearing:

No

- Specify the specific parts of the application that this submission relates to:

The Application as a whole.

- Explain your reasons for this submission:

Because i live here and care about our energy future.

- State the decision you wish the Council to make:

To grant the consent including with the conditions that are proposed be included, and being mindful that this is a very low impact development being undertaken as a community support activity and should be treated as such. Thank you

On Thu, Dec 3, 2015 at 3:59 PM, Talei Anderson <Talei.Anderson@dcc.govt.nz> wrote:

Good afternoon

Due to an email service outage your submission which you sent in yesterday has been lost.

Would you please re submit? It will not be counted as a late submission and will go through the normal process

We apologise for the inconvenience

Regards

Talei Anderson

From: Just Doi [mailto:

Sent: Thursday, 3 December 2015 8:47 a.m.

To: planning@dcc.govt.nz

Subject: Re: Resource consent application submission - 527309

Kia ora

My submission filed yesterday regarding the Blueskin wind proposal should have had the information LUC-2015-469 in the appropriate field. i would appreciate that being amended please.

thank you

Doi

[REDACTED]

Aramoana

[REDACTED]

On Wed, Dec 2, 2015 at 6:15 PM, <planning@dcc.govt.nz> wrote:

Thank you for contacting City Planning.

If you have submitted an enquiry, it will be forwarded onto the appropriate person or team for their action and response. If you have lodged a submission on a notified resource consent, you will be mailed a letter confirming this within 2-3 working days.

If you have an urgent enquiry please contact the Dunedin City Council on 477 4000.

Kind regards

The City Planning Team

If this message is not intended for you please delete it and notify us immediately; you are warned that any further use, dissemination, distribution or reproduction of this material by you is prohibited.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 30/11/2015 12:44:06 p.m.
Subject: Resource consent application submission - 526787

This resource consent application submission has been made via the Council website on **30 Nov 2015 12:44pm**. The details are listed below.

Personal information

Name Karen Jacquard

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number 147 Church Rd - LUC - 2015 467

Position I support this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that

submission relates to I support the building of a wind farm at Church Rd, and support the establishment of a private energy company that will distribute profits to the local community.

Reasons for submission Sustainable energy A more reliable power supply to the Blueskin area Local company keeping profits local - building resilience and avoiding profits vanishing offshore. Support BRCT's philosophy of promoting healthy, resilient local population

Desired decision Approve the application

Submission Pg S131

GMX FreeMail

Resource consent application submission - 527301

Von: planning@dcc.govt.nz

An: [REDACTED]

Datum: 02.12.2015 16:42:56

Thank you for your online submission.

This email is to confirm that your submission on resource consent application LUC-2015-469 made via the Dunedin City Council website has been received.

Below are the details of your submission.

Your details

- Consent number: LUC-2015-469
- First name(s): Katharina
- Last name: Achterberg
- Street number: [REDACTED]
- Street name: [REDACTED]
- Suburb: [REDACTED]
- Postcode: [REDACTED]
- City / town: [REDACTED]
- Contact phone: [REDACTED]
- Fax number: [REDACTED]
- Email address: [REDACTED]

Submission details

- Your position: I support this application
- Do you wish to speak in support of your submission to the Consent Hearings Committee: Yes
- If others make a similar submission, I will consider presenting a joint case with them at a hearing: Yes
- Specify the specific parts of the application that this submission relates to: I support the entirety of this application, including the self-imposed conditions proposed by the applicants.
- Explain your reasons for this submission: As a resident of Dunedin with a background in Environmental Studies I wholeheartedly support this application. I have only recently started work as the Project Coordinator for BRCT, but had heard about this great project last year, just after moving to the area. It represents a ground-breaking proposal for NZ, while in other countries the concept of community-owned, small scale and locally funded and operated energy production is widely distributed. The measures taken to ensure maximum community engagement and involvement in this project are exemplary. With financial profits benefiting the Blueskin Resilient

2/12/2015 4:54 p.m.

Submission Pg S132

Communities Trust, financial security will enable the Trust to get more work done and spend less time writing funding applications. This will result directly in benefits to the whole community. In the light of the Council's decision to reduce emissions in Dunedin this wind farm is the first step to making Dunedin a shining example for other cities in New Zealand and around the world, showing that clean and sustainable energy production on a local scale is possible. By setting a precedent of this sort, this project could become a trailblazer for small-scale renewable energy. The community should be very proud of this venture, as it addresses not only issues related to climate change and resilience, but also adds a possible tourist attraction to the Otago region. A business case is not an issue to be considered for the resource consent. With this in mind, I consider the application to be both appropriate and desirable.

- State the decision you wish the Council to make:

I request the Council to a) grant this consent, as applied for b) adopt the conditions proposed by the applicant c) implement an adaptive management approach to any uncertainties associated with the application, so that learnings from the implementation of the project can inform its subsequent operation and d) recognise the applicant to be a resource-constrained community and reflect this in any conditions attached to the consent.

Talei Anderson

From: admin@puketeraki.nz
Sent: Thursday, 26 November 2015 11:50 a.m.
To: planning@dcc.govt.nz
Subject: Resource consent application submission - 526313

This resource consent application submission has been made via the Council website on **26 Nov 2015 11:49am**. The details are listed below.

Personal information

Name Kati Huirapa Runaka ki Puketeraki
Address 121 Grimness St Karitane 9440 Dunedin
Contact phone 034657300
Fax 034657318
Email address admin@puketeraki.nz

Submission details

Consent number LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that submission relates to In its entirety

Reasons for submission Kati Huirapa Runaka ki Puketeraki, the local tangata whenua in East Otago, and based in Karitane, believes that this development fits with its long term vision of 'for our children and our children after us'. We are concerned about the impacts of climate change and welcome local energy developments that increase the resilience of our the Blueskin Bay community to provide for climate change. Protection of our people and our ability to gather resources for the next generation are better provided for where communities think beyond the square in reducing greenhouse gas emissions. Everyone must do their bit and this development ticks all the boxes for a bigger picture, combined response. We are well aware of the finite shelf life of large scale hydro and we understand the necessity of creating local community sized energy producing projects if we are to combat climate change in our rohe. We are proud of what our community is achieving in Blueskin Bay and would like to see this development proceed in its entirety. We are happy with all aspects of the consent application.

Desired decision To agree to all aspects of the application

**SUBMISSION IN OPPOSITION TO A RESOURCE CONSENT APPLICATION
BY BLUESKIN ENERGY LIMITED ESTABLISH A WIND FARM ON PORTEOUS HILL
NEAR WARRINGTON (LUC-2015-469)**

To: **Attention: City Planning**
BY EMAIL: planning@dcc.govt.nz

Name of Submitter: Lyndon Clayton and Kirsty Clayton

[REDACTED]

Address for service:

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

1. INTRODUCTION

- 1.1 Dunedin City Council has publicly notified an application by Blueskin Energy Ltd (the “Application” / “Applicant”) to construct a three turbine wind farm on Porteous Hill near Warrington (the “Proposal”).¹ The Proposal address is listed as 147 Church Road, Merton (the “Site”).
- 1.2 This submission is made on behalf of Lyndon Clayton and Kirsty Clayton (the “Submitters”).
- 1.3 The Submitters **oppose** the Application for the reasons set out in this submission.

Background to Submitters

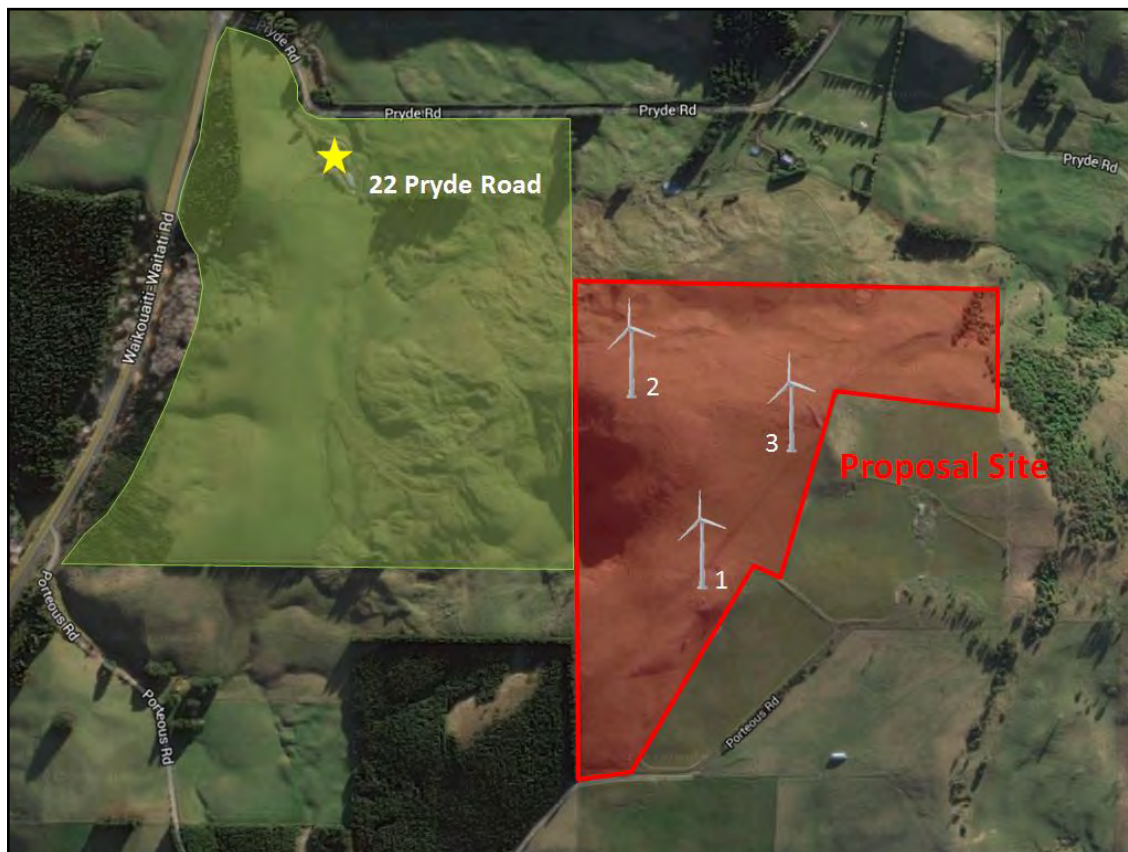
- 1.4 Lyndon and Kirsty Clayton own and live at the rural property at 22 Pryde Road, which directly adjoins the Proposal Site. They have lived at the property for 15 years. The main house on the property is approximately 385m from the proposed wind farm Site and is listed in the Application documents as being the third closest of any house to

¹ Resource consent reference number LUC-2015-469.

any of the indicative turbine locations. Lyndon and Kirsty's 20 year old son also lives in a separate dwelling on the property, which is approximately 20m closer to the Proposal Site than the main house.

- 1.5 In light of the above, the Submitters will be amongst the most affected nearby residents if the Proposal is granted consent.
- 1.6 The map below shows the location of the Submitters' home and property in relation to the Proposal Site.

Figure One: Indicative location of Submitters' home and property in relation to the Proposal Site (including indicative turbine locations²)



- 1.7 The Submitters are supportive of the development of renewable energy, including the concept of appropriately sited and scaled community wind generation projects. However, the Submitters consider that the specific Proposal is entirely inappropriate and that it will have significant adverse effects on them and on the environment.

² The base of each turbine image corresponds with the indicative turbine locations provided in the Application documents (best efforts have been made to ensure accuracy). The turbine images indicate location only and are not to scale.

- 1.8 In the Submitters' view, while it is easy to support concepts like renewable energy generation in the abstract, in reality it is the neighbours that will shoulder the burden of the adverse effects of the Proposal. In the context of this Proposal, the Submitters consider that the likely adverse effects on them amount to an unreasonable burden.³

2. PRINCIPAL SUBMISSION

- 2.1 The Submitters oppose the Proposal in its entirety. The Submitters' principal submission is that the Application does not make adequate provision to avoid, remedy or mitigate potential adverse effects associated with the Proposal. The Application will therefore not promote the sustainable management of natural and physical resources in accordance with Part 2 of the Resource Management Act 1991 (the "RMA").
- 2.2 The reasons for the Submitters' principal submission are addressed below.

3. LANDSCAPE/VISUAL EFFECTS

- 3.1 The Proposal will have a range of adverse visual, landscape and natural character effects, if constructed. Visual effects are a key issue for the Submitters, who are particularly concerned with landscape amenity impacts, as experienced from their property. The Submitters consider that such effects will be adverse and significant, and that the Proposal is therefore inappropriate from a visual landscape perspective.

Turbines

- 3.2 The Application documents state that the Submitters' property at 22 Pryde Road will be only 679m away from the nearest indicative turbine location⁴ (which is close in the context of other New Zealand wind farms). Therefore, the Submitters are surprised and concerned that there is no detailed analysis, including photo simulations, regarding the adverse visual effects that will be experienced from their home. Such analysis is common practice for wind farm proposals, and without it the Submitters cannot adequately assess the potential adverse effects on them. Nor, in the Submitters' opinion, can the consent authority for the purposes of making its decision on the Application.

³ See *Motorimu Wind Farm Ltd v Palmerston North City Council* W067/08 where the Environment Court held that the adverse effects on nearby neighbours' visual amenity imposed an unreasonable burden on them, such that consent for additional turbines was declined.

⁴ Acoustic report, page 4.

3.3 From the material provided, the Submitters can only conclude that adverse visual effects on them will be significant.

3.4 At page 10 the Applicant's landscape assessment states:

From the north, the sample view from Pryde Road...shows turbines 2 and 3 less than a kilometre distant. The turbines will thus appear **quite close**.⁵

3.5 At page 12 the Applicant's landscape assessment states:

Viewed directly from Pryde Road, the turbines less than a kilometre away will be a **substantial presence**.⁶

3.6 At page 13 the Applicant's landscape assessment states:

With the clear view to the uncluttered open summit, the effect of turbines on the road corner view from Pryde Road is assessed to be **significant**.⁷

3.7 Given that the Submitters' home is closer to the proposed turbines than Pryde Road, the Submitters consider that from their home the turbines will appear *very close* and will be a *very substantial presence*, with *significant* adverse effects. The few visual simulations accompanying the Assessment of Environmental Effects ("AEE"), far from offering comfort to the Submitters, serve to reinforce their concerns with the Proposal. The simulations confirm that the turbines will be highly visible, intrusive, out of character, and dominant/overbearing from the Submitters' property, and that they will significantly affect amenity values. The turbines will undermine the visual integrity of the natural character and landscape of the rural/coastal environment. The movement of the turbines will further draw attention to them and heighten their visual impact.⁸ And the inability to see the base of the turbine structures from the Submitters' home will affect the ability to place the structures within the context of the wider landscape, which will therefore add to the turbines' sense of dominance and "out of place-ness". While marketed as a "small scale" "community" energy generation project,⁹ the Submitters consider that a group of turbines possibly over 100m tall and within a few hundred meters of nearby homes is not "small scale" on any normal meaning of those words, and will be more in keeping with an industrial scale.

⁵ Emphasis added.

⁶ Emphasis added.

⁷ Emphasis added.

⁸ See *Meridian Energy Ltd v Wellington City Council* [2007] NZEnvC 128 at [141].

⁹ See for example the AEE, page 2.

- 3.8 In *Meridian Energy Ltd v Wellington City Council* [2007] NZEnvC 128 and *Motorimu Wind Farm Ltd v Palmerston North City Council* W067/08 the Environment Court found that two significant factors which contributed to the visual significance of the proposed wind farms were proximity to the turbines and the elevation of the turbines above the ridgeline. The Submitters consider that both factors are present in this case.
- 3.9 Numerous objectives and policies at all levels of the applicable planning framework highlight the need to protect amenity values.¹⁰ The fact that part of the Site is located within the North Coast Coastal Landscape Preservation Area under the Dunedin City Council District Plan demonstrates the high landscape values associated with the locality. (The Proposed Dunedin Second Generation District Plan (“2GP”) also identifies part of the site as a Significant Natural Landscape.) While the turbines will not be located within the Landscape Preservation Area (by a small margin), they will have similar adverse visual effects upon the Landscape Preservation Area in comparison to a layout that is positioned just inside the Area. The Environment Court has confirmed that a proposed wind farm does not need to be within an outstanding natural landscape (or similar characterisation) to have an adverse effect on it.¹¹
- 3.10 Given the comments from the Applicant’s landscape assessment that are discussed above, and the nature and scale of the likely effects of the Proposal, the Submitters cannot understand the landscape assessment’s conclusion that visual effects from their property will be minor; or that “[o]verall, the effects of the turbine cluster on visual amenity are assessed to be predominantly positive”.¹² The photo simulations indicate that the adverse effects on amenity from the Submitters’ property will be significant, with the turbines likely to read as overbearing industrial-scale structures in an otherwise rural setting.
- 3.11 In addition, the AEE states that “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.”¹³ The Proposal will certainly be visible from the Submitters’ home/wider property.

¹⁰ See, for example Objectives 6.2.2 and Policy 6.3.6 of the District Plan.

¹¹ *Rangitikei Guardians Society Inc v Manawatu-Wanganui Regional Council* [2010] NZEnvC 14 at [94]-[95].

¹² Page 11.

¹³ AEE, page 30.

3.12 The Applicant's landscape assessment places considerable emphasis on visual perception being shaped by the community's relationship with the Proposal (i.e. that because the Proposal is marketed as a "community wind farm" this reduces the adverse visual effects).¹⁴ Large portions of the local community, including the Submitters, do not consider the Proposal to be "their project". The Submitters do not consider that the Proposal's significant visual impacts will be mitigated by the notion that the turbines are "community owned".¹⁵ In addition, the Board of Inquiry into the Turitea wind farm proposal near Palmerston North confirmed that public perception (in relation to which the Submitters question the Applicant's claims of widespread support in this case) is not an acceptable basis on which to "mitigate" significant adverse effects – public perception studies may indicate support for a proposal, but cannot justify proceeding in the face of adverse effects.¹⁶

3.13 There are also a number of major uncertainties which add to the Submitters' concerns regarding visual effects, including the following:

- (a) Given the Applicant states that the layout of the turbines as described in the Application is indicative only (i.e. subject to change), the Submitters can have no certainty regarding the level of effects on them. Given the indicative nature of the proposed layout, the Submitters would have expected all assessments by the Applicant, including on visual effects, to be conducted on a realistic "worst case" scenario¹⁷ in order to provide Submitters a reasonable opportunity to understand the potential effects on them. Despite this being common practice for wind farm proposals, the Applicant has not adopted such an approach. The AEE provides scattered references suggesting that turbine locations will not be made closer to dwellings. However, it is clearly not just the proximity of the turbines that impacts on visual effects. Grouping also has a major impact, and the Submitters have no certainty over the final grouping of the turbines, if consent is granted.

¹⁴ See for example the AEE, page 31.

¹⁵ The Environment Court has accepted that landscape issues are matters which reasonable people may hold conflicting views, and it is not possible to determine that one view is right and the other wrong. See *Unison networks Ltd v Hastings District Council* [2006] NZEnvC 249 at [68].

¹⁶ *Final Report and decision of the Board of Inquiry into the Turitea Wind farm Proposal* (September 2011).

¹⁷ Taking into account any constraints volunteered by the Applicant.

- (b) There are crucial inconsistencies/uncertainties in the Application documents regarding the proposed height of the turbines. At places the proposed height is provided as “between 80-102m” in height;¹⁸ at others as “under 125m”;¹⁹ and elsewhere it is stated that the maximum height will be 103m.²⁰ The height of the turbines is of fundamental importance to the Submitters, and will have a major impact on the level of adverse effects on them. Such inconsistencies mean that the Submitters have little confidence in the Application and its assessment of effects.
- (c) The Submitters have not identified any information in the Application regarding how the turbines will be lit at night. Night lighting has the potential to cause significant visual effects on the Submitters.

Transmission lines

- 3.14 The AEE states that the Proposal will connect directly into OtagoNet Limited's 33 kV distribution line that runs adjacent to State Highway 1.²¹ However, as the detailed design regarding the transmission line (including route) has not been undertaken the Submitters do not have any certainty as to the potential visual effects of the line, particularly the overhead (as opposed to underground) components. The AEE indicates that overhead poles may be 20m high, which is considerable. In addition, the Applicant's ecological report suggests that the overhead lines may have flags attached in order to reduce the risk associated with electrocution of birds.²² This would be of additional concern from a visual effects perspective.
- 3.15 In light of the above, adverse visual effects associated with the Proposal's electricity transmission line is also a concern for the Submitters.

4. OPERATIONAL ACOUSTIC EFFECTS

- 4.1 Noise from the operation of wind turbines can have significant adverse effects, including in relation to sleep disturbance, health and amenity.
- 4.2 The Applicant's acoustic report states that the Submitters' house will receive the third highest noise levels of any dwelling from the Proposal. The limited acoustic modelling

¹⁸ Dunedin City Council public notice of the Proposal; and AEE page 10.
¹⁹ Resource consent application form, page 2; and AEE page 7.
²⁰ Applicants' acoustic report, page 3.
²¹ AEE, page 7.
²² Page 2.

that has been undertaken also demonstrates that the Proposal will exceed one of the key limits specified in the New Zealand Standard NZS 6808 *Acoustics – Wind farm noise* at the Submitters' neighbour's home at 90 Pryde Road (the 40 dB L_{A90} noise limit). The acoustic report glosses over this non-compliance, asserting that the acoustic effects of the Proposal will be acceptable.

4.3 The Applicant's acoustic report does not satisfy the Submitters' concerns regarding operational noise from the Proposal. The Submitters' concerns include the following:

- (a) Since the turbine make, model and layout have not yet been finalised, the Submitters consider that the acoustic assessment should have been undertaken on a realistic "worst case" scenario, within the layout parameters provided by the Applicant. This has not been done. For example, if the turbines are arranged differently to what is shown in the indicative layout (e.g. closer together), the Submitters would expect that the combined sound levels could be increased (as experienced at their home). Also, if another model of turbine is used, noise effects may be significantly increased. There are major uncertainties around such issues.
- (b) The Submitters' property generally experiences low background noise levels, especially at night (including relatively low traffic noise, and relatively low wind noise as a result of the house being screened from the prevailing wind due to being below nearby ridgelines). Therefore, wind farm noise experienced at the property may also breach the background noise limit in NZS 6808 (i.e. background noise limits plus 5dB) which the Applicant relies on (given the modelled non-compliance with the 40 dB L_{A90} noise limit). No analysis has been carried out regarding the background noise levels/limit, as set out in NZS 6808.
- (c) There has been no assessment undertaken to consider whether a more stringent noise level may be justified in relation to the Submitters' property under clause 5.3 of NZS 6808.
- (d) The Submitters are concerned that the Applicant, through its acoustic report, purports to ignore the District Plan noise limits and instead assess potential noise effects based on another standard that it considers more

appropriate in the circumstances.²³ It is common for wind farm developments to be assessed in relation to both the District Plan limits and NZS 6808. With only a cursory explanation provided in the acoustic report as to the reason for disregarding the District Plan limits, the Submitters are concerned as to the appropriateness of such an approach. In the absence of additional explanation, the Submitters would have thought that it is not for applicants to select which District Plan rules it wishes to comply with. District Plan rules are for the benefit of all residents, and as a matter of fairness the same rules should apply across the board. Because the Applicant has chosen not to assess the likely noise levels associated with the Proposal against the District Plan limits, the Submitters have no comfort that the District Plan limits will be complied with.

- (e) As mentioned above, the Submitters' 20 year old son lives in a separate dwelling that is approximately 20m closer to the proposed wind farm than the main house at 22 Pryde Road. The modelling undertaken by the Applicant does not appear to take this additional dwelling into account, which is a serious flaw.

5. VIBRATION EFFECTS

- 5.1 Given that the Submitters could not identify any analysis on potential vibration effects in the AEE, such effects remain a concern, especially given the proximity of the Submitters' property to the Proposal.

6. SHADOW FLICKER AND BLADE GLINT

Shadow flicker

- 6.1 Due to their height, wind turbines cast long shadows. In addition, shadow flicker occurs as a result of the rotating shadow of a wind turbine rotor passing over a receiver location (for example a house window). The proximity of the receiving location, the time of day, variation in light intensity, humidity and levels of other dispersants in the air, cloud cover, the angle at which the turbines are yawed, and a range of other factors can influence the quantity and intensity of shadow flicker experienced at a dwelling. Extreme shadow flicker can cause health effects, and any shadow flicker will impact on amenity values/annoyance.

²³ New Zealand Standard NZS 6808 *Acoustics – Wind farm noise*.

Blade glint

- 6.2 Blade glint occurs when the sun reflects off rotating turbine blades. Its occurrence depends on a number of factors including the orientation of the nacelle, the angle of the blade and the sun, and the reflectiveness of the blades. Blade glint has the potential to cause major annoyance (i.e. impact on amenity values) and also to distract nearby drivers.

Summary

- 6.3 The Submitters have not identified any mention of potential shadow flicker or blade glint effects in the Application documents. This is concerning to the Submitters, who consider that shadow flicker and blade glint effects have the potential to be significant, especially considering the proximity of the Submitters' home to the indicative turbine locations.²⁴
- 6.4 The Submitters consider that detailed shadow flicker modelling, and an assessment of potential blade glint, needs to be undertaken in order to assess the potential adverse effects at the Submitters' property, which could be significant. Given that the locations of the turbines are indicative only, such an assessment needs to be undertaken on a realistic worst case scenario.

7. BIRD STRIKE

- 7.1 Wind farms can have significant adverse effects on bird populations as a result of mortality due to collision with turbines.
- 7.2 The Applicant's ecological report states that "[t]he most important potential [ecological] adverse effect is that upon local birds, and especially those of conservation importance",²⁵ yet no detailed assessment or monitoring of local bird populations has been undertaken by the Applicant. Importantly, no modelling of bird strike mortality rates has been undertaken, which would be expected for any wind farm proposal (such modelling should be based on long term field work/monitoring). Given that no adequate assessment of local bird populations, or bird mortality modelling, has been

²⁴ When modeling shadow flicker, a "shadow distance limit" is typically assumed, being the distance at which the intensity of the shadow is deemed to be low enough that flicker is not likely to cause material adverse effects. Shadow distance limits are typically approximately ten rotor diameters from the turbine (approximately 1.0 to 1.5 km for a modern wind turbine) (See, for example the Australian National Wind Farm Development Guidelines.) The Submitters' house is only a few hundred meters from the nearest indicative turbine location.

²⁵ Page 2.

undertaken by the Applicant (a point which the Applicant's ecological report acknowledges),²⁶ the Submitters cannot understand how the Applicant can assert that adverse effects on birds will be "minor at most".²⁷ In the Submitters view, such a claim has no evidentiary basis.

7.3 Many issues have not been adequately considered or assessed by the Applicant, including the following:

- (a) Numerous native birds, including those with conservation importance, are known to frequent the Proposal Site. The NZ Pied Oystercatcher, which is acknowledged in the Applicant's ecological report as likely to be using or passing the Site is classified as *At Risk – Declining* under the New Zealand threat classification system.
- (b) Even low rates of annual mortality can have cumulatively significant impacts on bird populations over time.
- (c) The coastal location increases bird strike risk, with high numbers of coastal and land-based birds frequenting the area.
- (d) The Proposal Site is notoriously foggy which is recognised in the Applicant's ecological report as increasing the risk of bird strike.
- (e) The Proposed turbine layout is an odd triangular shape, potentially making the turbines more difficult for birds to avoid, particularly in foggy or stormy weather.
- (f) The Proposal Site is close to the Orokonui Ecosanctuary which provides habitat for numerous birds, including rare and native birds. No assessment has been made by the Applicant regarding the risks associated with the Proposal's proximity to the Orokonui Ecosanctuary.
- (g) The Applicant has not provided an adequate assessment regarding the Proposal's potential impacts on a range of other fauna, including bats.

²⁶ Applicant's ecological assessment, page 3: *"It is not possible to fully assess the potential adverse effects of turbine bird strike at this time, owing to the lack of data on the species, numbers, and use frequency of birds flying through the site".*

²⁷ Applicant's ecological assessment, page 3.

- (h) The post-construction monitoring discussed by the Applicant in its ecological report is entirely inadequate.²⁸

7.4 In light of the above, bird strike is a concern for the Submitters, who value local bird life.

8. RADIO COMMUNICATION EFFECTS

8.1 Wireless communication systems (such as radio, cell phones and TV etc) use radio waves to transmit information from a transmitter to a receiver. Wind turbines can interfere with wireless receivers through the following four main mechanisms:

- (a) diffraction;²⁹
- (b) reflection (or scattering);³⁰
- (c) electromagnetic interference;³¹ and
- (d) near-field effects.³²

8.2 The Submitters have not identified any mention of potential radio communication effects in the Application documents.³³ The Submitters consider that such assessment needs to be undertaken in order to assess the potential adverse radio communication effects at the Submitters' property.

8.3 In particular, the Submitters use cellphones (including 3G data), radio, and a digital (satellite) television service, all of which may be subject to potential interference from the Proposal.³⁴

²⁸ Applicant's ecological assessment, page 4.

²⁹ Diffraction is the reduction in power of a radio wave as a result of the bending of waves around an object (i.e. the wind farm turbines). Diffraction is a problem because it can attenuate signals below the minimum working threshold or make them more susceptible to atmospheric fading.

³⁰ Reflection/scattering occurs where delayed "echoes" of the desired signal, or interference from another signal, are directed to a "victim" receiver as a result of reflection off wind turbines. This distorts the signal received.

³¹ Electromagnetic interference occurs when electronic equipment inside a turbine generator radiates radio energy of a frequency that interferes with a radio service.

³² Near-field effects occur when a turbine is located close to an existing radio antenna, meaning that it changes the radiation characteristics of the antenna.

³³ In particular, there has been no undertaking from the Applicant that any adverse radio communications effects associated with the Proposal will be avoided, remedied, or mitigated, including (for example) through the upgrading of services at the Submitters' property.

³⁴ Vodafone cell phone/3G coverage is currently not available at the Submitters' property, and FM radio and satellite TV reception is currently very poor/sensitive.

9. CONSTRUCTION EFFECTS

- 9.1 The Submitters are concerned with construction effects associated with the Proposal, particularly noise effects (both construction traffic noise and construction noise) and dust (including from exposed cuts/stockpiles and construction traffic). The AEE does not adequately address such potential effects (notably, the Applicant's acoustic report does not address construction noise). While the Applicant suggests in the AEE that a Construction Management Plan is proposed to be prepared to manage such effects, since no draft Construction Management Plan has been included with the Application the Submitters have no comfort that their concerns regarding construction effects will be appropriately managed.

10. GEOTECHNICAL / HYDROLOGICAL ISSUES

- 10.1 The risks associated with potential geotechnical and hydrological impacts as a result of the Proposal are significant – the Site's geological/hydrological complexity and sensitivity is well documented.³⁵
- 10.2 The Application fails to provide adequate analysis of potential geotechnical or hydrological effects. In particular:
- (a) Despite landslips/rock falls being common in the area, even as a result of minor excavations, the Application contains limited (in scope and utility) information regarding the risks of land instability/subsidence as a result of the major excavations associated with the Proposal (including for the turbine foundations, hardstand areas, and the service road network). There are no civil engineering/geotechnical reports confirming the suitability of the excavations required, which would be expected for an application of this scale and nature. The Submitters are particularly concerned with any potential land instability/rock fall effects of the Proposal, given their property is located down slope from the Proposal.
 - (b) Notwithstanding the significant hydrological impacts that excavations could have on sensitive springs and underlying aquifers, the AEE does not adequately assess such risks. Because there is no reticulated water scheme at Pryde Road, many residents (including the Submitters) rely on groundwater from springs emerging from around Porteous Hill for domestic

³⁵ For example the Site is zoned "Land Instability Area" in the Proposed 2GP.

and/or stock water purposes. Therefore, any hydrological impacts may have significant downstream effects, including in relation to public safety/health.

- 10.3 Given the above, the Submitters consider that further work is required in order to appropriately assess the potential geotechnical and hydrological effects of the Proposal, which are a concern for the Submitters.

11. LAPSE PERIOD

- 11.1 The AEE seeks a lapse period of ten years. The Submitters consider that a lapse period of ten years is too long and, if consent is granted for the Proposal, will create unreasonable uncertainty for the Submitters and the community over an extended period of time. The Submitters consider that a standard lapse period of five years, as is the default under s125 of the RMA, is more appropriate. (Given that the Applicant states in the AEE that construction is intended to commence in early 2017, a five year lapse period should be more than sufficient.)
- 11.2 The case law confirms that there are good policy reasons against resource consents subsisting for long periods without being put into effect. For example, in *Akaroa Organics v Christchurch City Council* [2010] NZEnvC 37 the Environment Court declined an appeal seeking to extend (primarily for financial reasons) the lapse period.

12. INADEQUACY OF AEE

- 12.1 The Application is notable for its brevity regarding key aspects, given the scale and potential adverse effects of the Proposal. Ultimately, the skeletal assessment fails to provide sufficient information and detail in order to allow the consent authority and potential submitters to adequately assess the extent of potential effects resulting from the Proposal.
- 12.2 In particular, and in addition to the numerous other inadequacies identified above, the Application does not provide expert assessments on a number of potentially important considerations, including economic impacts/benefits; social impacts; geotechnical/civil engineering and hydrological effects; archaeology; radio communications; recreation; bird strike; and transport effects.

- 12.3 The AEE is therefore fundamentally deficient and does not amount to a document that can be relied upon to inform anyone involved in the consent process of the actual and potential effects of the Proposal.

Incorrect activity classification, activity status and consents sought

- 12.4 The AEE provides the following:³⁶

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.

- 12.5 The Submitters have major concerns with a significant wind farm proposal being classified as a “Community Support Activity”. The Proposal does not fit within the District Plan definition of Community Support Activity. In the Submitters’ opinion the Proposal is clearly of a nature and scale beyond the types of activities envisaged by the District Plan as falling within the Community Support Activity category.³⁷ Therefore, the planning analysis and justification in the AEE is largely irrelevant.
- 12.6 From a preliminary review of the Plan, the Submitters consider that the Proposal is likely more appropriately classified as a **non-complying** activity and should therefore be assessed under the more stringent gateway tests of s104D of the RMA, including for the following reasons:

- (a) Rule 6.5.7 of the District Plan states that any activity not specifically identified as permitted, controlled, discretionary or prohibited by the rules in the Rural zone is non-complying. (Neither “Utilities” or “Infrastructure”, both of which are defined terms in the District Plan and which more appropriately describe the Proposal, are provided for in the rural zone.)

³⁶ AEE page 8.

³⁷ In particular, the Submitters do not consider that the fact the Proposal will be owned by a charitable trust automatically renders it a “Community Support Activity”, as seems to be suggested from the Application documents.

- (b) In addition, the Utilities section of the Plan states at Rule 22.5.4 that:

[A]ny activity not specifically identified as permitted, controlled or discretionary by the rules in this section or the rules of the zone in which the activity is located, or in the rules of Sections 17 to 21 of this Plan, is non-complying.

Wind farms are not provided for in the Utilities section.

- 12.7 The Submitters have also identified several other major potential flaws with the Application, including that no resource consent has been sought for the large quantities of earthworks. Section 17.7 of the District Plan requires that resource consent be sought for earthworks over 200m³ in the Rural zone. The AEE states that earthworks of approximately 6,500m³ will be required. The Submitters also note that any earthworks that may intercept groundwater are likely to require resource consent from the Otago Regional Council (which have not been sought by the Applicant).
- 12.8 In addition, the Submitters are surprised that the AEE purports to classify the Proposal as a “Community Support Activity” as opposed to a “utility” or other appropriate activity under the Operative District Plan (thereby taking advantage of the more permissive provisions applying to such community activities); but then also purports to take advantage of the provisions in the 2GP supporting “network utilities”.³⁸
- 12.9 Taken as a whole, the above issues³⁹ give the Submitters little confidence in the accuracy and robustness of the Application documents.

13. UNCERTAIN / POTENTIALLY OVERSTATED “COMMUNITY” VALUES AND BENEFITS OF THE PROPOSAL

- 13.1 The Proposal is promoted by the Applicant as a “community owned”, “community scale” renewable energy project. The AEE draws heavily on the 2GP’s support for community scale energy generation. However, details given by the Applicant regarding the structures and mechanism that will make the Proposal a true community project have been non-committal and uncertain. For example, the corporate governance structures and profit distribution of the project remain uncertain. Also, the Submitters

³⁸ See the AEE at page 38. The Submitters note that little weight should be given to the 2GP in terms of section 104(1)(b)(vi) of the RMA, because the 2GP is at a very early stage in the plan process, and has not yet been tested through hearings (see *Queenstown Central Ltd v Queenstown Lakes District Council* [2013] NZHC 815).

³⁹ Which do not provide an exhaustive list of the inadequacies in the Application documents identified by the Submitters.

understand that generated electricity may be sold to one or a few institutional customers and any remainder supplied to the national grid (as opposed to being supplied to local community members). It is therefore hard to understand a number of the community values/benefits claimed by the Applicant.

13.2 In addition, the Submitters consider that the Proposal has the potential to divide the tight knit local community. In the Submitters' experience, in certain circles the process of alienation of sectors of the community has already begun.

13.3 Given the above, over-emphasising the purported "community" nature of the Project, without concrete assurances as to how the Project will achieve community benefits and values is, in the Submitters' view, inappropriate (at least until the merits of such claims can be fully understood and tested). The Submitters are concerned that the Application may overstate the economic and other benefits associated with the Proposal, particularly benefits to the local community.

14. POTENTIALLY OVERSTATED PUBLIC ENGAGEMENT AND SUPPORT FOR THE PROPOSAL

14.1 The AEE and supporting documents claim widespread consultation and community support for the Proposal. However, the Submitters are concerned that selective and at times ineffective public consultation may have caused the Applicant to considerably overestimate/overstate the community support for the Proposal. Certainly, there are large parts of the community, including the Submitters, who do not support the Proposal.

14.2 In the Submitters' experience, including from attending public meetings, until recently very few people have had a working understanding of the Proposal, and even fewer have been actually consulted by the Applicant. As the resource consent hearing has drawn closer and further details have become more widely known (i.e. the Proposal has become a concrete reality as opposed to an abstract idea) more residents have come to appreciate the likely adverse effects of the Proposal, particularly on nearby neighbours. This has led to an increased number of locals opposing the Proposal.

15. IMPACTS ON FARMING ACTIVITIES

15.1 The Submitters undertake farming activities on their property at 22 Pryde Road and are concerned that the Proposal may adversely affect such activities. In particular, the Submitters use helicopters or topdressing planes to fertilise the land on the slope

immediately below Porteous Hill (due to the steepness of the slope, they cannot use ground spreading machines). The Submitters understand that Civil Aviation Authority rules require certain clearance distances to be maintained between aircraft and wind turbines. Therefore, the Proposal may significantly impact on the Submitters' farming activities by constraining their ability to fertilise their land.

16. RELIEF SOUGHT

16.1 The Submitters seek that the Application be declined.

16.2 Alternatively, and without prejudice to the primary relief sought, the Submitters seek that the Proposal be amended and/or conditions of consent imposed in order to address the Submitters' concerns addressed above.

16.3 The Submitters wish to be heard in support of their submission.

16.4 If others make a similar submission, the Submitters will consider presenting a joint case with them at hearing.

Lyndon Clayton and Kirsty Clayton

by their lawyers ChanceryGreen:



Karen Price

Dated 2 December 2015

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 20/11/2015 1:31:04 p.m.
Subject: Resource consent application submission - 525827

This resource consent application submission has been made via the Council website on **20 Nov 2015 1:31pm**. The details are listed below.

Personal information

Name Lidy De Leeuw

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number 2015-469

Position I oppose this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that

submission relates to Landscape/Environment/Ecology Community benefits

Reasons for submission Visual impact and physical destruction of local landmark. Light-pollution. Possible bird strike. The windfarm will not be controlled nor be of benefit to the community of Blue Skin Bay. There's a huge cost of \$6 million that will require financial backers who will control their investment.

Desired decision I wish the Council to refrain from giving consent for this project.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 30/11/2015 9:22:05 a.m.
Subject: Resource consent application submission - 526673

This resource consent application submission has been made via the Council website on **30 Nov 2015 9:22am**. The details are listed below.

Personal information

Name lorna mcmullan

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number https://communityadviceandgrants.dia.govt.nz/user_sessions/new

Position I oppose this application

Wish to speak? No

Present jointly to hearing? Yes

Parts of application that

submission relates to location of the wind farm

Reasons for submission Not enough specific research has been done on the possible effects of a wind farm in the close proximity to the many locals who live in the area. What effect will ground vibration have? Will there be natural wind disturbance? What birds actually use that flight path? If the towers are not lit at night will that affect bird strike? If the towers are lit what effect will that have ? What is the benefit to locals apart from some future possibility of applying for funding from the profits of the scheme There are people living in the area, even though they are not even connected to broadband in this day and age. The idea of a wind-farm was a good one but the fact that it is going to be located so close to the Seacliff township was unexpected, there has not been enough consultation with the community that a wind farm will impinge on. If this consent is granted will it set the precedent for others to be located so close to human habitation?

Desired decision Conduct more research into the effects on ground vibration, bird strike and noise pollution, wind disturbance. Consultation with the people living in the area. Find another unpopulated site.



DUNEDIN CITY
COUNCIL
Kaunihera-a-rohe o Otago

SUBMISSION FORM 13 Submission Pg S154
Submission concerning resource consent on publicly notified application under
section 95A
Sections 95A, Resource Management Act 1991

RECEIVED

04 DEC 2015

To: Dunedin City Council, PO Box 5045, Moray Place, Dunedin 9058

Resource Consent Number:

LUC-2015-469

Applicant: Blueskin Energy Limited

Site Address:

147 Church Road, Merton

Description of Proposal:

Establish a community wind farm comprising three turbines

I/We wish to lodge a submission on the above resource consent application:

Your Full Name:

John Thom

Address for Service (Postal Address):

[Redacted]

Post Code:

9471

Telephone:

[Redacted]

Facsimile:

Email Address:

I: **Support/Neutral/Oppose** this Application

I: **Do/Do Not** wish to be heard in support of this submission at a hearing

If others make a similar submission, I will consider presenting a joint case with them at a hearing.

(Delete the above statement if you would not consider presenting a joint case at a hearing)

Please use the back of this form or attach other pages as required

The specific parts of the application that this submission relates to are:

The entire application by Blueskin Energy Limited

My submission is [include the reasons for your views]:

I am a affected Land Owner + Banding the Proposed Turbines

This is a beautiful pristine environment and I am concerned about the noise, visual and night pollution. I believe it will be at levels that are not acceptable.

There is very little information on bird life, geotech + environmental effects. Effects on spring water for households + stock. Proposal includes wind turbines with 400m of boxes. This will have a negative effect on road value. People choose to live in this area for peace + quiet + having wind turbines so close to houses.

The decision I wish the Council to make is [give precise details, including the parts of the application you wish to have amended and the general nature of any conditions sought]:

To reject the application

Signature of submitter:

(or person authorised to sign on behalf of submitter)

Date:

2/12/2015

Notes to Submitter:

Closing Date: The closing date for serving submissions on the Dunedin City Council is **Wednesday 2 December at 5pm**. A copy of your submission must be served on the applicant as soon as reasonably practicable after the service of your submission on the Dunedin City Council. The applicant's address for service is 1121 Mount Cargill Road, RD 2, Waitati 9085.

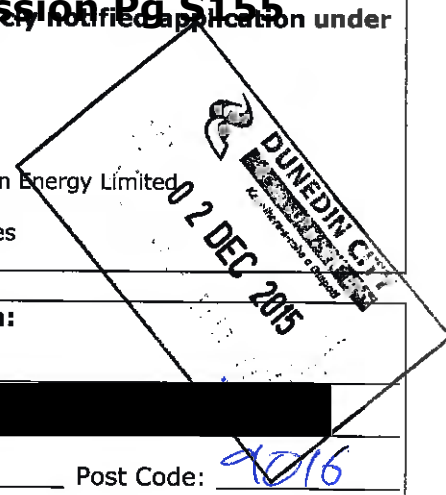
Electronic Submissions: A signature is not required if you make your submission by electronic means. Submissions can be made online at <http://www.dunedin.govt.nz/rma> or sent by email to planning@dcc.govt.nz

Privacy: Please note that submissions are public. Your name and submission will be included in papers that are available to the media and the public. Your submission will only be used for the purpose of the notified resource consent process.

To: Dunedin City Council, PO Box 5045, Moray Place, Dunedin 9058

Resource Consent Number: LUC-2015-469
Site Address: 147 Church Road, Merton
Description of Proposal: Establish a community wind farm comprising three turbines

Applicant: Blueskin Energy Limited



I/We wish to lodge a submission on the above resource consent application:

Your Full Name: Benedict Stewart

Address for Service (Postal Address): [REDACTED]

Post Code: 9016

Telephone: [REDACTED]

Facsimile: [REDACTED]

Email Address: [REDACTED]

I: ~~Support/Neutral/Oppose~~ this Application I: Do/Do Not wish to be heard in support of this submission at a hearing

If others make a similar submission, I will consider presenting a joint case with them at a hearing.

(Delete the above statement if you would not consider presenting a joint case at a hearing)

Please use the back of this form or attach other pages as required

The specific parts of the application that this submission relates to are:

The establishment of a wind farm at Blueskin Bay

My submission is [Include the reasons for your views]:

- 1) Adverse affects on birdlife in Blueskin Bay
- 2) Decreases visual beauty of Blueskin Bay
- 3) Light Pollution, decreasing the visibility of the night sky
- 4) Wrecking geologically unstable farmland

The decision I wish the Council to make is [give precise details, including the parts of the application you wish to have amended and the general nature of any conditions sought]:

To reject the application

Signature of submitter:

Benedict Stewart

Date:

2-12-15

(or person authorised to sign on behalf of submitter)

Notes to Submitter:

Closing Date: The closing date for serving submissions on the Dunedin City Council is **Wednesday 2 December at 5pm**. A copy of your submission must be served on the applicant as soon as reasonably practicable after the service of your submission on the Dunedin City Council. The applicant's address for service is 1121 Mount Cargill Road, RD 2, Waitati 9085.

Electronic Submissions: A signature is not required if you make your submission by electronic means. Submissions can be made online at <http://www.dunedin.govt.nz/rma> or sent by email to planning@dcc.govt.nz

Privacy: Please note that submissions are public. Your name and submission will be included in papers that are available to the

(1) Submission by: Dr Lucy Wing

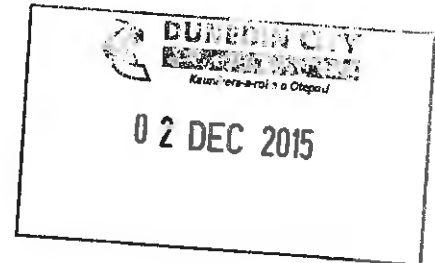


Lucy Wing
2-12-2015

(2) I have no commercial/ financial interests to gain by this submission

(3) I will consider presenting a joint case at a hearing

(4) I am in opposition to the application



(5) Submission with reasons

I am in opposition to the application for resource consent in its current form on two grounds (A) & (B), discussed sequentially:

(A) Blueskin Resilient Communities Trust – Ecological Assessment of Environmental Effects (Katherine Dixon and Robin Mitchell) does not adequately assess the potential impact of the proposed wind farm on birds or provide an effective environmental mitigation strategy. This work must be carried out before the environmental impact of the proposed development can be fully understood. This information is required before consideration of resource consent, because the decisions over consent needs to be made based on good research and unbiased analysis.

Reasons:

Background:

I am an ecologist with 10 years of ecological research experience in New Zealand. My expertise is in marine ecology including the ecology of seabirds. I am professionally competent in the appraisal of environmental impact assessments and in understanding scientific literature. In addition, for this part of my submission (A), I have consulted with three other experts:

(1) Dr Elizabeth Masden (Environmental Research Institute, University of the Highlands & Islands, Scotland) is expert in the potential impacts of renewable energy developments (wind, wave, and tidal) on the environment, and particularly seabirds.

(2) Associate Professor Yolanda van Heezik (University of Otago) is expert in sea bird ecology and wildlife management.

(3) Graeme Loh (NZ Ornithological Society member) is expert in Otago avifauna.

Where their comments contribute to the reasoning below, I have cited them *pers. comms* as indicated by their initials (EM, GL or YvH) in brackets after the relevant comments.

n.b. My comments do not contain a thorough review of the scientific literature or a conclusive list of the species likely to be impacted- this work has not been done and that is the point. It needs to be.

(1) The likelihood of bird strike at the site is unknown. Bird mortality due to collisions with wind turbines is one of the major ecological concerns associated with wind farms¹. However, we cannot assess whether bird strike is likely to be a problem at this site because the estimates produced by Dixon & Mitchell are not grounded in data. To justify their statement *"Bird strike monitoring data from other wind-farms in NZ and internationally are available to provide guidance on the likely magnitude of bird strike at the site"*, Dixon & Mitchell use data from Trust Power's Mahinerangi wind farm (1.1 birds turbine⁻¹ annum⁻¹) to help estimate the likelihood of bird strike at the Porteous Hill site. These data are likely not comparable because Mahinerangi is not a coastal site, does not have similar topography or bird species composition (YvH, EM). The authors also note the considerably higher collision rate at the coastally situated West Wind Farm (6 birds turbine⁻¹ annum⁻¹) and then without further justification, estimate bird strike as 3 birds turbine⁻¹ annum⁻¹ at the Porteous Hill site. This 'estimate' is based on very little evidence, no local data and does not include usual scientific parameters such as a measure of variability or error as is standard for scientific reporting. For example, an estimate should be quoted as an average of x birds per turbine per year $\pm y$, indicating how sure you are of your estimate. This surity is a product of natural variability (some years may be worse than others due to changes in bird movements and abundance) and of how much data the estimate is based on (more surveys = more surity). Dixon & Mitchell are unable to calculate this error because their 'estimate' is not calculated but 'guestimated'. The report states that *'a significant adverse effect... is unlikely'*. However, *'significant adverse effect'* has a very specific, measurable scientific meaning, which the authors cannot back up because no data have been collected. The confident, positive assurances given by the authors are therefore unfounded and should not be taken at face value.

(2) The value of the local avifauna found in adjacent habitats and their likelihood of interacting with the proposed wind farm have been under-assessed in the environmental assessment. Limited bird species are considered by Dixon and Mitchell and their list should not be considered conclusive or exhaustive because (1) no data have been collected at the site (2) the authors (both terrestrial botanists) have not demonstrated that they have sought expert advice on bird species that likely use the site (by way of citations, *pers. comms* or additional authorship) and (3) they visited the site only once. The comment *"on the basis of local habitat availability, population records and typical movement patterns, some species of conservation interest have a reasonable likelihood of occasionally using or passing through the site"* cannot be validated because does not include citations to any population records used. I am unsure that suitable 'population records' exist. The report

mentions four species of concern: The eastern falcon (*Falco novaeseelandiae*), the pied and variable oystercatchers (*Haematopus finschi* and *H. unicolour*), and the black billed gull (*Larus bulleri*). Because of its coastal situation, other birds of concern may include endemic, migratory and taonga species of sea, shore and wader bird such as: ducks, herons, egrets, spoonbills, godwits, gulls, terns and petrels (YvH, GL), many of which are of significant national and international conservation value. Several people have reported muttonbirds (sooty shearwater, 'titi', *Puffinus griseus*) flying nocturnally over Mihiwaka/ Orokonui Ecosanctuary and these taonga do still fly around the hills on the south side of Blueskin Bay (GL).

(3) Potential wildlife corridor/flyway: The site is coastal and situated between two regionally significant wetlands: Blueskin Bay /Waitati Inlet & the Waikouaiti River Estuary Wetland Complex. Local observations (by myself and by others) suggests that the Porteous Hill site may be situated on a flyway along which birds travel between estuaries both during the day and at night. In fact this appears to be a common phenomenon that we enjoy watching with a spotting scope from our house at 67 Coast Rd. We have not collected any data to prove or disprove this observation. New Zealand has no data about flyways in this region, as they have not been identified (GL). However, the caretakers at Quarrantine Island report that the powerlines across the harbour at Quarrantine Island do kill birds and workers under the powerlines in South Dunedin also find dead birds that are using the flyway down the harbour (GL), so structures along flyways can pose a significant risk for coastal birds in our region. While attention is paid to the windturbine itself, it should be kept in mind that ordinary and high tension powerlines associated with the proposed wind farm are well known hazards to birds (GL). The importance or existence of these movements along a potential flyway must be measured **before** the potential environmental impact of the proposed wind farm can be assessed, and resource consent considered.

(4) Knowing which birds are going to be affected is important. Although even a maximum of 6 birds per turbine per annum (as per the West Wind farm) may sound negligible to some people (3 turbines = 18 birds per year for 20 years = 360 birds), the potential ecological impact very much depends on both the conservation and cultural (taonga) status of the bird species concerned. Whether any particularly vulnerable (low population numbers) or valued (iconic, taonga) bird species use or transit through the site has not been ascertained and so the potential environmental impact of the proposed wind farm on them cannot yet be assessed and **must be before** resource consent can be considered.

(5) Collision risk needs to be (and can be) modeled before resource consent can be considered. The probability of birdstrike is determined by the number and type of birds using the area in combination with the height and type of wind turbines to be used¹⁻³. Information on the relative abundance and species of birds from this specific site is required to make this assessment. These data can then be used in a collision risk model to estimate the number and types of birds likely to collide (EM). Collision risk models are well developed, freely available and appropriate for small (1-3 turbine) wind coastal farms³. In addition, this

baseline information is critical to the development and implementation of effective mitigation measures and therefore is considered a priority in wind farm development¹.

(6) Best practice for environmental impact assessments must be adhered to. The work conducted so far to assess the environmental effects of the wind farm is not in keeping with measures for best practice for environmental impact assessments for small (1-3 turbine) wind farms. On consultation with Scott Willis, Blueskin Energy Ltd (26th November 2015) regarding this issue, I was told that this is because there are insufficient funds for the work. I do not believe that lack of financial solvency is a good enough reason not to effectively assess the potential environmental impact of the proposed wind farm, nor is it a positive indicator of the financial sustainability of Blueskin Energy Ltd.

Guidelines for best practice for small wind farm developments are well developed internationally and freely available (e.g. <http://www.snh.gov.uk/docs/C205425.pdf>). Usual best practice includes year-long bird monitoring to see how many birds of which species use the site. This includes doing vantage point watches to record birds flying in the proposed development area during the day and at night. Night survey methods are well established and freely available. These data are then used in a collision risk model to estimate the number of and types birds likely to collide (EM). Once the risk of bird strike is known at the Porteous Hill site, the potential environmental impact of the proposed wind farm can be properly assessed to determine whether resource consent should be granted.

(7) Environmental mitigation measures suggested are too few, too small, too undefined and too late. Dixon & Mitchell propose environmental mitigation by (1) monitoring of the site during the construction phase by daytime surveys only (2) if birds of conservation interest are seen, monitor strike rate after construction and during operation, (3) mitigate the impact of bird strike using predator control. They call this a 'precautionary approach' and I would argue that it is not. A 'precautionary approach' involves erring on the side of caution when assessing risk where there are insufficient data. Building the wind farm without collecting data to assess environmental impacts is not erring on the side of caution. What will they do if it is discovered to unacceptably affect vulnerable bird species during the construction phase or after it is built? –Take it down? Monitoring during the construction phase and measuring strike rate after construction may equate to measuring the decline of local populations, possibly to unacceptably low levels, depending on the rarity of the species in question. As it is clear that bird monitoring needs to be paid for by Blueskin Energy Ltd at some point, why does it not happen before resource consent is applied for?

A measured, precautionary approach would be to conduct bird monitoring in a rigorous manner suitable for a coastal site (including nocturnal surveys), in keeping with international standards of best practice for small wind farms, **before** resource consent is sought.

The survey design, data collection and analysis should be carried out by **scientifically independent and suitably qualified personnel** and should be independently peer reviewed. I recommend independent peer review of the survey design before data are collected. If the

proposed level of bird strike and species affected are considered too great, then the resource consent should be refused on those grounds.

The mitigation measures suggested are vague and may be ineffective. Predator control may not be an effective mitigation strategy for bird species that are not particularly affected by the populations of terrestrial predators targeted by the trapping, especially birds that transit through the site. Greater clarity needs to be provided (how much, for how long, where, to offset loss of which particular species) so that Blueskin Energy Ltd can be held accountable to provide effective, targeted environmental mitigation measures. These mitigation measures should be recommended in detail by independent, suitably qualified personnel based on the collision risk model results and should be subject to independent peer review.

(8) The Ecological Assessment cannot be considered independent research.

Dixon & Mitchell's report cannot be considered fair and independent assessment of the likely environmental effects of the proposed wind farm because (1) it was written *pro bono* because (2) the authors (at the time local residents, now living abroad) were openly in support of the wind farm going ahead (Dixon & Mitchell *pers. comm.*). This open conflict of interest should be carefully considered when assessing their report. **Any research conducted to assess the feasibility of the wind farm must be clearly independent of personal motivation surrounding its completion.**

References

1. A.T. Marques et al. Understanding bird collisions at wind farms: An updated review on the causes and possible mitigation strategies. *Biological Conservation* 179 (2014) 40–52
2. De Lucas et al. (eds), *Developing Field and Analytical Methods to Assess Avian Collision Risk at Wind farms*. Quercus, Madrid.
3. Masden Ea & Cook ASCP. Avian Collision risk models for wind energy impact assessments. *Environmental Impact Assessment Review* 56 (2016) 43-49.

B) The Blueskin wind farm development should not be considered a Community Support Activity. *Because of this Blueskin Energy Ltd should be subjected to the same scrutiny as any small commercial wind farm venture and not given undue concessions due to its purported positive community impact.*

Reasons:

(1) BRCT does not speak for 'the community'. The approximately 1600 residents of Blueskin Bay identified by BTCT as the 'community' (Karitane – Long Beach) have a strong history of community groups that have been generated by local ground swell, driven by local need and have provided* or continue to provide timely and effective services that benefit the health, welfare, safety, education, sustainability and wellbeing of local residents. Examples include (but are not limited to) the Waitati Edible Gardeners*, Waitati Open Orchard, Seacliff Open Orchard, Waitati Community Garden, Waitati Harvest Market & Warrington Community Garden (food security), Get the Train & W3 Rideshare* (low carbon commuting), an independent bulk-buy and installation of PV (devolved energy production for ~15 households so far), Purakaunui Ecology Group, Warrington Reserve Group & Blueskin Baywatch (environmental advocacy), Blueskin Market, Bland Park A & P Society, and the Truby King Reserve Committee (public amenities and recreation). These small, devolved groups have each grown out of a genuine community concern or need and are efficiently run by volunteers with no salaried positions or overheads. Any money fundraised is spent directly within the community on the cause that it was explicitly fundraised for. Once the need has been met, or if the group does not function to serve its stated purpose, social impetus dries up and the group becomes defunct. This is a strongly self-regulating, community driven system of low community impact and high, targeted, community gains. It is a highly appropriate model for delivering community services, which has been demonstrated to work well throughout Blueskin Bay.

BRCT was created (without demonstrable local demand) to "provide planning, structure and governance for these local actions" and sought to do so at its inception. It should be noted that this 'top-down' management structure was rejected and none of the aforementioned groups have ever chosen to be associated with, supported or represented by BRCT as an umbrella organization. Members of these community groups can perhaps be considered the portion of the community that are most motivated to be involved in Community Support Activities. The fact that none of them have chosen to associate with BRCT, should speak highly of BRCT's position within the community.

(2) Community uptake of consultation by BRCT has been limited and the Blueskin Energy project is not well understood by local residents. BRCT has directly consulted a maximum of 8% of the Blueskin community (if no two people were consulted in each individual survey) and a maximum of 3% of the community in any one survey. Not for the want of trying on the part of BRCT, uptake by the community to engage with the project has been small. The strongest support garnered in 2008 (but <1% of the community

surveyed) showed the 'community' be in favor of wind energy because (1) it would prevent black outs and (2) it would provide cheap energy. This is because initial plan presented to the community was of small turbines (not commercial wind farm sized) that would provide locally generated energy to local homes, through devolvement from the national grid, deliverable through the Waitati Power Station. This was expected to provide cheaper, more reliable power to 'the community'. These ideals are not deliverable through the proposed plan and so the initial reasons for 'community' backing of the wind project are not supported. Many members of the community who attended early meetings still believe the conditions of the initial plan are in place (small, local, cheap, reliable), or have been surprised recently that they are not.

(3) Without a business plan, the potential benefit to the community via BRCT cannot be assessed. BRCT have not developed a business plan for the proposed development and the limited business model produced so far seems confusing and potentially confounded. Their resource consent application states "The Blueskin Wind Farm will return an annual dividend to Blueskin Energy Ltd's sole shareholder, the Blueskin Resilient Communities Trust (BRCT)", but their promotional video states that the money to build the farm will be provided by 'investors'. Several things are unclear and raise concern: (1) What is the financial structure by which these 'investors' are not shareholders, enabling BRCT be the 'sole shareholder'? (2) Where will the investors come from? Will investment come from outside the community and so will the asset be 'community owned'? Can sufficient funds (NZ\$6 million) be raised from within the Blueskin Community? Do the 'community' get to decide who invests? Via what means? In this case, what defines 'community'? (3) What are the likely financial gains (in real numeric terms) to the community, after meeting commitments to investors? Without this financial forecasting, how can we decide if it is worth it while we don't know what we are being offered?

(4) It is not clear that BRCT is a suitably robust organizational body to govern a Community Support Activity. If the Blueskin Wind farm can be considered a Community Support Activity, it is unclear that BRCT is a sufficiently robust organization to be responsible for such a large financial asset, on behalf of the community, for 20 years. BRCT is a volatile organization as demonstrated by the high level of turn over of board members since its inception. Whether BRCT are representative of the 'community' is questionable because their election process for board membership is not public (there is no voting at a meeting or otherwise) and new board members are elected sporadically by the existing board, without a set timetable or optimum tenure. If they do receive dividends from power production, who will decide how this money is spent? As yet, there are no clear extra deliverables in addition to what BRCT already provide. Do the 'community' want them?

In addition, BRCT have not demonstrated the financial viability of the proposed wind farm. No business plan or financial forecasting is available from them. Isolated wind farm ventures that are not buffered by belonging to a larger corporation are especially vulnerable to changing markets and margins for such projects in NZ are forecast to be slim. In this case,

the Blueskin Bay project is especially susceptible to the decommissioning of the aluminum smelter at Bluff, which will flood the market with renewable power from the Manapouri HEP. Careful and transparent forecasting is necessary to ensure the financial viability of the project before it can be considered capable of providing Community Support in the long term.

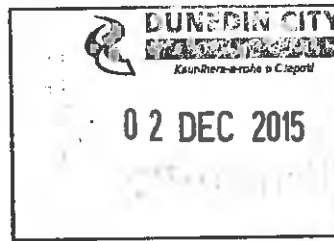
(5) The community should be using less, not making more power. In general I am not 'for' or 'against' wind farms and I am particularly interested in wind farms that lead to the decommissioning or prevent further development of fossil fuel power generation. However this is not the case in Blueskin Bay. Within Blueskin Bay, there is clear community support for initiatives that (1) lower home energy consumption (e.g. BRCT's very successfully completed home insulation retrofit roll out, the national level Cozy Homes Initiative) & (2) provide devolved power and heating options at the household level (PV electricity and solar hot water heating) at cheaper cost by bulk-buying/ installing. These initiatives are already in place in the Blueskin Community and warrant further support. They are home-grown from local groundswell, available to those who want them but do not impact those who don't, provide direct, measurable services in a timely manner and they are self-regulating as if at anytime the community no longer wants them, they will go defunct. In addition, they do not require proceeds from a potentially risky commercial venture to fund them to ensure their success in providing community support.

Because of these points, I do not believe that the wind farm proposed by Blueskin Energy Ltd/ BRCT can be considered a Community Support Activity, nor is it a suitable pathway for implementing stronger communities for great social wellbeing in the Blueskin Bay area. Resource consent for the wind farm should be sought under the same legislation and scrutiny of procedures that would apply to any other small commercial wind farm.

3/12/2015

Submission Pg S164

Friederike Schmalz



to whom it may concern:

I apologize for sending a handwritten submission.

At present I am unable to provide a printout and am anxious to meet the deadline.

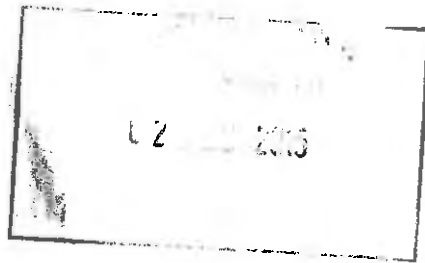
However, I am happy to resubmit the text as an e-mail if given the appropriate address.

yours faithfully

Friederike Schmalz

3/12/2015

Submission Pg S165
Friederike Schmalk



My name is Friederike Schmalk and I own a residential property at the start of Reetovit Rd which leads up Porteous Hill.

I am interested in attending the hearing.

While I am generally in favour of wind energy production, I oppose this particular project for the following reasons:

— As the project grew from a small local enterprise, its character changed: there are now investors involved who do not live in the area. They will be able to exert pressures and further developments may ensue that are against our interests.

This loss of control outweighs, in my opinion, the possible benefits for the community by far. Their dividends will also reduce these benefits!

— No precedents should be created for the establishment of windfarms this close to settlements.

- While I personally do not object to the sight of Windfarms, I strongly object to their noise. Even if relatively low in decibels, it is inescapable and unpredictable as to how far and where to it will travel.
- Equally unpredictable is the impact on the birdlife of which Porteous Hill is rich.

Friederike Schmalz



DUNEDIN CITY
COUNCIL
Kaunihara-a-rohe o Otepoti

SUBMISSION FORM 13
Submission concerning resource consent on publicly notified application under section 95A
Sections 95A, Resource Management Act 1991

Submission Pg S167

To: Dunedin City Council, PO Box 5045, Moray Place, Dunedin 9058

Resource Consent Number:

LUC-2015-469

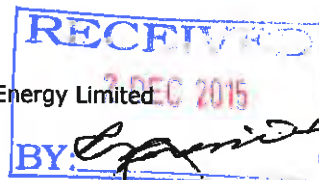
Applicant: Blueskin Energy Limited

Site Address:

147 Church Road, Merton

Description of Proposal:

Establish a community wind farm comprising three turbines



1/We wish to lodge a submission on the above resource consent application:

Your Full Name: _____

JOACHIM GSW MURSA

Address for Service (Postal Address): _____



Post Code: _____

Telephone: _____



Facsimile: _____

Email Address: _____

I: **Support/Neutral/**Oppose this Application I: Do/**Do Not** wish to be heard in support of this submission at a hearing
If others make a similar submission, I will consider presenting a joint case with them at a hearing.
(Delete the above statement if you would not consider presenting a joint case at a hearing)

Please use the back of this form or attach other pages as required

The specific parts of the application that this submission relates to are:

My submission is [Include the reasons for your views]:

SEE APPENDIX ATTACHED

The decision I wish the Council to make is [give precise details, including the parts of the application you wish to have amended and the general nature of any conditions sought]:

Signature of submitter: _____

(or person authorised to sign on behalf of submitter)

[Signature]

Date: 02-12-2015

Notes to Submitter:

Closing Date: The closing date for serving submissions on the Dunedin City Council is **Wednesday 2 December at 5pm**. A copy of your submission must be served on the applicant as soon as reasonably practicable after the service of your submission on the Dunedin City Council. The applicant's address for service is 1121 Mount Cargill Road, RD 2, Waitati 9085.

Electronic Submissions: A signature is not required if you make your submission by electronic means. Submissions can be made online at <http://www.dunedin.govt.nz/rma> or sent by email to planning@dcc.govt.nz

Privacy: Please note that submissions are public. Your name and submission will be included in papers that are available to the media and the public. Your submission will only be used for the purpose of the notified resource consent process.

Joachim GSW Mursa (Fred), [REDACTED]

Appendix To Submission Form 13, Resource Consent Number: LUC-2015-469

The specific parts of the application that this submission relates to are: (But not limited to)

- 3.1. Access
- 5.3. Parties Consulted
- 8.3. Ecology

My submission is:

- 3.1. Access

Porteous Road is not a practical road for transporting components of the wind generators and construction machines at all because of the steep grade and tight turns.

As I pointed out in an e-mail to Scott Willis on 26-11-2015 the price that Fulton Hogan quoted will be for transporting the components of the wind generators not including the transport of construction machinery to the job site.

Transporters for the crane body counter weight and boom sections will need a completely different upgrade again. Those upgrades will greatly affect my property. The road has to be changed and cut through my land. Trees, my trees would have to be felled to get around the bends.

I am very happy with where my trees are and the way Porteous Road is at present. For those reasons I will not consent to any changes that will affect my property.

- 5.3. Parties Consulted

On 01-11-2015 Scott Willis rang me and told me that the "project" is going ahead. When I asked him about access to the site he assured me that: "Just one tree down the very bottom of Porteous Road would have to be chopped off and the rest of the road just needs a bit of gravel." He is obviously and intentionally misleading affected parties by sweet talking. As he is well known for.

I have been in the crane business for more than 30 years and offered him free assistance in getting realistic costing and what sort of machines are required.

Scott did not accept.

- 8.3. Ecology

In 2001 I planted out shelter belts with native plants like cabbage trees and flaxes. As the plants matured I noticed that more and more birds such as Tuis showed up to enjoy the shelter they enjoy as well as the flowers of the flaxes they feed on.

I am very proud and happy to hear and see these pretty birds and would be very upset when this changes because of the proposed project.

The decision I wish the council to make is:

Not to grant consent for the proposed wind farm on Porteous Hill.

J. Allen
102-12-2015



DUNEDIN CITY
COUNCIL
Te Kaitiaki o Dunedin

SUBMISSION FORM 13 Submission Pg S169

Submission concerning resource consent on publicly notified application under section 95A

Sections 95A, Resource Management Act 1991

To: Dunedin City Council, PO Box 5045, Moray Place, Dunedin 9058

Resource Consent Number:

LUC-2015-469

Site Address:

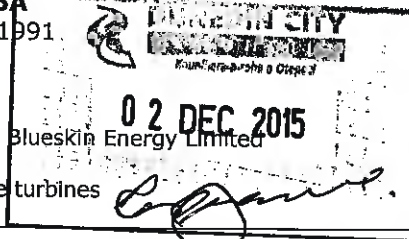
147 Church Road, Merton

Description of Proposal:

Establish a community wind farm comprising three turbines

Applicant:

Blueskin Energy Limited



I/We wish to lodge a submission on the above resource consent application:

Your Full Name:

ANDREW ROSS JOHNSTON

Address for Service (Postal Address):

[Redacted Address]

Post Code: 9081

Telephone:

[Redacted Telephone]

Facsimile:

Email Address:

[Redacted Email]

I Support / Neutral / Oppose this Application

I Do Not wish to be heard in support of this submission at a hearing

If others make a similar submission, I will consider presenting a joint case with them at a hearing.

(Delete the above statement if you would not consider presenting a joint case at a hearing)

Please use the back of this form or attach other pages as required

The specific parts of the application that this submission relates to are:

see attached sheet

My submission is [Include the reasons for your views]:

see attached sheet

The decision I wish the Council to make is [give precise details, including the parts of the application you wish to have amended and the general nature of any conditions sought]:

see attached sheet

Signature of submitter:

[Signature]

(or person authorised to sign on behalf of submitter)

Date:

02/12/15

Notes to Submitter:

Closing Date: The closing date for serving submissions on the Dunedin City Council is **Wednesday 2 December at 5pm**. A copy of your submission must be served on the applicant as soon as reasonably practicable after the service of your submission on the Dunedin City Council. The applicant's address for service is 1121 Mount Cargill Road, RD 2, Waitati 9085.

Electronic Submissions: A signature is not required if you make your submission by electronic means. Submissions can be made online at <http://www.dunedin.govt.nz/rma> or sent by email to planning@dcc.govt.nz

Privacy: Please note that submissions are public. Your name and submission will be included in papers that are available to the media and the public. Your submission will only be used for the purpose of the notified resource consent process.

The specific part of the application that this submission relates to are:

- the way in which this innovative and visionary proposal supports the community in which it is located
- the way in which this proposal supports the intention of the Dunedin Spatial Plan,
- the way in which this proposal is supported by the underlying principles of the RMA
- the nature of the development which has minimised the environmental impact of the wind turbines involved.

My submission is:

That this venture has the potential to help secure the future of the communities in the Blueskin area. The Resource Consent, if granted, has value for the charitable company Blueskin Energy Ltd (BEL) which is wholly owned by BRCT. That Resource Consent becomes BEL's 'sweat equity' in the project. BEL will therefore get a return from the sale of the electricity generated as will all other investors. That return to BEL is to be channelled back into the Blueskin communities involved through a mechanism like the Otago Community Trust.

Such a venture is carbon neutral once constructed and fulfils the Dunedin Spatial Plans desire to support *"Local energy generation, both energy and electricity (from renewable resources) [that] not only contribute to reduced carbon emissions but also assist in creating greater community energy awareness and an ability to respond faster to energy challenges and constraints while maintaining productive capacity"* (p17)

The objectives of the RMA are met by this proposal. The act sets out to 'promote the sustainable management of natural and physical resources'. This proposal seeks to manage a sustainable natural resource – wind – for the benefit of the communities in which the wind is 'captured'.

This is a low impact development. The report from Di Lucas regarding the visual impact on the landscape supports the view that the visual impact will be minor or less than minor.

The acoustic assessment also indicates that the noise generated will be 'very low and within standard'.

The decision I wish the Council to make is:

To approve this innovative and visionary scheme which has been planned so that it minimises the auditory and visual impact it has upon the communities in which it stands and returns to those communities a proportion of the profits from the electricity generated.

It is perhaps appropriate to also point out that the proposed wind turbines will be visible from my house in Purakaunui.



DUNEDIN CITY
COUNCIL
Kaitiaki Take Kōwhiri o Dunedin

SUBMISSION FORM 13 Submission Pg S171

Submission concerning resource consent on publicly notified application under section 95A

Sections 95A, Resource Management Act 1991

To: Dunedin City Council, PO Box 5045, Moray Place, Dunedin 9058

Resource Consent Number:

LUC-2015-469

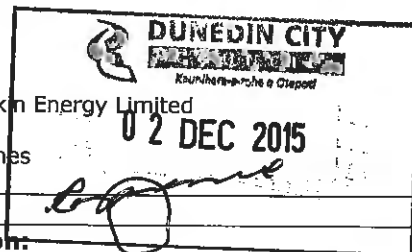
Site Address:

147 Church Road, Merton

Description of Proposal:

Establish a community wind farm comprising three turbines

Applicant: Blueskin Energy Limited



☒ **I/We wish to lodge a submission on the above resource consent application:**

Your Full Name: BARBARA ISABEL JOHNSTON

Address for Service (Postal Address):

[Redacted Address]

Post Code: 9081

Telephone:

[Redacted Telephone]

Facsimile:

Email Address:

[Redacted Email Address]

I: **Support/Neutral/Oppose** this Application

I: ~~Do~~ **Do Not** wish to be heard in support of this submission at a hearing

~~If others make a similar submission, I will consider presenting a joint case with them at a hearing.~~

~~(Delete the above statement if you would not consider presenting a joint case at a hearing)~~

Please use the back of this form or attach other pages as required

The specific parts of the application that this submission relates to are:

That this proposal offers direct benefits to the local community through profits from the sale of electricity.

My submission is [include the reasons for your views]:

That this proposal offers long term returns to the community.

That by harnessing wind energy, carbon emissions can be reduced.

That as a resident in the Blueskin Bay area I accept the relatively minor visual impact of the proposed wind turbines.

The decision I wish the Council to make is [give precise details, including the parts of the application you wish to have amended and the general nature of any conditions sought]:

To approve this proposal.

Signature of submitter:

B I Johnston
(or person authorised to sign on behalf of submitter)

Date: 1-12-15

Notes to Submitter:

Closing Date: The closing date for serving submissions on the Dunedin City Council is **Wednesday 2 December at 5pm**. A copy of your submission must be served on the applicant as soon as reasonably practicable after the service of your submission on the Dunedin City Council. The applicant's address for service is 1121 Mount Cargill Road, RD 2, Waitati 9085.

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Privacy: Please note that submissions are public. Your name and submission will be included in papers that are available to the media and the public. Your submission will only be used for the purpose of the notified resource consent process.

1 December 2015

Dunedin City Council
P O Box 5045
Dunedin



Dear Sir/Madam

Re: **Wind Farm – 147 Church Road –LUC-2015-469**

Location of site:

147 Church Road, Merton, being legally described as Lot 1-2 DP 473199 held in Computer Freehold Register 646829

I oppose this submission.

I own with family members a property at Doctors' Point Road, Waitati.

Blueskin Energy Ltd is proposing to construct and operate a "community" wind farm at Blue skin Bay, to the north of Dunedin, Otago. It is not a "community" project with benefits for most people in this community.

Blueskin Energy Ltd do a variety of good things for the community, but this is not a reasonable proposal. It is a non-complying activity under the operative Dunedin City Council plan and should remain so. This should not be a discretionary restricted activity under the 2GP.

Reasons for objection:

A small number of people may support this wind farm but it is of no value to the community. It will not reduce our electricity charges, nor change how we get out electricity or change things for the better for the local community.

It will make the area less attractive as a place to live.

It is a quiet rural area but has a reasonable number of houses in the area and one as close as 500m, which would be significantly affected by the wind farm.

It may result in a large number of wind turbines in the future (if a larger company bought this Company out) and have a detrimental impact on the community.

This development will have a major visual impact on this beautiful Otago coastline.

Light pollution will be an issue if the wind turbines are to be lit at night for aircraft that pass through this corridor on a regular basis.

As house are relatively close to the turbines I know the impact it will have on the nearby homes, such as vibration, noise and lights at night. People need peace and quiet at night.

The area is a picturesque part of the Otago Coast and the coastal bays (eg: Blueskin Bay and Warrington) are tidal feeding areas for wading birds. The bays have a huge variety of native and other birds that feed and nest in and around the bay, for example Royal Spoonbills, Kingfishers, Bellbirds, Fantails, Kereru, Gulls, Shags, Oystercatchers, Black fronted Terns, Penguins and even young Seals. Bird strike will affect other birds such as the Godwits, falcons, harriers.

Part of the Wind farm site are located within the North Coast Coastal landscape Preservation area and though the wind turbines are outside the boundary it will have an impact on people, their home life and the bird life in this area.

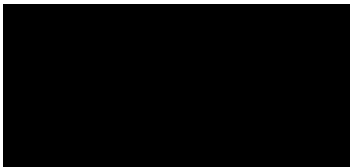
The decision I wish you to make is to refuse the Blue skin Energy Ltd's proposal of a wind farm at Porteous Hill.

As I live in Tauranga I do not wish to be heard in support of my submission

Yours sincerely



Jillian Gay Borrie





DUNEDIN CITY
COUNCIL
Kaunihera-a-rohe o Otago

SUBMISSION FORM 13 Submission Pg S174
Submission concerning resource consent on publicly notified application under
section 95A

Sections 95A, Resource Management Act 1991



02 DEC 2015

To: Dunedin City Council, PO Box 5045, Moray Place, Dunedin 9058

Resource Consent Number: LUC-2015-469
Site Address: 147 Church Road, Merton
Description of Proposal: Establish a community wind farm comprising three turbines

Applicant: Blueskin Energy Limited

I/We wish to lodge a submission on the above resource consent application:

Your Full Name: Karen Jill Hobday

Address for Service (Postal Address):

Post Code: 9049

Telephone:

Facsimile:

Email Address:

I: ~~Support~~ / ~~Neutral~~ / **Oppose** this Application I: **Do** / ~~Do Not~~ wish to be heard in support of this submission at a hearing

If others make a similar submission, I will consider presenting a joint case with them at a hearing.

(Delete the above statement if you would not consider presenting a joint case at a hearing)

Please use the back of this form or attach other pages as required

The specific parts of the application that this submission relates to are:

The existence of a wind farm on Porteous Hill

My submission is [Include the reasons for your views]:

I think it is very inappropriate to put an industrial site, of a wind farm, so close to Warrington Village. Wind turbine noise; "sun strike" - a striking effect as the sun goes down behind the moving blades; and destruction of our night sky if there is lighting at the sight of them looming on our hill; risk to bird life; risk to land (erosion a huge issue in our area); risk to waterways through erosion; vast money put into a risky business proposal (due to stable electricity use, Tiwai Point likely to close in near future, South Island has enough power, need power in Nth and lose alot if have to shift power over vast distances, so wind turbines should be near where power is needed).

I feel misled - I was initially a supporter of this project because I thought

The decision I wish the Council to make is [give precise details, including the parts of the application you wish to have amended and the general nature of any conditions sought]:

I wish that the wind farm be stopped. I support wind power but for many reasons I think the location is appalling. I do not want to live that close to the noise, lighting, and visual disturbance, and I don't want Porteous Hill to become an industrial site.

Signature of submitter:

[Signature]

Date: 30 November 2015

(or person authorised to sign on behalf of submitter)

Notes to Submitter:

Closing Date: The closing date for serving submissions on the Dunedin City Council is **Wednesday 2 December at 5pm**. A copy of your submission must be served on the applicant as soon as reasonably practicable after the service of your submission on the Dunedin City Council. The applicant's address for service is 1121 Mount Cargill Road, RD 2, Waitati 9085.

Electronic Submissions: A signature is not required if you make your submission by electronic means. Submissions can be made online at <http://www.dunedin.govt.nz/rma> or sent by email to planning@dcc.govt.nz

Privacy: Please note that submissions are public. Your name and submission will be included in papers that are available to the media and the public. Your submission will only be used for the purpose of the notified resource consent process.

It would be a low key project, near Waitati, using single blade, small wind turbines. This would have low impact. I have since learned that the turbines I saw at an open day at Waitati Hall were for single dwellings, and that the ~~low~~ scale of this project is huge - and industrial. I see no benefit for the community, and I have deep concern about all the points I raised above. It puts the quality of village life at risk, ~~and~~ ^{and} the business case is not strong enough to warrant my support. I was interviewed about my support of this project, during the community consultation phase. I wonder how many other people who were initially positive about this project are ~~also~~ also now disillusioned.

02 DEC 2015



SUBMISSION FORM 13
Submission concerning resource consent on publicly notified application under section 95A
Sections 95A, Resource Management Act 1991

To: Dunedin City Council, PO Box 5045, Moray Place, Dunedin 9058

Resource Consent Number: LUC-2015-469 **Applicant:** Blueskin Energy Limited
Site Address: 147 Church Road, Merton
Description of Proposal: Establish a community wind farm comprising three turbines

I We wish to lodge a submission on the above resource consent application:

Your Full Name: Nathan John Parker

Address for Service (Postal Address):

Post Code: 9449

Telephone: Facsimile:

Email Address:

I: Support/Neutral/~~Oppose~~ this Application (I: Do/Do Not) wish to be heard in support of this submission at a hearing

If others make a similar submission, I will consider presenting a joint case with them at a hearing. ✓

(Delete the above statement if you would not consider presenting a joint case at a hearing)

Please use the back of this form or attach other pages as required

The specific parts of the application that this submission relates to are:

Building a "community led" windfarm on Porteous Hill does not reflect the needs of the community and could have long term and negative effects on the local bird populations and aquifers in this geological unstable environment.

My submission is [Include the reasons for your views]:

** Community - The Blueskin community originally thought the idea of being sustainable through generating power for our local community a good idea. Since then the ideas have changed from supplying the locals, to the community receiving a dividend of \$400,000 for power generated. In this present climate with uncertain power prices (especially with the threat of China's power closing) generating any income from investing 6 million dollars is uncertain. The communication/consultation process has been inadequate. The information in our local paper (Blueskin news) is written for an academic audience, with "ordinary" people*

The decision I wish the Council to make is [give precise details, including parts of the application you wish to have amended and the general nature of any conditions sought]:

The council oppose the decision to allow time for the BRCT/BEL to consult more thoroughly with the community, over birds, geological issues, money returns and whether we even need a wind farm.

Signature of submitter: [Signature] (or person authorised to sign on behalf of submitter)

Date: 2 December 2015

Notes to Submitter:

Closing Date: The closing date for serving submissions on the Dunedin City Council is **Wednesday 2 December at 5pm**. A copy of your submission must be served on the applicant as soon as reasonably practicable after the service of your submission on the Dunedin City Council. The applicant's address for service is 1121 Mount Cargill Road, RD 2, Waitati 9085.

Electronic Submissions: A signature is not required if you make your submission by electronic means. Submissions can be made online at <http://www.dunedin.govt.nz/rma> or sent by email to planning@dcc.govt.nz

Privacy: Please note that submissions are public. Your name and submission will be included in papers that are available to the media and the public. Your submission will only be used for the purpose of the notified resource consent process.

International Trade", *World Politics* (Vol 28, No.3, April 1976). Also see R.F. Harrod, *The Life of John Maynard Keynes* (London: Macmillan, 1951).

29. The international implications of the New Deal are dealt with in several passages in Arthur M. Schlesinger, Jr., *The Age of Roosevelt*, esp. Vol. II, *The Coming of the New Deal* (London: Heinemann, 1960). Charles Meier, "The Politics of Productivity: Foundations of American International Economic Policy after World War II", in Katzenstein, *op.cit.*, discusses the relationship between the New Deal and the post-war ideology of world order. Richard Gardner, *Sterling-Dollar Diplomacy: Anglo-American Collaboration in the Reconstruction of Multilateral Trade* (Oxford: Clarendon Press, 1956) shows the link between New Deal ideas and the institutions of world economy set up after World War II in the Bretton Woods negotiations.

30. The basic point I am making here is suggested by a passage in Gramsci's *Prison Notebooks* which reads: "Do international relations precede or follow (logically) fundamental social relations? There can be no doubt but that they follow. Any organic innovation in the social structure, through its technical-military expressions, modifies organically absolute and relative relations in the international field too." Gramsci used the term "organic", to refer to relatively long-term and permanent changes, as opposed to "conjunctural". *Selections op. cit.*, pp. 176-177. In the critical Italian edition, the original is to be found in vol III, pp. 1562.

31. E. J. Hobsbawm writes: "The men who officially presided over the affairs of the victorious bourgeois order in its moment of triumph were a deeply reactionary country nobleman from Prussia, an imitation emperor in France and a succession of aristocratic landowners in Britain." *The Age of Capital, 1843-1875* (London: Sphere Book, 1977), p.15.

32. Among analysts who concur in this are Karl Polanyi, *op. cit.*, Gunnar Myrdal, *Beyond the Welfare State* (New Haven: Yale University Press, 1960); E.H. Carr, *Nationalism and After*, *op. cit.*; and Geoffrey Barraclough, *Introduction to Contemporary History* (London: Penguin, 1968).

33. George Lichtheim, *Imperialism* (New York: Praeger, 1971) has proposed a periodisation of imperialisms, and I have taken the term "liberal imperialism" from him.

34. "The Imperial State System" paper presented to the American Political Science Association, Washington, D.C., August 1980.

35. Max Beloff was perhaps the first to point to the mechanisms whereby participation in international organisations altered the internal policy-making practices of states in his *New Dimensions in Foreign Policy* (London: Allen and Unwin, 1961). R.W. Cox and H.K. Jacobson, et al, *The Anatomy of Influence: Decision-making in International Organisation* (New Haven: Yale University Press, 1972) represented the political systems of international organisations as including segments of states. R.O. Keohane and J.S. Nye, "Transgovernmental Relations and International Organizations", *World Politics* (Vol. 27 October 1974) pointed to the processes whereby coalitions are formed among segments of the apparatuses of different states and the ways in which international institutions facilitate such coalitions. These various works, while they point to the existence of mechanisms for policy co-ordination among states and for penetration of external influences within states, do not discuss the implications of these mechanisms for the structure of power within states. It is this structural aspect I wish to designate by the term "internationalisation of the state". Christian Palloix refers to "L'internationalisation de l'appareil de l'Etat national, de certains lieux de cet appareil d'Etat . . ." (*L'internationalisation du capital*, Paris, Maspero, 1975, p. 82) by which he designates those segments of national states which serve as policy supports for the internationalisation of production. He thus raises the question of structural changes in the state, though he does not enlarge upon the point. Keohane and Nye, subsequent to the work mentioned above, linked the transgovernmental mechanism to the concept of "interdependence", *Power and Interdependence*, (Boston: Little, Brown, 1977). I find this concept tends to obscure the power relationships involved in structural changes in both state and world order and prefer not to use it for that reason. Peter Gourevitch, *op. cit.*, does retain the concept interdependence while insisting that it be linked with power struggles among social forces within states.

36. There is, of course, a whole literature implicit in the argument of this paragraph. Some sketchy references may be useful. Andrew Shonfield, *Modern Capitalism* (London: Oxford University Press, 1965) illustrated the development of corporative-type structures of the kind I associate with the welfare-nationalist state. The shift from industry-level corporatism to an enterprise-based corporatism led by the big public and private corporations has been noted in some industrial relations works, particularly those concerned with the emergence of a 'new working class', e.g. Serge Mallet, *La nouvelle classe ouvrière* (Paris: Seuil, 1963), but the industrial relations literature has generally not linked what I have elsewhere called enterprise corporatism to the broader framework suggested here (cf. R. W. Cox, "Pour une étude prospective des relations de production", *Sociologie du Travail*, 2, 1977). Erhard Friedberg, "L'internationalisation de l'économie et modalités d'intervention de l'état: la 'politique industrielle'", in *Planification et Société* (Grenoble: Presses universitaires de Grenoble, 1974), pp. 94-108, discusses the subordination of the old corporatism to the new. The shift in terminology from planning to industrial policy is related to the internationalising of state and economy. Industrial policy has become a matter of interest to global economic policy

not able to understand the wordy reports or going to reading due to their long windedness! B.R.C.T and its subsidiary Blueskin Energy limited do not represent the local community. Board members are shadler tapped for appointment - there seems to be ^{transparent} ~~no~~ process of how board members are elected. The ability for the BEL members, or executive ~~again~~ to explain at a public meeting who they will be selling power to, how they will generate the promised \$10000 per annum, or a clear process of who would receive this money - the only local group mentioned that would receive some of the payout was the church - (whose hierarchy owned the land the turbines are being erected on). Since the idea of a community run windfarm was mooted technology has come a long way - a resilient community should be food, water and power self sufficient - we will be none of these. Solar panels have already been set up around the Blueskin community and have proved to be highly effective and give their owners cheaper power and ~~the~~ the ability with care to become self sufficient.

If the turbines are built on Porteous hill there seems to be no guarantee that they will not have any adverse effect on local aquifers - This hill with its mix of basalt and loess is highly unstable. Local farmers report problems with land subsidence, slips and significant damage from only small disturbances to the land - this is historic for the area. From around Porteous hill aquifers flow - in the past

They were used as the main water supplies to Sesehiti, Warrington, Onimi, Evansdale and Merton communities. Many of the farms are reliant on these continuing to flow. Our ability to be autonomous/resilient communities will diminish significantly if these aquifers/springs are damaged and so will our ability to grow food/be limited with no water!

The turbines will impact on the local residents - some live within a close distance to the planned site. The site was chosen from a "straw poll" of the 90 people who came to the community meetings - with over a 1000 ^{Blueskin} residents such a poor response is not a robust way to choose a site. Electricity is not needed here in the south of the south island as we have an abundance of other renewable options - it is the northern half of the north Island that needs electricity - surely it this is only about making money and not about resilient communities, erecting more turbines in the north island would be a better option. BEG could still "own" them and feed any returns back to Blueskin.

Finally birds - kuaka (godwits) migrating birds that summer over ^{in Blueskin} and breed in Alaba leave our shores every March - no detailed analysis of migratory patterns or even surveys of bird populations exist. Reports of the rare karearea (falcon) having been seen on Poteou hill. The turbines may have a detrimental effect on many bird species - what is the science?



DUNEDIN CITY
COUNCIL
Kaunihera-a-rohe o Otepoti

SUBMISSION FORM 13 Submission Pg S180
Submission concerning resource consent on publicly notified application under
section 95A

Sections 95A, Resource Management Act 1991



To: Dunedin City Council, PO Box 5045, Moray Place, Dunedin 9058

Resource Consent Number:

LUC-2015-469

Applicant: Blueskin Energy Limited

Site Address:

147 Church Road, Merton

Description of Proposal:

Establish a community wind farm comprising three turbines

I/We wish to lodge a submission on the above resource consent application:

Your Full Name: Ross Andrew Jackson

Address for Service (Postal Address):

Post Code: 9014

Telephone:

Facsimile:

Email Address:

I: **Support/Neutral/**Oppose this Application

I: **Do/**Do Not wish to be heard in support of this submission at a hearing

If others make a similar submission, I will consider presenting a joint case with them at a hearing.

(Delete the above statement if you would not consider presenting a joint case at a hearing)

Please use the back of this form or attach other pages as required

The specific parts of the application that this submission relates to are:

the effect on property values. Health effects
It is unfair to the people who have to live near it
I don't believe they are economic
there are many alternatives that do not divide communities

My submission is [Include the reasons for your views]:

This will set a precedent for wind farms to
be sited 471 m from dwellings. It is uneconomic
as several wind farms have been consented but
not built. I am concerned about infra-sound
& noise and visual pollution. I have
noticed that it is dividing the community
as it has overseas. Tourists don't want to
see the landscape ruined by ugly industrial
structures. When Tiwai pt. closes down there will
be a glut of electricity. NZ is not short of electricity.

The decision I wish the Council to make is [give precise details, including the parts of the application you wish to have amended
and the general nature of any conditions sought]:

To turn down this consent.

Signature of submitter:

[Signature]
(or person authorised to sign on behalf of submitter)

Date: 27/11/15

Notes to Submitter:

Closing Date: The closing date for serving submissions on the Dunedin City Council is **Wednesday 2 December at 5pm**. A copy of your submission must be served on the applicant as soon as reasonably practicable after the service of your submission on the Dunedin City Council. The applicant's address for service is 1121 Mount Cargill Road, RD 2, Waitati 9085.

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Privacy: Please note that submissions are public. Your name and submission will be included in papers that are available to the media and the public. Your submission will only be used for the purpose of the notified resource consent process.



DUNEDIN CITY
COUNCIL
Kaunihera-a-rohe o Otago

SUBMISSION FORM 13 Submission Pg S181
Submission concerning resource consent on publicly notified application under
section 95A
Sections 95A, Resource Management Act 1991

To: Dunedin City Council, PO Box 5045, Moray Place, Dunedin 9058

Resource Consent Number:
Site Address:
Description of Proposal:

LUC-2015-469
147 Church Road, Merton
Establish a community wind farm comprising three turbines

Applicant: Blueskin Energy Limited



I/We wish to lodge a submission on the above resource consent application:

Your Full Name: SIMON RYAN and JENNIFER ASKRY

Address for Service (Postal Address):



Post Code: 9059

Telephone:



Facsimile:



Email Address:



We Support/Neutral/Oppose this Application **We Do/Do Not** wish to be heard in support of this submission at a hearing
If others make a similar submission, I will consider presenting a joint case with them at a hearing.
(Delete the above statement if you would not consider presenting a joint case at a hearing)

Please use the back of this form or attach other pages as required

The specific parts of the application that this submission relates to are:

The Submission relates to the whole of the application

My submission is [Include the reasons for your views]:

Submission and appendices attached

The decision I wish the Council to make is [give precise details, including the parts of the application you wish to have amended and the general nature of any conditions sought]:

To turn down this application.

Signature of submitter:

(or person authorised to sign on behalf of submitter)

Date: 2 December 2015

Notes to Submitter:

Closing Date: The closing date for serving submissions on the Dunedin City Council is **Wednesday 2 December at 5pm**. A copy of your submission must be served on the applicant as soon as reasonably practicable after the service of your submission on the Dunedin City Council. The applicant's address for service is 1121 Mount Cargill Road, RD 2, Waitati 9085.

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Privacy: Please note that submissions are public. Your name and submission will be included in papers that are available to the media and the public. Your submission will only be used for the purpose of the notified resource consent process.

Public Notice of Application for Resource Consent
Sections 95A Resource Management Act 1991

The Dunedin City Council has received the following application for a resource consent:

Resource Consent Application No: LUC-2015-469

Name of Applicant: Blueskin Energy Limited

Location of Site: 147 Church Road, Merton, being that land legally described as Lot 1-2 Deposited Plan 473199 held in Computer Freehold Register 646829

Description of Application: Resource consent is sought to establish a community owned wind farm on Porteous Hill near Warrington. The proposed facility will comprise 3 turbines. The full height of the turbines from ground level to rotor tip will be between 80-102m in height. The locational layout of the turbines is identified in the application as indicative and subject to adjustments. Layout adjustments will not result in the turbines being moved closer to dwellings.

Earthworks will be required for the project to construct access tracks and excavate foundations. These are estimated to be up to 6500m³ in volume. Parts of the site are located within the North Coast Coastal Landscape Preservation Area but the turbines are located outside the landscape area boundary.

The proposal is assessed as a **non-complying** activity under the operative Dunedin City District Plan as wind farm activities are a utility that is not provided for in the operative Plan.

The Proposed Second Generation District Plan (2GP) was notified on 26 September 2015. Community wind farms are intended to be a discretionary restricted activity under the 2GP. The proposed rules do not have immediate effect and at this time there are no relevant rules to consider. The 2GP objectives and policies must be taken into account.

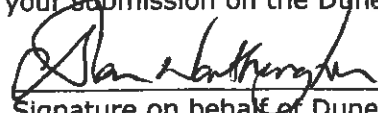
The application contains an assessment of effects that includes expert reports on landscape, noise and ecological effects.

The application may be inspected online, at the City Planning Desk at the Dunedin City Council Customer Service Centre, Civic Centre, 50 The Octagon or at the Blueskin Bay Library. Please contact John Sule on phone 03 477 4000 if you have any questions about the application.

Anyone may make a submission on the application. You may do so by delivering a written submission to City Planning, Dunedin City Council, at 50 The Octagon; submitting electronically at the website below; emailing to planning@dcc.govt.nz; or mailing to PO Box 5045, Moray Place, Dunedin 9058. A signature is not required if you submit by electronic means. The submission must be in Form 13. Copies of this form and the application document are available from the Dunedin City Council's website via www.dunedin.govt.nz/rma

Submissions close on 2 December 2015.

You must serve a copy of your submission on Blueskin Energy Limited, the applicant, whose address for service is 1121 Mount Cargill Road, RD2, Waitati 9085, as soon as reasonably practicable after serving your submission on the Dunedin City Council.



Signature on behalf of Dunedin City Council

2/11/15

Date

LUC-2015-469 **Applicant:** Blueskin Energy Limited

Site Address: 147 Church Road, Merton

Description of Proposal:

Establish a community wind farm comprising three turbines

We: **Oppose** this Application

We: **Do** wish to be heard in support of this submission at a hearing

This submission relates to the whole of the Application

The decision we wish the Council to make is:

To turn down this Application

Simon Ryan and Jennifer Ashby

Preamble

The submission being made on our behalf by Karen Price of Chancery Green and her legal team represents the full range of our concerns, including landscape and visual effects, acoustic effects of wind turbine operation, construction effects, vibration effects, shadow flicker and blade glint, bird strike, and electromagnetic effects on radio and satellite communication. Our personal submission below is confined to specific points of the proposal as they affect our domestic and farming amenities, present and future livelihood and the well being of our family and our environment.

Our situation

We live with our 15 year old daughter, Naomi, at [REDACTED]. We have lived here on our small farm property of 25 ha for 10 years. Our submission sets out in detail the considerable investment of time, labour and savings which we have already put into the creation of a sustainable and resilient mode of living on this area of coastal land. We both lead busy professional lives in our work in Dunedin and most of our free time is taken up with our farming and conservation activities. Our daughter, Naomi, has two further years at high school and will go on to tertiary study while living here. She has her horses here and spends a lot of time outside on the farm. Our three other children have left home quite recently. They are finishing their university studies or working in Dunedin and are frequently here with us. A major motivation for our investment in this rural coastal property is so that when we are deceased we may provide them and any of their future offspring with a well-planned and resilient organic farm environment and a possible form of refuge from at least a part of the economic and environmental struggles faced by their generation. Organic food can be produced here in abundance. If the wind farm project is consented, we may be forced to leave our home.

Our property is located only 200m from the nearest of the proposed turbines, which is 471m from our residential dwelling. We consider this close proximity to be an unreasonable and unfair burden and restriction of our right to enjoy the amenities of our beautiful coastal property, which offers magnificent sea views out to Taiaroa Heads from one aspect and the rolling and hummocky terrain of Omimi and the Silverpeaks from other angles.



View of 90 Pryde Rd showing house and farm buildings. 2011.



Distances of dwellings around Pryde Rd area from proposed turbines.

We have for many years firmly held the view that wind generation has a positive role to play in New Zealand's sustainable energy future. However, for the reasons set out below we are adamantly opposed to the siting of wind farms where they are close to dwellings, in locations where they can cause such adverse effects as noise and visual disturbance (even if strictly "legal"), ground vibration, damage to water catchment and soil quality, bird strike, light pollution, shadowing or flickering, the lowering of landscape qualities and the destruction of wild-life habitats. We have been planning our own transition to photovoltaic generation for some time now and remain convinced that in hilly locations like the Blueskin Bay coastal area solar generation is the least environmentally damaging and most resilient option for individual and small-scale community energy projects. (As a model for this see the Blueskin Nurseries solar generation installation). It strikes us as ironic that we are now faced with opposing a wind farm application for an inappropriate site on Porteous Hill so close to our home.

Adverse effects on our land use

As committed environmentalists¹ we have undertaken to improve the water quality and reduce the carbon footprint in a small but significant way. We have fenced all water courses and planted riparian borders.



We have undertaken extensive tree and shrub planting. We practice composting and do not use chemical fertilisers so as to enhance earthworm activity and support soil biology. We have begun to install solar-powered electric fences and lights. Our hill paddocks (closest to the wind turbine site) are home to large numbers of skinks, the survival of which we have assisted by control of cats and the planting of coprosmas. Porteous Hill in general and our

¹ Member of Forest and Bird ID APPXA2015
Supporter of Oil Free Otago (featured on news item at a protest Port Chalmers)
Member of Labour Party Environmental Group.
Subscriber to Soil and Health

property specifically is home to numbers of birds including eastern falcons, black backed gulls, kereru and tui, grey warblers and many exotic species.

Future land use(s)

Soil tests on our flat paddocks have shown that our soil is high quality volcanic soil, rich in mineral content with very good soil biology. As we are running the property organically our soils are not polluted by cadmium and as we have now established shelter belts, the land is beginning to be suitable for growing food and tree crops. In terms of the sustainability and food security of the Dunedin region, our property has long-term significance as a future source of food for local residents and bird life.

We are approaching retirement from our professional lives and have been making plans for organic food production from our unit to sustain ourselves, our whanau, and potentially the community. We are in communication with the local "Our Food Network" to consider the establishment of a community garden, when Simon retires in approx, 2-3 years time.



Farm from south western slopes of our property approx. 200 m from proposed turbine site.



Tree planting to stabilise soil and sustain skinks.

In this context we are understandably distressed and angered at the prospect of large industrial turbines so close to our home. The noise and visual effects the of turbines will make working in gardens outdoors a trying experience and will put others off from working on our property. I consider that the noise pollution detracts significantly from the amenity value of our property. It also contradicts Policy 2.2.2.1 c and Policy 2.2.2 c of the proposed 2GP.

We also have plans to begin a homestay tourist business. Our house already has an ensuite and is of suitable quality for this purpose The turbines will dominate the formerly breathtaking views and will make this means of earning an income from our property impossible. Europeans especially come here to our region to get away from wind turbines!



The seaward view from our upper Porteous Hill paddocks after snow

Instability of Hazard Zone Level 2 Terrain and Water Concerns

We have been researching the effects of ground vibration of wind turbine platforms through soil and water and have significant concerns that poor environmental management of the land, which includes the turbine site, prior to this proposal, will exacerbate the adverse effects and loss of amenities which this proposal already represents. Slips and inundation from water stored in the illustrated pond have the potential to cause considerable damage to our property. This slip illustrated occurred in 2013 after prolonged rain flooded the pond above us.



2013 landslide looking directly towards site of proposed Turbine 3 - approx 200m away

The property on which the turbines are proposed to be sited is a rather barren dairy farm run off with poor pasture, unfenced water, erosion from overstocking and cuttings, crude excavations for water catchment (which has caused stock drownings) and erosion and removal of native bush, which has caused further damage to soil and stability. This is not the case for the surrounding properties including ours which are planted in bird friendly trees and shrubs and which attract many birds.



One of our many shelter belt plantings

While the run off may be considered a suitable site for turbines in terms of its windswept and relatively harsh environs, the surrounding lifestyle blocks and small farms are rich in biodiversity and bird life making them unsuitable to be marred by noisy unsightly turbines dominating the skyline and making the properties unliveable.

The photographs below illustrate the present condition of the land immediately beneath the turbine sites bounding on our property. The pond was first excavated above our property around 2005. Land mismanagement there has already caused two slips. The 2013 slip destroyed two spring outlets. The pond and slip are approximately 200 metres from Turbine 3 as shown on Pg 5 of Appendix 1 of the Application.

We have concerns regarding the effect of ground vibrations from turbine platforms on this and other unstable areas along the hill boundary. Illustrated is one of the two spring collection points which were destroyed due to the 2013 slip.



Defunct spring outlet 2015



Excavated pond below proposed Turbine 3 site. Our boundary is the fence.



Boundary edge of pond. The low part of the clay bank is where the big inundation began.



Pond from above.

As can be seen in these photos, the management of the water is not optimal on the property on which the turbine sites are proposed. We are anxious with regard to the potential for further inundation by this water which could cause even larger slips and pasture damage. As can be seen, this pond is already unstable, prone to overflowing and could be affected by the added vibration of construction and operation of the proposed wind farm or alteration to drainage patterns.

The hill slopes above our house are in Hazard Zone, level 2. The previous owners were required by the DCC to plant trees to mitigate this before the building site was consented. Constructing huge vibrating structures up on top of this hill and woolshed/yards seems unwise and violates policy 2.2.2.3 of the 2GP. Some large rocks were dislodged during the Christchurch earthquakes and rolled down to the lower fenceline, so we are well aware of the land movement possible on our hillsides.

Such effects make this proposal inconsistent with the 2GP 2.2.2.3.11. Kai Tahu desired outcomes, Natural hazards, erosion (p 15).

Bird Strike

As bird lovers we enjoy the variety of birdlife on our property, especially the falcons, which in the last twelve months have increased in number, due probably to the cutting of pine forests on the western SH1 side of Porteous Hill providing them with piles of suitable debris as nesting sites. On researching the potential for bird strike, we consider the proposed siting of three turbines in a triangulated pattern and low on the horizon from the Blueskin Bay angle, to be a potentially deadly hazard, particularly to the falcons and black backed gulls. We have learned that other residents of Porteous Hill and Warrington are concerned for the wading birds and migratory birds (godwits), which live in the estuary all or some of the time.



Kereru are frequent visitors to our garden (2015)

In the mornings the black backed gulls circle at the top of Porteous Hill orientating themselves before flying out to sea. Instead of watching these birds with pleasure, we are now filled with dread to think what the outcome will be for them. Reading the 2009 DOC "Impacts of wind farms on birds: a review" (See Appendix B) has identified manifest hazards in relation to the inappropriate siting of wind turbines and this site appears to us to possess all the identified risk factors. The Application describes the risk to birds as minor, but we have seen no substantial justification for this conclusion in the Ecological Assessment Report for this claim. Endangered eastern falcons may not survive here with even 2-3 deaths a year, when this is combined with trucks on SH1 running them over, sadly already a common occurrence.

I note Powlesland's comments:

"a precautionary approach to wind farms at coastal sites, windfarms can have a negative impact on the abundance of shorebirds"

"the most important factor that influences raptor (eg falcons) collision rate appears to be the topography....elevation and...ridges and slopes."

"the issue of these lights attracting or confusing nocturnally migrating birds and resulting in them colliding with turbines is a concern for wildlife agencies."

"although waterfowl and shorebirds seem to avoid turbines, significant numbers have been known to collide with associated power lines especially when located near wetlands".

"there have been large mortality events at a variety of lit structures as a result of nocturnal migrant birds being disoriented... when forced to fly at low altitude by rain and mist."

"Studies of bird collisions at coastal wind farms have generally reported higher numbers of collisions, which may reflect higher bird densities at coastal sites."²

This issue alone makes this site unsuitable and likely to cause distressing impact to sensitive coastal ecosystems with consequences for tourism and quality of life. It makes this proposal inconsistent with Kai Tahu Outcomes desired for the Coast, 2GP, Kai Tahu, 4, Coast (p. 11).

Lighting of turbines

The Applicant has provided contradictory and somewhat irrational explanations in relation to the lighting of the turbines. When speaking to my husband at our home in 2013 as part of the "consultation" he informed Simon that he "would get used to the lights". Later (Public Meeting 19/11/15) the Applicant has contradicted this by saying that BEL do not plan to light the turbines. These confusing, dismissive and contradictory messages give us no confidence that this is a well-planned or rational project or that our very valid concerns are being taken seriously.

² Powlesland, R. G "Impacts of wind farms on birds: a review: Science for Conservation". Department of Conservation 2009.

Visual Dominance of Turbines and the Question of Scale

We comment here on the Landscape Assessment Report only as it relates to our home and enjoyment of outdoor amenities at 90 Pryde Rd. We note the description, "the entrance to Scurr Quarry, [Pryde Rd] provides the **most direct public view** to Turbine 2 just 860 m away, with Turbine 3 set back further ..." (p. 12). This essentially depicts our view of the turbines when working or walking on that area of the farm. In our house and garden, we are some 400 m closer, working or walking in the paddocks on our Porteous Hill slopes boundary, we are only 200m away.

It will perhaps assist the panel to gain a much less rosy sense of the oppressive visual presence of the proposed turbine towers above our home and farmland, when one notes that the tallest structure in Dunedin and its most prominent landmark, the transmitting station mast on Mt Cargill, measures 104.5-metres (343 ft), almost exactly the elevation of upper reach of the blade tips of the Gamesa-G58 wind turbines referred to in the Application. The scaling of the relative height of the turbine towers in Simulation 2 (p.11) conveys an inaccurate impression of the actual height of the proposed turbines in relation to 90 Pryde Rd. It requires little imagination to gauge the adverse visual effects of three industrial structures the size of the Mt Cargill transmitting tower visible from every viewpoint around our land and house. The Application is seeking a height ceiling of a further 20 m above this. The descriptors cited under the images below may be amusing in another context. In relation to the dominance of our land and skyline, the language used amounts to a grotesque and inhumane denial of the inescapable and oppressive visual presence that these industrial structures will have on our daily existence.



"slim towers projecting above the land" (9); "a rather boutique situation" (9); "graceful sculptural structures" (10) ???

The landscape assessment notes that "[p]erception is affected by the relationship to the installation" (p.11). Further "[w]hereas an external corporate's installation is more likely seen as intrusive, as a community installation, the cluster will likely be seen with pride." This statement is used to support the conclusion that "any adverse visual effects ... will only be of minor significance" (p. 11-12). This conclusion appears quite erroneous from the visual

perspective of 90 Pryde Rd. We contend that the adverse visual impact on our lives will be major.

Consultation by Blueskin Energy Limited and Claim of Wide Community Support

We have both noted in the Application that claims of wide community support and the frequent use of the term 'community' as it pertains to Activity Status as a discretionary 'Community Support Activity' are prominent and constitute a central justification for the pursuit of this wind farm proposal. Many questions relating the claims around the 'community project' were put to the BEL's Project Manager at the Warrington Public Meeting on 19.11.2015. As some of the residents of Porteous Hill most directly affected by the proposal, we briefly outline for the panel our experience of communication, consultation and community engagement with Blueskin Energy Limited up to the notification of the Application by the DCC (received in post 6.11.2015).

Some three years ago, the Project Manager of BEL arrived wanting to talk about a wind farm project when Simon was home sick. Mr Willis talked to him for 40 minutes or so about the intentions of Blueskin Energy Ltd to construct a community wind farm on Porteous Hill. Simon's many questions were met with responses which appeared dismissive of concerns about any adverse effects the turbines might have on the environment, our family, neighbours, and our quiet rural existence. Apparently the wind farm was going to happen anyway, so there was not much to really discuss. The turbines would generate noise and be lit at night. Simon was told that we would get used to having them close to our home. Mr Willis stated that at most the towers would be 45 m. or so high and the rotor tips around 60 m.

It is difficult to understand how such communication can be viewed as open and positive 'community consultation' about a 'community' project of this scale. Questions which ran counter to BEL's wind energy vision were ignored. Simon was told that the 'community' was already solidly behind it. Some local public meetings had taken place but neither we nor our neighbours, as we have recently learned, knew about these meetings or could have attended, if they had. The Project Manager supplied Simon with no printed information, promotional material or even a business card with a website address. Simon gave him his work email. Up to the time of notification we received no further communication from anyone connected with the Blueskin Resilient Energies Trust or BEL. We now have substantial grounds to believe that this experience of BEL's consultation practices is representative of many residents in the surrounding area. A telephone call from the DCC less than a month ago to request permission for a technician to enter our property to take reference-level acoustic measurements in relation to the Application came literally out of the blue for us and our neighbours around Pryde Road and Porteous Hill.

The Appendices of the resource consent have made interesting reading. The consultation responses shed considerable light on the actual feelings of the community, many of whom were already voicing very similar concerns to our own back in 2011.

We present here a selection from the Application (Appendix B3) in which residents reflect such concerns. These are set out in full in our Appendix A. It is important that these expressions of concern over adverse effects of the proposal are also taken into consideration and we politely request the panel to carefully examine the Appendix.

A brief sample of these responses from:

Community Consultation Document: What did the community signal in April 2011³

"I think it's good so long as the area and the communities aren't adversely affected there has to be you know those over riding benefits to agree and you wouldn't want to be in a position where it was actually splitting the communities because you know as I said before small communities are fairly tight and yeah they do have their views." (R16)

"From here wherever a wind turbine is situated it's not going to be a visual obstruction to us so I suppose it's very easy for us to say we are in favour of it if you had it sitting in view all of the time then I can see that people might not be so happy about it." (R3)

"I guess the main things for me would be just that I felt that they were placed appropriately and I'd definitely not want them placed in some of the iconic landscapes that we have around here on some of the skylines." (R6)

"Can we be reassured that someone is looking out for the birds? What is the risk to them?"

"Experience in Germany suggests that turbines can result in health impacts if located too close to houses (R4).

"I know they sort of looked around for funding and the Hikurangi Foundation came along and said that they would provide funding but only specifically for a wind turbine so that's kind of channelled the thought processes and the energy towards a wind turbine whether that's kind of the most appropriate thing to begin with or not that's just where the moneys at so that's as far as I know why there's the focus on the wind turbine." (R6)

"It doesn't make me anymore amendable towards somebody sticking a bloody great big wind turbine up on that ridge." (R8)

To summarise: While we acknowledge that a form of community consultation was undertaken by BEL and the Trust, we contend that the repeated claims made in the Application in relation to wide community consultation and support are not supported by our experience, that of our neighbours here, or that of most of the 85 local residents of the Porteous Hill, Warrington, Evansdale and Waitati area who attended the rapidly organized public meeting in the Warrington Hall on 19th November 2015. Neither are these claims supported by a close examination of the survey and meeting exit straw poll material accompanying the Application. The claims for positive and widespread community support for a wind farm on Porteous Hill in their executive summary and elsewhere are significantly undermined by a large number of the written comments actually submitted. It is also interesting to note from the information in the Application that the number attending the 19.11.2015 Warrington meeting immediately following the DCC's notification of BEL's actual consent application almost equalled the total number of 90 or so people who attended the three public meetings in the area conducted by BEL after 1,000 invitations had been distributed. Many people have only in November 2015 learned for the first time what is actually being proposed by BEL. There are therefore many substantial questions still to be addressed about the actual community benefits which may or may not result given that the proposed form of generation, the scale, siting, ownership, accountability, use and distribution of the power generated differ greatly in the Application from what we have recently learned many in the local area understood as a locally owned,

³ Application Appendix B3, Gorrie Seth, Blueskin People Power: Community perspectives on the BRCT energy project. 2011

small-scale energy project. Three wind turbines with a potential upper blade tip reach of 125 m hardly matches the ordinary citizen's sense of something 'small-scale'. The energy will not specifically or exclusively power Blueskin Bay. There will not be cheaper local electricity or guaranteed security of supply for our community. The distribution network remains unchanged. We contend that the evidence of public responses provided by the Applicant in Appendix B3 does not justify the claim for widespread community support for a wind farm on Porteous Hill but rather serves to substantially contradict it.

Are the residents of Warrington, Porteous Hill, Waitati and Doctors' Point, who are opposing this proposal, not also members of the Blueskin Bay community?

To conclude

We question the environmental and economic justification (small amount of electricity generation into the grid in an already over-supplied and flat market) and the ethical and legal precedents, which this proposal may establish⁴. Further to this, as a member of the Dunedin community I hope to prevent the stress and anguish, which this proposal has caused my family and I, from occurring to other Dunedin residents.

We consider this proposal to be a violation of sustainable principles and fair, equitable and resilient community relationships. The very principles which are laid out in the 2GP regarding food security, resilient communities, water conservation and ecological care are contradicted by the way in which this proposal has evolved from a community project, to a more commercial utility and by the hazardous site chosen and the selective use of consultation. I cite Naomi Klein on new models of sustainable economic development: "...it is clear that we need an economy that starts from the premise that our goal is to protect life, to protect the living system that supports us and build from that. The common thread is caring for people and caring for the earth".

While we believe that the Blueskin Resilient Energy Trust began with sound and positive principles, we, and others in the community, now consider what has emerged to be a divisive and potentially destructive project which has altered profoundly in the course of its development, but which still draws upon past claims to community involvement, sustainability and local energy resilience to gain approval and support for consent. We note that several original members of the Trust are now opposing this proposal.

We also contend that this proposal violates the Policies 2.2.2.1 c, 2.2.2.3 b of the proposed 2GP (the aim to support small and large scale renewable energy generation "in appropriate locations") and is in violation of Outcomes 5 and 11 desired by Kai Tahu, (p. 13) relating to hazard management and biodiversity in a number of ways which we have described above.

In summary, we strongly oppose the granting of this consent to Blueskin Energy Limited for many reasons, including the following:

- 1. Our amenity values significantly reduced.**
- 2. Badly chosen coastal site, just above a notified Hazard Zone, level 2, also increasing risk of bird strike.**
- 3. Noise and visual pollution will impact severely on our outdoor work.**
- 4. Precedent for more of these structures to be sited 200-400m from dwellings and work places.**
- 5. Eliminates our property as a tourist home stay destination and restricts our ability to continue to make a living when retired.**

⁴ ODT 14/10/12 "Green power out of the blue" - "If we get this right, it could be just one of a number of community wind turbine clusters that appear throughout the region and the country," Mr Freear said."

6. Landscape values diminished; this property is part of a significant landscape, the turbines look oppressive, out of place and overbearing even in the Simulations, which appear far from accurate in relation to 90 Pryde Rd.
7. [REDACTED] has positive community values, e.g. local food production, future community gardens, biodiversity - falcons, gulls, skinks etc.
8. The disruption of spring water sources on which we and others depend.
9. Patchy, sometime patronising community consultation, ignoring or overriding many voices.
10. Lack of transparency from BEL in spite of explicit claims to community status.
11. Production of social division and unpleasantness in the community.
12. Negative impacts on tourism and future home buyers; tourists come to Dunedin to get away from wind turbines, future home buyers/builders will not invest.

Thank you for your attention.

Appendix A

Sample of Community Engagement Responses from Application, Online Appendix B3.

2.2

Community Division

"

I think if they try and do it there will be a lot of community unrest and that's what they have got to weigh up against." (R8)

"

I can see from the people in Waitati's point of view that there might be really good value in this and it's not going to impinge on their lifestyles too much but for the people over here it will and I think that if they did try and push ahead it would cause a great deal of unrest I think." (R8)

"Oh there will be people who don't want it and who will fight it every step of the way because they will think that the big windmill will ruin their life and you know I'm not looking forward to the community battle really to get the thing through because it will alienate, there is probably some people who I know and I won't agree with them but I'll still be sad that they're pissed off and think that everybody else is their enemy and so you know I'm not actually looking forward to it." (R14)

Anything renewable is good renewable sustainable but I'm possibly more interested in energy efficiency and reduction of consumption than building more generation." (R5)

"

"I think it's to be encouraged and it's not a case of not in my backyard I mean I think that as much as we can we should use renewable forms of energy but we have also got to use energy in a way that doesn't create as many bad effects as it's solving

o yes it's good to use renewable energy but not if you're adding to pollution or visual pollution or any other of the you know it could be noise pollution and so there is a whole lot of other considerations just because something is renewable doesn't make it the gold standard it has to be a whole suite of things I think." (R8)

It isn't just good because it's renewable energy and we are all tree huggers you know that doesn't make it automatically good it has to actually be viable as well." (R14)

3.3.1

3.3.5.2

Turbines

"

I probably am capable of opposing a wind turbine though I mean I'm only saying that there may be some effect of the wind turbines that I don't quite understand that I wouldn't like." (R14)

New Zealand Experiences

"

when you get right up close you think 'shit they're big' yeah it kind of seemed surreal somehow these things on such an almost not unspoiled but such a bare landscape these big manmade things in the middle of it kind of felt weird." (R5)

"

Do you know how high the one in Karori is because I have seen that one so I can gauge it." (R6)

"

"I've seen ones in Wellington when they were fairly new and being erected and seen the odd one here and there but haven't ever lived close enough or lived within a community being affected in that way." (R16)

I haven't got anything against the turbines it's just where you put them." (R8)
"I think putting it in a place that would desecrate the view of our entire community like in the Osborne Purakaunui area I think that's really stupid."
(R8)

"I mean I think they should stick them all up in Wellington
"I don't even know where they are planning to put them." (R10)

Specific Sites

"Oh right yeah no I don't know the new proposed sites." (R1)

"These ones well that's the sanctuary there so that's another worry I guess that one there is pretty good because that's the closest to the substation because does it have to go through that?
" (R2)

"I don't know any of these I don't know any of the other spots
" (R5)

"I wonder about the visuals of that in terms of that's why it would be good to sort of see mock ups in terms of and with mock ups it would be good to see them from a couple of angles to." (R11)

Not In My Backyard

"Because you'd say 'yes I'd agree to that if it wasn't in your backyard' type of thing." (R1)

"I don't feel that it should be a problem, however I don't have to live underneath them and if I did I might feel differently." (R4)

"Well I would specifically oppose this site here which is directly out our window I guess as I say at the risk of sounding selfish I probably wouldn't be too concerned about Double Hill."
(R9)

Comparing energy types

"Yeah I guess and again it would be a trade-off of how much environmental damage you are preventing by having a wind farm." (R7)

"When you are effecting an entire sort of place in terms of it's natural beauty I mean I don't think we should be scarring it's like saying well gold is a really good thing but you don't go around digging up all of our National Parks to get gold and I think it's the same thing here renewable energy is a really good thing but hell we don't want to destroy what we have got in the process and so I guess I'm sort of on that Graham Sydney kind of thing where nothing against the renewable resource as a concept but lets not destroy what makes us New Zealand in the process." (R8)

"Absolutely I mean again I'd want to make an informed choice so you'd be comparing visual disturbance versus profitability and viability." (R11)

"

Effects

4.1

Design,

"It is really important so that it doesn't end up annoying anyone which I imagine is going to be pretty difficult because there is already so many or so much residential so many lifestyle blocks and stuff so scattered around I mean my vision for a landscape is much more like have

a village and then have more like clusters of residential areas and lifestyle blocks and that enables you to have other areas which are more like farms and orchards and things and then forestry and then perhaps energy generation areas that aren't going to get in the way of people enjoying the landscape or having residencies being annoyed by the negative aspects of generation." (R6)

That's what I mean it's more the visual pollution that would you know be even more important to all of those people than the noise pollution I think

" (R1)

"Like well if they were here [Mopanui] and then the people in Warrington would definitely see them." (R2)

The bottom line would be the visual desecration of the view if you like." (R8)

"I don't want anything visually intrusive in my little patch so as selfish as that may be that is a fact because it's a very natural setting here." (R9)

"We've got such a beautiful scenic area around here and it's like how we can choose locations that leave a sort of most visually, most wild and free looking landscape still looking like that yeah I don't know. That's why I say it's all academic when you see visuals and then you go 'oh yeah that works' or 'oh nah that's bad'." (R11)

"With the wind turbines it's really just the visual thing that that would concern me." (R13)

"Only the ones you know if they stuck up on you know the Mopanui ridge if we could sort of see them from this side then yeah it would be that visual thing really that's just to me anyway." (R13)

Noise

"

Noise pollution does come into it but it's only in the immediate sort of vicinity you haven't got that 'whoosh whoosh' you know it'd get bloody annoying.

"

(R1)

"Well yeah but you know um the big, the wind turbines and that are not as I mean there is the noise pollution factor and they are especially those big ones you know

"

Yeah oh I don't think I would be too upset by them I don't know how noisy are they?" (I know people oppose them because of the noise from them and they are unfortunate and I think there should be compensation in those cases." (R8)

"Anything that impairs the view here I would be totally opposed to." (R9)

"So it would be purely a visual thing that it would be." (R9)

"

I'm only opposed to it if it impacts on the scenery really." (R9)

"Noise would I suppose." (R10)

"I have heard that wind turbines can be really noisy so I think that is a huge issue." (R11)

"Most people live out here because they like the quiet and you can tell city dwellers when they move out here because they will be really noisy because when you live in the city you make it and they settle down and they realise how quiet it is here and that sound travels so thinking about sound travelling like up on a hill where the wind blows will that sound come because noise yeah I really like the quiet and most people I know out here really like the quiet so we are fairly intolerant of noise so that would be a big issue I would imagine in terms of location and design." (R11)

"I don't know whether you'd probably hear them here would you if they were way over there, it would be annoying though if you were sort of sitting outside having a barbeque or something and you hear that noise all of the time."

(R13)

"I don't particularly have any personal understanding of things like noise pollution from wind turbines and whether they can stop you sleeping at night."

(R14)

"

I'd be surprised if we could hear them from here." (R15)

"

The sound that would annoy me if there was you know a lot of noise or a constant sound." (R16)

"So it'd be a bit like the trains going past they are unpredictable we don't know but I think that like you know with a train going past it's there and it's gone and you just don't hear them anymore because it's part of your lifestyle but if it was a constant sound yeah it's a bit like a local band practicing you know if you hear them start up at nine o'clock at night you know they are only going to go for a couple of hours and that's it and you know they have done all they can to sound proof where they practice um which has been really thoughtful but yeah I don't know how I'd cope with the unpredictability and the constant noise it'd be interesting to you know probably hear something like a tape." (R16)

"You know like this is what like for you to sit underneath one that is already erected and say well this is what it sounds like at half a kilometre, this is two kilometres and this is five because when I talk about any sound or any noise and someone else talks about it we can be talking about different things."

(R16)

4.4

Scale

"Yeah no I think I'd rather prefer you know the small on the smaller scale than the larger scale." (R1)

I think that I would like to know more about the pros and cons of like you said before about three big towers or multiple smaller ones I'd like to know more about the advantages and disadvantages." (R5)

"If it's got to be a certain size or there has got to be a certain number of them then I think if that's made really clear and everybody is educated about that then everyone well most people or the people who are into it will understand why that's happened whereas I know like a surprise 'why the hell did they have to put ten of the dam things up there'." (R6)

"I don't like the mega big ones I don't like the amount of infrastructure needed to be taken in by road the roads that get put in to build these enormous structures and then and the servicing of them the wind towers themselves are one thing to look at but it's the destruction to the ground environment because they are big I'm really anti big things." (R11)

"I'm really interested in little wind turbines so we can use wind in a way that isn't completely violating the site that you put it on for other peoples benefit and the way that historically Otago has been dammed so that people in Auckland can have power and you know or the Waitaki gets ruined or you know there is just so many projects I don't like the big projects I like the idea of the small turbines that aren't you know looking at one or two or three small turbines it is not a sea of mega turbines and if we could have lots of little places generating power close to where it is being used." (R11)

"I like the idea of small turbines close to environments where people live rather than large turbines because if you put them somewhere where no one can hear them you've probably just munted some beautiful environment."

"I think local is the best and more small in lots and fewer large, yeah I don't think they should build anymore big hydro dams I don't think they should build the big wind farms." (R12)

"The scale of it is just I mean it's not just the turbines it's the roads it's the people going in and out and the what is a quite a deserted area will become." (R12)

"So that type of mega energy that's for somebody else you know even if it is renewable I find is distasteful and an intrusion into my living space." (R14)

sensible." (R14)

"

"I'm not sure you know what numbers there would be or what sizes and I guess all of that does make a difference to anybody's decisions on how much they would like to look at them

but I think that you know if the numbers there were solely providing power for this community I can't imagine that there would not be so many that it would be a huge issue." (R15)

39

"Obviously the smaller it is the less visually annoying it is and also I don't know but I have heard that they can make a lot of noise so I am assuming that the smaller they are the less noise they make but I'm not certain of that."

(R11)

4.5

Height

In terms of the size of the turbines again I don't think it really should matter but as I say I don't have to have it on my property." (R4)

"

I don't know enough about wind power to know what the height does for you in other words does it just allow it to have larger blades." (R7)

"

Yeah the smaller the better."

(R9)

"Okay so thirty metres I might just write that down because I wasn't sure so sort of the personal use is about ten metres and then thirty metre is like the community one." (R11)

4.6

Quantity

"

if this is just all we are doing is trying to meet the needs of the local community then I'm not certain that I know in fact I can tell you that I don't know how many turbines we would need at all so that is some information I would need to know before I made a decision." (R4)

"I would rather see none but I guess if there was a cluster over here or over there it would be less intrusive than a whole line." (R9)

"Yeah two turbines is okay and two you know the thirty metre or whatever they are the New Zealand one sounds good." (R12)

Wildlife

"

"I would be concerned if I felt that this one here, pointing to the one above Orokonui Ecosanctuary if I felt that that was going to have any impact on the birdlife there

Well the Godwits come in over here I don't know whether they come in and around and down to there, I would have a concern if it caused problems for the wildlife yes but as far as people are concerned I think we just have to get a grip." (R4)

Well I think that I know that the sanctuary is hoping to increase some of the native bird populations I mean including ones that might not just stay in the area or not just stay in the sanctuary

"

I wonder if they develop some like because I know that most turbines don't have any sort of cages around them because like I mean that is sort of being considerate of birds and that but I mean there is hardly ever birds and that there is just magpies and hawks...

How do wind farms impact on birds?

Wind generation is poised for rapid expansion in New Zealand, being expected to supply up to 20% of New Zealand's energy needs by 2020. However, nothing is known about the likely impacts of wind farms on our bird populations. This literature review shows that the main impacts of wind farms on birds in other countries include collision fatalities, habitat loss and disturbance. A key finding is that wind farms have variable effects on birds, depending on species, season and site, and no two wind farms are the same, making it difficult to generalise from studies carried out in other countries. Therefore, it is imperative that we gain more information about the New Zealand situation.

Powlesland, R. 2009: Impact of wind farms on birds: a review. *Science for Conservation* 289. 51 p.

Impacts of wind farms on birds: a review

SCIENCE FOR CONSERVATION 289



Department of Conservation
Te Papa Atawhai

Relevant sections highlighted for your assistance.

Impacts of wind farms on birds: a review

Ralph G. Powlesland

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Impacts of wind farms on birds: a review

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ABSTRACT

The impacts of wind farms on New Zealand bird species and populations are unknown. This document reviews available literature on the impacts of onshore wind farms on birds, based on studies in other countries. A key finding is that wind farms tend to have variable effects on bird populations, which can be species-, season- and/or site-specific. The impacts include collision fatalities, habitat loss and disturbance resulting in displacement. The main factors that contribute to collision fatalities are proximity to areas of high bird density or frequency of movements (migration routes, staging areas, wintering areas), bird species (some are more prone to collision or displacement than others), landscape features that concentrate bird movement, and poor weather conditions. In many instances, the numbers of carcasses reported are likely to be underestimates, as they are often based only on found carcasses, without accounting for scavenging and searcher efficiency. Habitat loss as a result of wind farm construction seems to have a minor impact on birds, as typically only 2-5% of the total wind farm area is taken up by turbines, buildings and roads. However, the cumulative loss of sensitive or rare habitats may be significant, especially if multiple large developments are sited at locations of high bird use. Disturbance of birds as a result of wind farm development may arise from increased activity of people at the site, and/or the presence, motion and noise of turbines. The level of disturbance to birds has been shown to vary, depending on the availability of alternative feeding or breeding habitat. Although some of the findings from this review may be relevant to the New Zealand situation, it is important to realise that each wind farm tends to be different as a result of topography, weather, habitats, land use, bird species and turbine characteristics.

Keywords: wind farm, turbine, review, collision fatalities, habitat loss, displacement, migration routes, weather, lighting, mitigation

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1. Introduction

The levels of carbon dioxide (CO₂) and other greenhouse gases in the atmosphere have become the focus of international concern, being linked to observed and predicted climate change. Atmospheric CO₂ concentrations were approximately constant until the industrial era began in about 1750. Since then, they have risen by around 35% and are currently increasing at 0.4% per annum on average (Ashby 2004). Most of the increase is thought to have come from burning of fossil fuels. Most governments now accept that climate change is a reality and that it presents serious environmental threats, including threats to human health, food production and biodiversity. The Kyoto Protocol was established under the United Nations Framework Convention on Climate Change as an international response to the climate change issue. The New Zealand Government ratified the Kyoto Protocol in December 2002.

The Kyoto Protocol commits New Zealand to reduce greenhouse gas emissions by at least 5% of 1990 levels between 2008 and 2012. Renewable sources of energy offer an opportunity to reduce the deleterious environmental impacts of climate change arising from over-reliance on fossil fuels. Of the most advanced renewable technologies, wind energy is set to make a modest contribution to energy generation in many countries. Already, some state governments in the USA are setting targets for large utilities to purchase a minimum proportion of their electricity from renewable sources (Nijhuis 2006), and the UK Government has set a specific target to derive 10% of energy from renewable sources by 2010, of which 7–8% will be from wind energy, and has set a goal of doubling that by 2020 (Drewitt & Langston 2006; Morley 2006). In contrast, in 2007 the New Zealand Government said it aimed to have 90% of electricity generated from renewable resources, such as wind and hydro power, by 2025 (www.stuff.co.nz/print/4217358a7693.html; viewed 27 August 2008).

New Zealand probably has the best overall accessible wind resource of any nation (Ashby 2004). Large parts of New Zealand have good mean wind speeds for generation year round (Parliamentary Commissioner for the Environment 2006: figure 3.1). However, a wind turbine with a rated capacity of 1 MW will not produce that output all the time, due to variation in wind speeds. Worldwide in 2002, the average capacity factor was 23%, i.e. the amount of electricity produced by turbines was equivalent to them operating at 23% of their rated capacity. By comparison, capacity factors achieved so far in New Zealand are 40–50% (Ashby 2004). Major providers in the energy industry see wind as being able to supply up to 20% of New Zealand's energy needs safely, economically and reliably within the next 10 years (Rodgers 2006).

Unfortunately, although wind power is a cleaner option for energy production, its impact on wildlife remains unclear. In New Zealand and Australia, developers often voluntarily commission wildlife surveys before beginning construction, but studies often span inadequate time periods, details are rarely made public and robust results from impact surveys following construction have not been reported. Although some state governments in the USA have established permitting processes and guidelines for wind farm development, monitoring remains weak and haphazard (Nijhuis 2006). Thus, conservationists and scientists often find themselves in a difficult situation. As Nijhuis (2006) asked, 'How can they support and encourage the rapid spread of wind power, our most promising

source of clean, renewable energy, while ensuring that the industry minimises its damage to birds and other wildlife?’.

As a result of concern over the negative impacts that wind-energy developments could have on wildlife, especially threatened species, efforts have been increasing to avoid establishing new developments at locations that are likely to pose significant risks to birds, and to accurately quantify the impacts of wind farms on birds at existing wind farm sites (Percival 2005; Morrison et al. 2007).

In New Zealand, energy production by wind farms is still in a much earlier stage of development than in Europe and North America. However, it is poised for rapid expansion, to make a significant contribution to total energy production. Thus, this is an opportune time to learn from the observed effects that wind farms have had on birds elsewhere. In some areas, wind farms have had adverse impacts on birds, e.g. 1143 carcasses of more than 40 species, including threatened species, were found following searches around 4075 turbines at the Altamont Pass Wind Resource Area, California, USA, during May 1998 – May 2003 (Smallwood & Thelander 2004). However, many wind farms exist where recorded bird mortality has been non-existent or minimal, including facilities in Africa, Asia, Europe, Australia, Canada, USA and South America (Kingsley & Whittam 2005). For example, in the UK, there have been no significant¹ ornithological problems reported at wind farms, despite there being some 101 wind farms in operation comprising about 1234 turbines with a capacity of 979 MW in 2005 (Drewitt & Langston 2006), mainly because they are sited away from important bird populations (Percival 2005). Therefore, the challenge in New Zealand is to identify which species are likely to be adversely affected by wind farms, the locations at which adverse impacts are most likely, and the particular features of the environment and wind farm structures that increase the risks to birds, so that adverse effects can be appropriately avoided, remedied or mitigated in a way that meets the purpose of the Resource Management Act (Anon. 1991).

This report reviews literature, both published and unpublished, about the impacts of wind farms on birds. The review was undertaken at the request of the Corporate Services Group of the Department of Conservation to provide background information on the topic for the Group and other Department staff dealing with consent applications for the building of wind farms by New Zealand wind energy generators. This report includes information about features of wind farms that may contribute to impacts on birds, collision fatalities, disturbance leading to displacement, loss of or damage to habitat, and barrier effects. It is restricted mainly to the impacts of onshore wind farms as, at present, most wind farms throughout the world are onshore facilities, and although offshore wind farms are likely to make up a significant part of the future wind farm development in Europe with further technological advances, no offshore facilities are currently present in New Zealand. Many reports referred to in this review were commissioned for particular purposes and have not been through a peer-review process. However, because of the paucity of published studies on the impacts of wind farms on bird populations, much information in this review emanates from these non-peer-reviewed unpublished reports. Thus, I recommend caution about drawing firm conclusions from the results provided in these reports.

Common and scientific names for New Zealand bird species used in this document follow those of Turbott (1990).

¹ Throughout this report, ‘significant’ is used either in a statistical sense or to refer to an impact on a species that occurs at the population level.

2. Features of wind farms that may contribute to impacts on birds

A number of features of wind farms may contribute to their impacts on birds and their populations. These include the scale of wind farms, wind farm configuration, construction and operation, turbine design and dimensions, lighting, blade speed and motion smear, associated structures, and landscape features.

2.1 SCALE OF WIND FARMS

There is little relationship between the scale of a wind farm and the amount of bird mortality that has occurred (Kingsley & Whittam 2005; Percival 2005). A large, appropriately sited wind farm may kill fewer birds than a small, poorly sited one. Considered in isolation, it is unlikely that small numbers of fatalities per year at a wind farm would be considered significant, unless some of those fatalities were of threatened species, in which case impacts might occur at the population level (although it should be noted that cumulative effects of small numbers of fatalities at two or more wind farms may be sufficient to result in population impacts). In contrast, a large facility may kill many birds in total, thus impacting at the population level, especially when threatened species are involved. Even relatively small increases in mortality rates may be significant for populations of some birds, especially long-lived species with generally low annual productivity and slow maturity, and particularly when already rare (Percival 2000; Langston & Pullan 2003; Everaert & Stienen 2007), e.g. blue duck (*Hymenolaimus malacorhynchos*) and kaka (*Nestor meridionalis*). When considering potential impact, it is important to consider the average effect of each turbine, the cumulative effect of the total number of turbines and associated structures (overhead power lines, meteorological masts; see section 2.4) on a farm, and even the cumulative impact of other wind farms in the range of a bird population, particularly where rare or threatened species are concerned (Australian Wind Energy Association 2002; Everaert & Stienen 2007).

As the area of the farm increases (density of turbines remaining constant), the potential for adverse effects, other than fatalities, also increases. Large facilities may cause more bird habitat to be lost or compromised, so that foraging and breeding birds may be more inclined to avoid the area. Even in New Zealand, a large wind farm can occupy many square kilometres in area: e.g. Hawke's Bay wind farm near Napier—75 turbines, 30.0 km²; Project West Wind near Wellington—62 turbines, 55.8 km²; Project Hayes near the Lammermoor Range, Otago—176 turbines, 92 km². Percival (2005) considered that direct habitat loss from wind farm construction was usually small-scale and unlikely to have a significant impact on bird populations. However, a considerable proportion of habitat may be lost if a particularly scarce and important habitat type was affected, or if there was potential for the effects to extend into the wider area (e.g. through disrupting the hydrology of a wetland).

2.2 WIND FARM CONFIGURATION, CONSTRUCTION AND OPERATION

The configuration of turbines at onshore facilities is most often dictated by the wind resource, and thus far no one has examined how overall wind farm configuration may affect birds. Percival (2001) considered that, in general, spacing between turbines should be greater than 200 m in order to avoid inhibiting bird movement (barrier effect). This recommended distance is also often the amount of spacing required by industry to reduce wake effects of large turbines on neighbouring turbines (Kingsley & Whittam 2005). However, spacing turbines widely in an attempt to reduce the likelihood of blocking bird movement may potentially increase the area from which birds will be displaced by disturbance. Given that most New Zealand operational and planned wind farms occur on open/modified landscapes (habitat occupied mainly by common and widespread bird species), the displacement of such bird species from portions of a wind farm is unlikely to have population consequences.

Although it has been suggested that some species are more disturbed by clusters of turbines than strings, clusters may be more advantageous, as mortality could subsequently be reduced (Percival 2001). For large projects, a possible solution is to provide wide corridors between clusters of closely spaced turbines (Langston & Pullan 2003). Winkelman (1992b) also considered that wind farm layout was probably an important determinant of collision risk, arguing that a (dense) cluster of turbines was potentially less damaging for wintering, feeding and possibly breeding birds, because it tended to dissuade them from flying amongst the turbines. Larsen & Madsen's (2000) study of foraging geese supported this. However, for migrants, Winkelman (1992b) considered that a line formation parallel to the main flight direction or a loose cluster was the best arrangement.

The high degree of disturbance normally associated with construction of a wind farm is temporary. The time taken to construct a wind farm is dependent upon several factors, including the scale of the project, the terrain and climate. However, construction typically takes 9-18 months (Kingsley & Whittam 2005), making it likely that some of this time will coincide with bird breeding. Construction usually begins with the development of roads, followed by the excavation and pouring of the concrete foundations for the towers. Typically, this is followed by digging trenches and burial of underground electrical cables where soil conditions allow. Substations and any other buildings are then built, and lastly the turbines are assembled and tested. The erection of a turbine usually takes 1 day.

As most wind farms are completely automated, disturbance by people at a site is minimal once construction is complete, with only a few on-site personnel required on an occasional basis. However, some wind farms are promoted as tourist sites (e.g. Meridian Energy's Te Apiti wind farm on Saddle Road, near the Manawatu Gorge), which may result in substantial human disturbance. The activities associated with decommissioning of turbines could also disturb birds at the site.

Although wind energy is considered 'clean and green', it does produce waste materials during all phases of a facility's life (construction, operation and decommissioning). Potential pollutants include various lubricants that are used

in the turbines, such as gearbox oils, hydraulic fluids and insulating fluids. These materials pose little threat to birds if handled appropriately, but contamination can arise from spills during routine maintenance and fluid leaks if the turbines are not regularly inspected. Decommissioning creates a great deal of waste, as all of the turbines must be dismantled, any above-ground wires removed, and any other equipment and waste removed from the site and disposed of appropriately.

2.3 TURBINES

2.3.1 Design and dimensions

Most commercial-scale wind turbines consist of a three-bladed rotor that rotates around a horizontal hub facing upwind in front of the generator and tower (Fig. 1). Most towers these days are of tubular steel construction and are bolted to a concrete foundation. Blades are made of fibreglass or wood epoxy. The hub is connected to a gearbox and generator, which are all located in the nacelle. The tower of a large wind turbine may have an internal elevator to transport workers to the nacelle for maintenance. The nacelle on top of the tower contains a generator turned by the blades, which in turn produces electricity.

As wind-power generation has developed and the associated technologies advanced, rotor diameters and tower heights have increased and are likely to continue to do so, as taller towers allow turbines to intercept wind that is less turbulent. During the 1980s, relatively short turbine towers were installed, with few exceeding 18 m in height (Kingsley & Whittam 2005). In contrast, typical tower heights today for commercial-scale turbines (1–2 MW capacity) are 80–100 m. The length of the blade is usually about half the height of the tower (Ashby 2004), making the tallest turbines in New Zealand about 150 m in total height (Meridian Energy Ltd 2007). Experience with communication towers and skyscrapers in the USA suggests that turbines of this height have the potential to interact more frequently with migratory birds (Kingsley & Whittam 2005). However, it is unknown whether turbines greater than 150 m in height in New Zealand would cause increased bird mortality.

Small turbines are often used in remote areas, where they meet the electricity needs of a settlement, field station or family. These turbines often have tubular or lattice towers, and range between 18 m and 40 m in height. They also tend to be

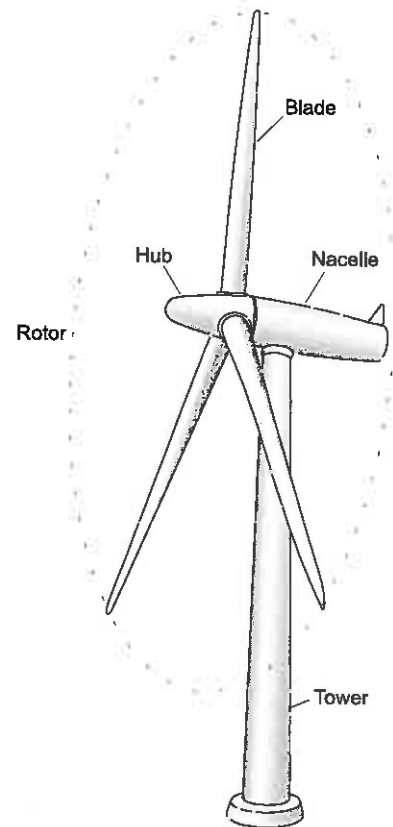


Figure 1. Basic features of a wind turbine.

variable speed turbines with quickly turning blades (usually 10–50 revolutions per minute (rpm), but can be as great as 300 rpm). Typically, the use of such turbines would be on a small scale, and their effect on birds is likely to be reduced if sited correctly.

Laboratory research has indicated that high contrast patterns on turbine blades (McIsaac 2001) or a single black blade paired with two white blades may reduce collision risk by increasing the visibility of the rotating blades (Hodos et al. 2001, cited in Sterner 2002). However, it is not known to what extent these features might avert collisions, especially in conditions of poor visibility. Furthermore, such measures may be unacceptable on landscape grounds.

Wind turbines can be mounted on either lattice or tubular steel towers. In the past, it was believed that lattice-type towers encouraged raptor perching, which led to increased mortality (Percival 2000). However, recent research suggests that the specific type of turbine does not influence the flight, perching behaviour or rate of collisions of raptors. Rather, it is the placement of turbines within the landscape that appears to be the major factor influencing raptor behaviour and death (Morrison et al. 2007).

2.3.2 Lighting

In general, turbines are required to have some form of lighting, either individually or collectively as a wind farm. The lighting specifications differ between countries. In New Zealand, the lighting required has been specified by the Civil Aviation Authority of New Zealand (CAA) on a case-by-case basis. Generally, each turbine in New Zealand at either end of a line has a light, but more may be required to have lights depending on factors such as proximity to an airport and low-level flight zones. The lights are usually medium-intensity obstruction lights, and they have to be installed and operated in a way that minimises their visibility at ground level. As a result, low-intensity steady red lights are used that are directed upwards (shielded downwards) and installed on top of the nacelle. To minimise the risk of the lighting causing problems for wildlife, white lighting is not allowed.

Lit turbines can attract birds, thereby potentially increasing the risk of collision, especially in conditions of poor visibility (Winkelman 1992b). There have been large mortality events at a variety of lit structures in the USA as a result of nocturnal-migrant songbirds being disorientated by lights when forced to fly at low altitude by rain and mist (Langston & Pullan 2003; Kingsley & Whittam 2005). Erickson et al. (2001) suggested that lighting was the single most critical attractant for nocturnal migrants², leading to collisions with tall structures. Various explanations have been put forward for the apparent attraction of birds, especially nocturnally migrating passerines, to artificial lights (Avery et al. 1976; Verheijen 1985), though none of these has been conclusively established. Perhaps the most plausible relates to a 'trapping effect' of light rather than actual attraction (Avery et al. 1976): on entering an illuminated area, especially on a foggy night, passing migrants are reluctant to leave; on approaching the edge of the illuminated area, they are hesitant to fly into the darkness beyond, and instead fly back towards

² Migration refers to the regular seasonal journeys undertaken by many species of birds, often between breeding and wintering sites. It includes movements within national boundaries and between countries.

the light. Solid or blinking red lights seem to attract birds more than white strobes, which flash every 1–3 seconds (Ogden 1996; Siemer 2002). Therefore, the trapping effect could be minimised by reducing the intensity of the light to a minimum, and having the intervals between flashes as long as possible (Hotker et al. 2006; Huppopp et al. 2006). It has been suggested that the hazard of lighting attracting or trapping nocturnally active birds could be reduced by shielding, but this needs to be tested to ensure that it meets the requirements of navigational safety and does not introduce an unacceptable collision risk for birds. The issue of these lights attracting or confusing nocturnally migrating birds and resulting in them colliding with turbines has been a concern for wildlife agencies, and therefore needs to be considered in detail when assessing risk.

Mass mortality of birds involving thousands during one night has occurred at tower communication towers in the USA. For example, an estimated 10,000 birds, representing 50 species, were killed at the Eau Claire tower, Wisconsin, on the nights of 18 and 19 September 1964 (Kraepner 1964). Generally, such large-scale mortality events have almost exclusively occurred at guyed and lit communication towers greater than 150–180 m (500–600 feet) in height (Avery et al. 1980; Kerlinger 2000). The number of nocturnal migrants reported dead at North American wind turbines is a small fraction of the number killed by communication towers (Kerlinger 2004). Similarly, none of the wind turbine studies in the USA listed in Erickson et al. (2002) reported large or significant numbers of nocturnal migrants colliding with wind turbines, and some reported no collisions; the reported fatality incidents mostly involved collisions of single birds. The reason so few nocturnal migrants have been found to collide with wind turbines to date compared with tall communication towers is likely related to the shorter height of wind turbines, their lack of guy wires and their minimal lighting (Avery et al. 1980; Kerlinger 2000).

2.3.3 Blade speed and motion smear

The rotor on a 1.5 MW capacity turbine turns at a speed of about 19 rpm. In contrast, smaller machines, such as the 225 kW Brooklyn turbine, turn at 40–45 rpm (Ashby 2004). To avoid damage, turbines automatically shut off when the wind reaches a speed of about 25 m/s (c. 90 km/h).

There are several reasons why birds may collide with wind turbines during conditions of good visibility, with the most obvious being that they are unable to detect the spinning blades. Two hypotheses, applying mainly to raptors, have been suggested to explain this. The first is motion smear, or motion blur, which occurs when an object moves with increasing speed, becoming progressively more blurred. This phenomenon is apparent at the tips of turbine blades because the speed at the tip is much greater than at the base of the blade, so that the eye is unable to detect the individual revolutions (although it is not clear whether this perceived problem is based on human vision or bird vision). The second hypothesis is the inability of birds to divide their attention between hunting and monitoring the horizon for obstacles. Bodos (2003) considered it likely that hunting raptors are able to focus on both the ground and the horizon, as their eyes have two foveal regions, one for frontal vision and the other for looking down. However, observations of hunting raptors by L. Barea (Department of Conservation, pers. comm. 15 February 2008) suggest that birds do not have two foveal regions.

the ground they are searching or prey they are pursuing that they sometimes fail to see objects in front of them, such as power lines, resulting in collisions. Therefore, although motion smear is considered by some to be the main reason birds collide with moving turbine blades during good visibility (McIsaac 2001; Hodos 2003), it is probably not the only reason.

To date, most studies of the effects of turbine blades on bird mortality have been based on older, variable-speed turbines. These turbines, which have c. 3-m-long blades, can have very high blade speeds of over 60 rpm, making motion smear an important issue. However, wind turbine technology has changed significantly, such that the c. 11-m-long blades of large turbines (> 1 MW) now rotate at a much slower speed of 15–30 rpm. Even though the tips of the 11-m blades revolve faster than those of 3-m blades, the longer blades seem to be more visible to birds (Kingsley & Whittam 2005), lessening the potential risk of collision. Nonetheless, no studies to date have examined the effect of slower blade revolution on birds (Kingsley & Whittam 2005).

All new wind energy developments should ensure that blade revolutions per minute are minimised, to avoid motion smear and promote blade visibility during the day. Laboratory research indicates that applying certain designs to turbine blades will enhance the ability of birds to see rotating blades, and thus potentially reduce fatalities (see McIsaac 2001: figure 9 for design examples).

2.4 ASSOCIATED STRUCTURES

The following structures, which may occur at wind farms, have been responsible for avian fatalities: overhead wires (power transmission and distribution lines), guy wires, lighting and uninsulated electrical equipment.

Based on fatality rates reported in other studies, Erickson et al. (2001) estimated that tens of thousands to 174 million bird fatalities occur in the USA each year due to collision with overhead wires. Several groups of birds appear to be susceptible to collision with wires, most notably waterfowl, shorebirds and raptors (Curtis 1977; Anderson 1978; Olsen & Olsen 1980). Although waterfowl and shorebirds seem to avoid turbines, as evident by the low recorded incidence of fatal collisions involving these groups of birds (Percival 2005), significant numbers have been known to collide with associated power lines, especially when located near wetlands (Anderson 1978; Moorehead & Epstein 1985, cited in Kingsley & Whittam 2005). At a power plant in Illinois, 200–400 waterfowl (0.2–0.4% of the peak number present) were killed each autumn during 1973–1975 as a result of colliding with overhead power lines (Anderson 1978). However, it is important to keep in mind the fact that impacts are site- and species-specific, and there are no data for New Zealand situations.

The maximum number of bird fatalities reported at a wind farm is a recently reported event that involved 27 birds at three turbines and a substation (Kerlinger 2003). The event occurred on a foggy night and was, in all probability, caused by four sodium vapour lamps that were mounted on the substation, which was near the middle of the turbines (Kerns & Kerlinger 2004), as once the substation lamps were turned off, no subsequent multiple fatalities occurred (Kerlinger 2003). At another wind farm, 14 fresh carcasses (all passerines) were

found underneath two adjacent turbines (Johnson et al. 2002). Although carcass searches were conducted at 14-day intervals at the site, a severe thunderstorm during the night before the search was suspected to have forced the migrating birds to fly at a lower than normal altitude and into the turbines.

Although evidence from US studies suggests that nocturnal bird migration typically occurs at heights above most wind farm structures (see section 5.2.3), collisions still occur with structures less than 100 m in height (Avery et al. 1980). For example, Wylie (1977) found 73 dead birds representing 31 species at an unlit fire tower following a night of fog and rain. The 30 m tower stood on a ridge at c. 800 m a.s.l. It was considered that the inclement weather and the tower being on a ridge at high elevation contributed to the mortality even though the tower was unlit and relatively short. This example emphasises the site- and weather-specific nature of some occurrences. Therefore, the altitude at which nocturnal migrants, such as waders, fly in New Zealand during different weather conditions needs to be determined for species of concern.

Another possible risk to birds is electrocution from perching on uninsulated equipment. For example, the 'Falcons for Grapes Project' in Marlborough released 19 young falcons (*Falco novaeseelandiae*) in vineyards of the Wairau Plain during 2005/06, of which five were electrocuted during their first few months of flight as a result of perching on uninsulated transformers (www.falconsforgrapes.org; viewed 4 September 2008). However, transformers on wind farms are large and insulated, and the conductors, which are uninsulated, are well spaced from anything that could earth them, making electrocution of a perched bird in such circumstances impossible (S. Faulkner, Connell Wagner Ltd, pers. comm. 30 January 2008).

Reducing the amount of above-ground wire at wind farms will reduce the potential risk of collision to birds in the area. However, it is not always practical to place cables underground. Furthermore, in areas where the risk of bird collision is low and where sensitive habitat exists, the placement of wires underground may cause more damage to local bird populations through habitat destruction than overhead wires would cause through collisions. Where it is unavoidable to have above-ground wires at a wind farm, bird deflectors (brightly coloured plastic balls) should be attached to wires, to alert birds to their presence. However, these will only work during the day.

2.5 LANDSCAPE FEATURES

Physical features on the landscape can strongly influence bird movement and behaviour. For example, diurnal migrants tend to follow coasts, shorelines of lakes, rivers, ridges and other linear features (Richardson 2000). During the day, peninsulas and islands can host concentrations of nocturnal migrants that have been migrating over large bodies of water, and coastal islands and headlands provide essential resting and feeding habitat during layover times for these birds. Islands of habitat (plantations) can act in a similar fashion, concentrating migrants in otherwise hostile environments, such as in open agricultural landscapes and in industrial areas. Thus, the placement of turbines close to prominent landscape features may positively or negatively influence the number of birds moving through a wind farm, particularly migrants and wetland species.

3. Weather conditions and collision fatalities

Many studies have shown that certain weather conditions (e.g. strong winds that affect the ability to control flight manoeuvrability, or reduced visibility) increase the occurrence of collisions with artificial structures, especially communication towers (Case et al. 1965; Seets & Bohlen 1977; Elkins 2004). The majority of collisions at wind farms have involved single birds (Kingsley & Whittam 2005), and even in poor weather conditions there have been very few multiple bird kills reported. The greatest mortality reported in North America on a single night was 27 birds, which occurred at the Mountaineer site in West Virginia on a foggy night, the birds being found at three turbines and a brightly lit substation (Kerlinger 2003). Another large mortality event at a North American wind farm was of 14 birds found at two adjacent turbines, which occurred during a severe thunderstorm (Erickson et al. 2001). Mortality events of such magnitude are rare phenomena, but can occur during periods of poor weather. Winkelman (1989, cited in Percival 2003; 1992a) showed that most collision fatalities at two sites in The Netherlands were found following nights with poor flight and visibility conditions.

4. Possible bird and wind turbine interactions

4.1 COLLISION FATALITIES

Direct mortality at wind farms results from birds striking revolving blades, towers, nacelles, and associated powerlines and meteorological masts. There is also evidence of birds being violently forced to the ground by turbulence behind the turbine created by the moving blades (Winkelman 1992a; Drewitt & Langston 2008).

Two wind farm areas have become synonymous with collision fatalities: Altamont Pass in California and Tarifa in southern Spain. Large numbers of raptors have collided with turbines at these sites, including substantial numbers of golden eagles (*Aquila chrysaetos*) at Altamont (Thelander et al. 2003), and griffon vultures (*Gyps fulvus*) at Tarifa (Barrios & Rodriguez 2004), both of which are long-lived species with low reproductive outputs. While the numbers of collisions per turbine at Altamont and Tarifa have been relatively low (considerably less than 1 bird per turbine per year for each), the total number of collisions has been significant, as a result of the large number of turbines (c. 7000 at Altamont and c. 700 at Tarifa). Also, and of particular importance, both sites support important food resources that attract raptors, resulting in birds of these species foraging within the collision-risk zone of turbines (Thelander et al. 2003). Thus, in both areas, the scale and siting of the wind farms are inappropriate given the species' behaviour (large soaring species with poor flight manoeuvrability), which makes them vulnerable to colliding with turbines, and their demographics, which make their populations vulnerable to small increases in mortality (Percival 2005).

Most other studies completed to date suggest low numbers of bird fatalities at wind farms (Australian Wind Energy Association 2002; Kingsley & Whittam 2005; Percival 2005). No other 'Altamont-type' problems have been reported elsewhere in North America (Erickson et al. 2001; Kingsley & Whittam 2005). Likewise, studies at upland sites in the UK have generally reported extremely low collision rates (<0.1/turbine/year), with some finding no collisions at all (Meek et al. 1993; Percival 2005), probably reflecting the generally low bird densities present in these areas. In comparison, studies of bird collisions at coastal wind farms have generally reported higher numbers of collisions, which may reflect higher bird densities at coastal sites (Percival 2005), or greater frequency of bird movements at such sites. For example, studies at Blyth Harbour, Northumberland (Painter et al. 1999), and at Zeebrugge Harbour, Belgium (Everaert et al. 2002; Everaert & Stienen 2007), revealed collision rates greater than one bird per turbine per year, with most casualties at both sites being terns and gulls. Again, these results stress the importance of site characteristics.

Unfortunately, in many instances these numbers are likely to be underestimates, as they are often based only on found corpses, without accounting for scavenging and searcher efficiency. Several studies have indicated rapid removal of carcasses by scavengers (Langston & Pullan 2003). For example, in the USA, Kerlinger et al. (2000) found that most passerine carcasses disappeared within days.

but that large carcasses remained for at least 1–2 months. Search efficiency of observers was also shown to be variable, with only 25% of small birds (passerines) being found, but 75% of medium-sized carcasses (ducks) and all large carcasses (large raptors) being found (Kerlinger et al. 2000). In another study at Buffalo Ridge, USA, it was found that scavengers removed 59% of carcasses within 7 days (Osborn et al. 2000) and observers had a search efficiency of 79% in grasslands and cropped land. These and other studies highlight the potential for underestimating collision rates, particularly for passerines, and the consequent need to correct measures of collision rates for the confounding variables through experimental work (Smallwood 2007).

The following figures provide an indication of the range of collision fatalities per turbine per year from a variety of studies. Except for figures reported by the American National Wind Coordinating Committee (2004), it is not known whether these values have been corrected for scavenging rate and/or search efficiency. An estimated mean of 2.3 birds have been killed per turbine per year in parts of the USA outside California (based on 12 studies), with rates varying from 0.63 (agricultural site) to 10.00 (fragmented mountain forest site) (National Wind Coordinating Committee 2004). The number of collision fatalities in different onshore European wind farms has varied from less than one bird per turbine per year up to 125 birds per turbine per year (Langston & Pullan 2003; Percival 2005; Everaert & Stienen 2007). The results from 48 studies summarised by Percival (2005) indicated that most wind farms have resulted in less than one fatality per turbine per year: 10 studies resulted in no carcasses being found, 24 of < 0.1 fatalities/turbine/year, 7 of 0.1–1 fatalities/turbine/year, 5 of 1–10 fatalities/turbine/year, and two of > 10 fatalities/turbine/year.

Erickson et al. (2001) estimated that 33 000 birds would be killed by wind turbines in the USA in 2001 (based on an average of 2.2 fatalities/turbine/year where scavenging rate and searcher efficiency had been taken into account, and a projection of 15 000 operational turbines), 26 600 of which would be killed in California (where the Altamont Pass wind farms occur). These estimates were based on ten studies of 0.4 to 3.7 years' duration during 1988–2001. Although this may seem to be a large number of bird deaths, the impact is relatively small compared to the millions of birds that die annually due to collision with transmission lines, vehicles, buildings and communication towers. For example, it is estimated that 80 million birds are killed on US roads each year (Erickson et al. 2001, 2002). However, it should be remembered that this may be partially due to the relative scarcity of wind farms in the landscape at present compared with other structures (Evans 2004), as can be seen by breaking down mortality with other structures on a per structure basis. For example, using the numbers provided by Erickson et al. (2001), it appears that roads result in 9–12 bird deaths/km/year, buildings and windows result in 1–10 bird deaths/structure/year, and communication towers result in 50–625 bird deaths/tower/year. As wind power becomes more popular and wind farms become more abundant, collision numbers will increase. Indeed, given current documented average mortality rates of about 2 bird deaths/turbine/year, the projected impact of turbines in the USA could be in the range of 1–5 million birds per year by 2025, if large numbers of wind turbines become part of the landscape (Evans 2004). This makes proper siting imperative to help reduce bird mortality and therefore population effects.

An important issue is whether or not the collision fatalities at wind farms are sufficiently great in number to cause population declines. Even when collision rates per turbine are low, collision mortality at a wind farm may be considered high, especially when composed of hundreds or thousands of turbines (Langston & Pullan 2003). The cumulative mortality from multiple wind farms may also contribute to population declines in susceptible species, such as soaring raptors (Hunt et al. 1998). Furthermore, even relatively small increases in mortality rates may have a significant impact on some populations of birds, such as a threatened species, or a long-lived species with low annual productivity and slow maturity (Langston & Pullan 2003), such as many New Zealand waders, particularly when adults are killed.

The strongest evidence of collision mortality affecting populations comes from studies of particularly vulnerable species that are present in relatively high numbers in the vicinity of wind turbines. The most vulnerable species appear to be those highly susceptible to collision and with low productivity (e.g. large raptors, seabirds), making them less able to compensate for increased levels of adult mortality. For example, a long-term study of golden eagles at Altamont Pass, California, showed that the incidence of collision mortality had reduced productivity in the local population to the point where it had become a sink, dependent on immigration for its maintenance (Hunt & Hunt 2006). Similarly, evidence from a study of nesting terns at Zeebrugge, Belgium, estimated additional mortality of at least 1.5% for two species as a result of colliding with turbines as they returned to their nests (Everaert & Stienen 2006). Dierschke et al. (2003, cited in Drewitt & Langston 2008) suggested that such increases in mortality of greater than 0.5% could have serious population impacts.

There appear to be four main (and often interacting) factors that contribute to avian mortality at a particular wind farm site (Kingsley & Whittam 2005):

1. **Density of birds:** In general, there are more opportunities for birds to collide with turbines when there is an abundance of birds or high frequency of movements. This does not mean that high bird density or frequency of movements necessarily translates into greater bird mortality; a direct relationship between the number of birds in an area and collision rate has only been documented by one study (Everaert 2003).
2. **Bird species:** Particular species or groups of birds appear to be particularly prone to collision with structures such as wind turbines. These groups include swans and ducks (Anseriformes), raptors (Accipitridae), particularly large soaring species, owls (Strigiformes), and nocturnally migrating passerines (Thelander & Rugge 2000; Erickson et al. 2001; Langston & Pullan 2003; Stewart et al. 2004). See section 5 for further discussion.
3. **Landscape features:** Some landforms at wind farm sites, such as ridges, steep slopes, saddles and valleys, may increase the degree of interaction between turbines and birds using or moving through an area, although some debate exists around this point (Barrios & Rodriguez 2004; Smallwood & Thelander 2004; Drewitt & Langston 2008). The presence of other landforms, such as peninsulas and shorelines, can funnel diurnal bird movement, which may also affect collision rates, although this has yet to be studied. These features can combine with high bird abundance to create high collision risk.

4. **Poor weather conditions:** At many sites, collisions by nocturnal migrants tend to occur during episodes of poor weather with low visibility. Although most examples appear to be isolated incidents, weather conditions should be kept in mind if a wind farm is being proposed in an area that has a large number of poor visibility days (< 200 m visibility) during spring and autumn (periods of migration), and has other confounding factors (e.g. large numbers of nocturnal migrants and landform features such as ridges present). See section 3 for further discussion.

It is difficult to determine the potential magnitude of wind turbine-related bird fatalities at New Zealand wind farms by extrapolating from studies elsewhere, because there is no information available about the rate of collision fatalities at New Zealand wind farms where the removal of carcasses by scavengers or the efficiency of observers at locating carcasses have been quantified. Also, as far as I am aware, no studies have modelled collision risk for birds at New Zealand wind farms. Therefore, there is an urgent need for comparative data from New Zealand wind farms to determine the extent to which native species, particularly threatened species, are being killed. It is also important that the mistakes made at Altamont and Tarifa are not repeated in New Zealand, and that the characteristics of the bird populations at proposed wind farm locations are determined, and potential problem sites identified and avoided. This is crucial when planning New Zealand wind farms, given the infancy of the industry and lack of robust data from which to make predictions.

4.2 HABITAT LOSS

Wind farm development will result in habitat loss for birds (Percival 2000). Land will be taken up by turbine bases and access roads, and secondary effects, such as altered hydrology, are possible. In the UK, habitat loss or damage as a result of wind farm infrastructure is not generally perceived to be a major concern for birds outside designated sites of national and international importance for biodiversity (Percival 2005). Typically, actual habitat loss only amounts to 2-5% of the total development area (Fox et al. 2006), and careful positioning of turbine bases and routing of access roads, together with the use of proven restoration techniques, should ensure that any loss is minimised. However, the cumulative loss of or damage to sensitive habitats may be significant, especially if multiple large developments are sited at locations of high bird use. Furthermore, direct habitat loss may be additive to displacement.

The scale of habitat loss, together with the availability and quality of other suitable habitats that can accommodate displaced birds, and the conservation status of those birds, will determine whether or not there is an adverse impact on populations (Anon. 2006). The possibility that wintering birds might habituate to wind farm structures has been suggested (Langston & Pullan 2003), but there is little evidence and few studies of long enough duration to show this (Stewart et al. 2004; Drewitt & Langston 2006). Differences in behaviour between residents and migrants have been observed in some studies (Kingsley & Whittam 2005; Drewitt & Langston 2006), but not in others (Langston & Pullan 2003; Percival 2005). Unfortunately, very few conclusive studies are available because most lack well-designed procedures incorporating observations both before and after

construction (e.g. Ketzenberg et al. 2002). Furthermore, very few studies have taken into account differences between diurnal and nocturnal behaviour, only assessing daytime activity (Anon. 2006). This is inadequate for those species, including many in New Zealand, that are active at night, and which may behave quite differently at night compared with by day.

4.3 DISTURBANCE AND DISPLACEMENT

Although collision rates have been the primary focus of research and monitoring in North America, the effects of disturbance may have a greater impact on birds (Stewart et al. 2004; Kingsley & Whittam 2005), and yet this is the least studied aspect of wind farm impacts on birds. Behavioural research on disturbance impacts is lacking for some bird groups. However, the available information suggests that some groups of birds (e.g. seaducks) may be more sensitive to disturbance from wind farms than others (Percival 2005; Drewitt & Langston 2006).

Disturbance and displacement may arise from increased activity by people at a wind farm during construction and maintenance, as well as from improved road access as a result of the wind farm development, especially in areas where there was little human activity before the wind farm existed. Roads may also improve access for predators of ground-dwelling or ground-nesting birds, such as wandering dogs (*Canis lupus*), possums (*Trichosurus vulpecula*) and hedgehogs (*Erinaceus europaeus*). The presence and noise of turbines may deter birds from using an area close to these

Some studies appear to show little or no behavioural impact of wind turbines on various bird species. In some cases, this apparent lack of evidence may be an artefact of such things as the type and intensity of monitoring. However, in Britain the majority of recent studies have also found no disturbance effects (Percival 2000, 2005) and there is an increasing body of evidence that wind farms generally do not affect bird distribution. For example, no significant adverse effect was reported on birds breeding in upland sites at Bryn Tytli, Carno or Cemmaes in Wales, at Ovenden Moor in the south Pennines, or at Windy Standard in southwest Scotland (Percival 2000). The Ovenden study showed how useful longer term monitoring programmes can be, as the 23-turbine wind farm was constructed following 2 years of breeding-bird surveys that had shown that the site held good numbers of upland birds, particularly golden plover (*Pluvialis apricaria*). The wind farm was constructed in 1993 and further surveys were carried out in 1995 and again in 1997, to determine the effects on these birds and their populations. Whilst numbers in a nearby control area remained constant, numbers at Ovenden actually increased (Percival 2000). The distribution of the birds suggested that they were unaffected by the wind farm; there was no significant difference in distribution pattern in relation to the turbine positions, and no evidence of any disturbance zone. Similarly, Thomas (1999, cited in Percival 2005), who surveyed breeding birds at ten wind farms in England and Wales, found no significant disturbance effects on any species, including curlew (*Numenius arquata*), lapwing (*Vanellus vanellus*), meadow pipit (*Anthus pratensis*) and skylark (*Alauda arvensis*).

In other studies, a reduction in bird numbers has been reported as far as 600 m from turbines outside the breeding season, and up to 300 m from turbines during the breeding season (Percival 2005). Such variation was found during two studies on the barnacle goose (*Branta leucopsis*) population. The first study, which was carried out on the birds' spring staging grounds in Sweden, where they fed in close proximity to wind turbines (to within 25 m), found no significant disturbance effect (Percival 1998). However, the second study of the same population on their wintering grounds in Germany found that few geese fed within 350 m of turbines, and there was a reduction in numbers up to 600 m from the turbines (Kowallik & Borbach-Jaene 2001). The most likely explanation for such different results is that geese avoid turbines when there is easy access to alternative feeding habitat, but will be less selective when resources are limited (Percival 2005). Similar results of birds becoming more tolerant of disturbance as resources become scarcer have been found in other studies of disturbance of wintering waterfowl (Percival 1993), and studies to date have shown that substantial displacement by wind turbines seems to have occurred primarily in farmland habitats, where there would typically be alternative feeding areas within easy reach (Percival 2005). Other results suggest that disturbance can lead to reduced breeding productivity (Madsen 1995), reduced survival or a reduction in available habitat (Woodfield & Langston 2004, cited in Percival 2005), so disturbance may be significant for some species in certain situations.

Studies of birds' responses to turbines at night, using thermal and passive imaging equipment plus radar, revealed that more flight reactions occurred with headwinds (87%) than with tailwinds (29%) (Winkelman 1992b). Winkelman's (1992b) observations in daylight indicated that over 75% of all reactions took place within 100 m of the turbines, with ducks reacting at the greatest distance and passerines reacting closest to wind turbines. Flights were mainly at the height of turbines (up to 50 m) at sunrise during dispersal from nocturnal roosts to feeding areas, at the end of nocturnal and start of diurnal migrations and, to some extent, at sunset as flights to roost and nocturnal migration started (Winkelman 1995). In comparison, observed flight reactions to wind turbines in Schleswig-Holstein, Germany, indicated that waders, terns and waterfowl reacted 200–500 m from the turbines, whereas gulls reacted at a distance of 100–150 m (Koop 1997). Gulls and waders increased their flight height or changed direction to fly over or around turbines, whilst waterfowl manoeuvred to fly between turbines. Observations of diurnal flight behaviour by gulls and common terns (*Sterna hirundo*) at two sites found that they flew between the turbines to and from their breeding colonies and marine feeding areas (van den Bergh et al. 2002; Everaert 2003). Breeding adults tend to fly much closer to structures when making frequent flights to feed chicks than at other times, and they may sustain collisions as a consequence (Everaert 2003; Everaert & Stienen 2007).

Relatively long lines of turbines or large wind farms can become important barriers to the local or seasonal movements of birds (Langston & Pullan 2003). The effect of birds altering their local flight paths or migration routes to avoid a wind farm is a form of displacement. This effect is of concern because it may result in increased energy expenditure when birds have to fly further to avoid a large array of turbines, and it may disrupt linkages between distant feeding, roosting, moulting and breeding areas (Drewitt & Langston 2006). The magnitude of the

effect will depend on species, type of bird movement, flight height, distance between rows of turbines, layout and operational status of turbines, time of day, and wind force and direction. The impact can range from a slight 'check' in flight direction, height or speed, through to significant diversions that may reduce the numbers of birds using areas beyond the wind farm (Drewitt & Langston 2006).

Several studies have shown that some species alter their route to avoid flying through wind farms, e.g. tufted duck (*Aythya fuligula*) and common pochard (*Aythya ferina*) at Lely in The Netherlands (Dirksen et al. 1998). While this may reduce collision risk, it could result in the wind farm acting as a barrier to bird movements. However, such effects are not universal; for example, at Zeebrugge, large numbers of birds regularly fly through a wind farm without diverting around it (Everaert et al. 2002), and van der Bergh et al. (2002) and Everaert & Stienen (2007) concluded that a line of turbines did not act as a barrier to the daily flight paths of breeding gulls and terns. In contrast, studies of bird movements in response to offshore developments have recorded waterfowl taking avoidance action between 100 m and 3000 m from turbines (Christensen et al. 2004; Kahlert et al. 2004a, b). These findings highlight the species- and site-specific nature of wind farm impacts on birds.

Some birds will fly between turbine rows, as seen with common eider (*Somateria mollissima*) at Nysted, where the turbines were 480 m apart (Kahlert et al. 2004b). However, their ability to do so will depend on the distance between turbines. Although evidence for this type of response is limited, these observations have implications for wind farm design. Generally, spacing between turbines at onshore wind farms is recommended to be a minimum of 200 m apart to avoid inhibiting bird movements (Percival 2001). This recommended distance is often the minimum spacing required by industry to reduce wake effects of large turbines on neighbouring turbines (Kingsley & Whittam 2005).

For a small wind farm (< 10 turbines), the ecological consequences of any barrier are unlikely to be a problem, with minimal diversion distances involved. For larger sites, however, the barrier effect has the potential to be more important. Thus, it is important to consider new wind farm proposals on a case-by-case basis, and to assess the patterns of resource availability and the potential loss through disturbance for each. However, it should be noted that a review of the literature suggests that none of the barrier effects identified so far have had significant impacts on populations (Drewitt & Langston 2006).

5. Observed impacts of wind farms on various groups of birds

5.1 HABITAT GROUPINGS

The following is a review of the impacts of wind farms on various groups of birds, largely in relation to the main habitat type they occupy. For each group, findings from other countries are related back to the New Zealand situation, particularly where relevant to a New Zealand species.

5.1.1 Waterbirds

Waterbirds include species that are typical of terrestrial wetland habitats, including ponds, lakes and rivers. This category excludes seabirds, waterfowl and shorebirds, which are discussed separately. Waterbirds of New Zealand include grebes, shags, herons, egrets, rails, gulls and terns.

There have been few reports of waterbird fatalities resulting from collision impacts at wind farms, but in many cases the methods used to detect them have been imprecise (see section 4.1). Gulls and terns have been identified as being especially vulnerable to mortality due to wind turbines because they often fly within the height of the rotor sweep zone (Langston & Pullan 2003). However, despite their perceived vulnerability, very low numbers of gulls and terns have been reported as colliding with turbines, with the exception of three sites in Belgium (Everaert 2003; Everaert & Stienen 2007). At one of these sites, Zeebrugge, Everaert & Stienen (2007) calculated that the mean number of collision fatalities (mainly gulls and terns) per turbine per year in 2004 and 2005 was 20.9 and 19.1 birds, respectively, after taking into account the number of dead birds found under turbines and the correction factors for available search area, search efficiency and scavenging.

There is little information available regarding the behavioural impacts of turbines sited near wetlands on waterbirds. Wind farms could have a marked negative impact on waterbirds where a significant proportion of a local resource, such as nesting or foraging habitat, is no longer available because turbines were placed on or too close to it (Percival 2001). Some species feed close to their breeding colonies, while others may forage some distance away (shags, gulls, terns). More research is needed to examine the potential effects of disturbance caused by wind turbines on waterbirds, particularly colonial nesting waterbirds.

The black shag (*Phalacrocorax carbo*) and cattle egret (*Bubulcus ibis*) are the only species of waterbirds occurring in New Zealand that were listed by Kingsley & Whittam (2005) as having been found fatally injured after colliding with a wind turbine. However, Kingsley & Whittam (2005) did list representatives from several genera that are represented in New Zealand: *Larus* (gulls), *Sterna* (terns), *Ardea* (herons) and *Nycticorax* (night heron). Three such waterbird species occasionally forage over pasture near wetlands and are threatened (Hitchmough et al. 2007): the red-billed gull (*Larus novaehollandiae*) (gradual decline), black-billed gull (*Larus bulleri*) (serious decline), and black-fronted tern (*Sterna albobriata*) (nationally endangered). Therefore, any wind farms sited in pastureland that may have deleterious impacts on the populations of these three species would be of concern.

5.1.2 Seabirds (order Procellariiformes)

I have not found any records of Procellariiformes being killed as a result of collision with wind turbines, or offshore wind farms resulting in their displacement. This probably reflects both the fact that in the Northern Hemisphere, where most wind farms occur, there is little overlap in the distribution of such seabirds and wind farms, and the difficulty of locating seabirds killed by collision at offshore wind farms. Even so, Procellariiformes, particularly the larger species, may be just as vulnerable to turbine collision fatalities as soaring raptors, because these seabirds are adapted to sustained high speed flight with slow manoeuvrability in unobstructed environments. In addition, many have delayed maturity and low productivity, making their populations sensitive to increased mortality.

I am not aware of any applications to develop offshore wind farms about New Zealand. However, there have been applications and investigations for the establishment of wind farms at coastal sites (see Appendix 1). A few colonies of Procellariiformes remain on the main islands of New Zealand. Most occur on headlands or coastal cliffs, e.g. royal albatross (*Diomedea epomophora*) at Taiaroa Head near Dunedin; small colonies of the sooty shearwater (*Puffinus griseus*) on Banks Peninsula, Cape Wanbrow near Oamaru, and headlands along the Otago coast and west coast of the South Island; and small colonies of the grey-faced petrel (*Pterodroma macroptera*) on scattered headlands of the northern North Island as far south as New Plymouth on the west coast and Gisborne on the east coast. Birds from these coastal colonies are unlikely to be impacted by wind farms unless turbines are sited within a kilometre or so of their colonies. Two species fly some distance inland to their colonies: the nationally endangered Hutton's shearwater (*Puffinus huttoni*), which flies to the Seaward Kaikoura Range, and the range restricted Westland Petrel (*Procellaria westlandica*), which flies to the coastal foothills of the Paparoa Range. Obviously, any turbines erected in the flight paths of these two species, both of which have restricted colony distributions, would be highly likely to result in collision fatalities. In addition, both species fly to and from their colonies at night, particularly around dusk and dawn. It has been found that nocturnal seabirds, especially fledglings, can become disorientated, especially during periods of fog, and are then prone to being attracted to artificial lights, such as street lights. Thus, lighting on turbines would increase the risk of collision for these nocturnally active seabirds if wind farms were sited near their colonies or on routes between the sea and their colonies.

5.1.3 Waterfowl

The effects of wind turbines on waterfowl (e.g. ducks, shelducks, geese and swans) have been examined at a few wind farms, particularly in Europe. Even though waterfowl are regarded as prone to collision with turbines (Langston & Pullan 2003), the presence of large numbers of waterfowl near wind farms does not necessarily mean that large numbers of fatalities will eventuate (Erickson et al. 2002; Kingsley & Whittam 2005). In some cases, seaducks are believed to have learned to avoid turbines, resulting in fewer collisions over time (Percival 2001). Sites in the USA with year-round waterfowl use reported the most fatalities of dabbling ducks (Anatinae) (Erickson et al. 2002), and at these sites waterfowl made up 10–20% of all fatalities (Erickson et al. 2002). However, numbers of fatalities were still low, especially in relation to the number of ducks

that used the areas. Moorehead & Epstein (1985, cited in Kingsley & Whittam 2005) identified large wetland birds, such as geese and cranes, as being especially susceptible to collisions with wind farm installations. They emphasised that collision potential varied with a number of factors (weather, terrain, turbine placement, and rotor design and speed), and identified the provision of visual cues and the selection of sites outside critical areas among their recommended mitigation measures.

Disturbance is an important factor to consider when siting a wind farm near significant waterfowl areas. The most comprehensive study of the effect of wind turbines on waterfowl took place in Denmark and involved a modern, 10-turbine offshore facility in an area where large numbers of common eider (*Somateria mollissima*) and black scoter (*Melanitta nigra*) fed. It was found that these diving ducks exhibited avoidance behaviour towards the turbines, which was accentuated in poor weather (Guillemette et al. 1999; Tulp et al. 1999). Eiders generally avoided flying or landing within 100 m of the turbines, and avoided flying between turbines that were spaced less than 200 m apart, preferring to fly around the outer turbines. Similarly, two diving duck species, common pochard and tufted duck, were tracked at night using radar and were found to avoid flying near turbines, passing around the outer turbines instead (Larsson 1994; Dirksen et al. 1998). In a meta-analysis of 19 studies into the effects of wind farms on bird abundance, Stewart et al. (2004) found that wind farms seemed to reduce the abundance of many bird species and that Anseriformes (swans, geese, ducks) experienced greater declines than other bird groups, suggesting that a precautionary approach should be adopted to wind farm developments near aggregations of Anseriformes.

The observations of avoidance behaviour are not restricted to studies at offshore wind farms. In the Yukon, a single turbine was placed at the edge of a river valley, past which large numbers of waterfowl migrated. No collisions were recorded, but the birds avoided flying close to the turbine (Mossop 1998). Amongst waterfowl, reactions to onshore wind turbines appear to be species-specific, with even closely related species showing very different reactions. For example, pink-footed geese (*Anser brachyrhynchus*) were reluctant to forage within c. 100 m of turbines in Denmark (Larsen & Madsen 2000), whereas barnacle geese (*Branta leucopsis*) in Sweden foraged to within 25 m of the structures (Percival 2005).

The Canada goose (*Branta canadensis*), domestic goose (*Anser anser*), mallard (*Anas platyrhynchos*) and mute swan (*Cygnus olor*) are waterfowl species that occur in New Zealand and were listed by Kingsley & Whittam (2005) as having been found fatally injured after colliding with wind turbines. In addition, the following genera are represented in the mortality list of Kingsley & Whittam (2005), all of which have members in New Zealand: *Podiceps* (Australasian crested grebe *P. cristatus*), *Tadorna* (paradise shelduck *T. variegata*) and *Aythya* (New Zealand scaup *A. novaeseelandiae*).

5.1.4 Shorebirds

In North America, observed mortality of shorebirds (waders) at wind farms has been low (Kingsley & Whittam 2005), possibly because few sites are located in shorebird habitat. In contrast, *Servant et al. (2004)* found that wind farms can have a negative impact on the abundance of shorebirds, and advocated a precautionary approach to wind farm development at coastal sites where aggregations of shorebirds occur. This result was derived from a meta-analysis of six studies: two in the USA, and one each in Germany, The Netherlands, Scotland and England.

Each species of shorebird appears to have a different threshold to disturbance. For example, at Blyth Harbour wind farm in the UK, purple sandpipers (*Calidris maritima*) did not seem to be disturbed by either the construction process or the operation of wind turbines (Lowther 2000). In contrast, studies in The Netherlands and Denmark examining the effect of turbines near important staging areas for many shorebird species found that the birds avoided the turbines and were at a relatively low risk of collision (Pedersen & Poulson 1991, cited in Drewitt & Langston 2006; Dirksen et al. 1998). Some studies have shown that shorebirds avoid turbines up to 500 m away (Winkelman 1995), while others have shown no significant effect on shorebird distribution (Thomas 1999, cited in Percival 2005). It is not known whether this inconsistency in behaviour between species is related to the abundance and proximity of alternative suitable habitat: a species may be more likely to move away from turbines if there is ample suitable habitat nearby.

The pied oystercatcher (*Haematopus ostralegus*) is the only shorebird species that occurs in New Zealand that was listed by Kingsley & Whittam (2005) as having been found fatally injured after colliding with wind turbines. Other genera that are represented in the mortality lists and have representatives in New Zealand are *Charadrius* (dowries) and *Pluvialis* (plovers). Many endemic and native shorebirds occur in New Zealand. Given the threatened status of some endemic species (Hitchmough et al. 2007) and our lack of knowledge about their vulnerability to wind farm developments, a precautionary approach should be taken when considering any wind farm developments in shorebird habitats and along their migration routes.

5.1.5 Diurnal raptors

Collision has been the focus of raptor studies at wind farms, due to the high collision rates observed at a small number of sites. One study at Altamont, California, USA, which involved observations and carcass searches over six seasons and covered c. 16% of the 7000 turbines, found 183 dead birds (0.05 birds per turbine per year), 65% of which were raptors (Orloff & Flannery 1992). Of these deaths, 55% were attributed to turbine collisions, 8% to electrocution and 11% to wire collision; for 26%, the cause of death could not be determined (Orloff & Flannery 1992). There has also been significant raptor mortality at Tarifa, Spain (0.34 birds per turbine per year) (Percival 2003). This site is near the Strait of Gibraltar, and forms a bottleneck that concentrates bird migration between Europe and Africa in the Mediterranean basin; at least 30 000 raptors and large numbers of storks pass through the area each autumn (Marti 1995). There are several wind farms in the area, with a total of

268 older-style turbines (lattice tower, with a relatively fast rotor speed) in operation (Marti 1995). Many bird collisions with the turbines have been recorded, including an estimated 106 deaths in a single year, most of which occurred on days with high visibility (Marti & Barrios 1995, cited in Kingsley & Whittam 2005). However, a subsequent study at a different wind farm at Tarifa resulted in only two carcasses being found over 14 months, suggesting that death rates can vary with year and wind farm (Janss 2000).

Very few raptor fatalities have been reported at other sites. In parts of the USA outside California, raptors comprised only 2.7% of turbine-related deaths (Erickson et al. 2001; Kerlinger 2001). However, even though this percentage seems small, an increase in mortality of greater than 0.5% could have a serious impact on a population of long-lived raptors with low productivity (Dierschke et al. 2003, cited in Drewitt & Langston 2008).

The most important factor that influences raptor collision rate appears to be topography, in particular elevation and the presence of ridges and slopes (Anderson et al. 2000; Morrison et al. 2007). The low numbers of raptor fatalities observed at the majority of wind farms is most likely due to improved siting of turbines, away from problem topography and high raptor concentrations. It has been speculated that the construction of tubular (as opposed to the lattice type) towers and slower rotor speeds may also have helped to lower raptor fatalities, but no studies to date have shown a significant relationship between mortality levels and turbine type (Anderson et al. 2000). Percival (2003) considered that the high mortality at Altamont and Tarifa resulted from a combination of sensitive species (soaring raptors) flying through the area in large numbers (important feeding areas and migration route, respectively), and turbine layout (hundreds in densely packed formation) and design (lattice towers attractive to raptors as perches).

There is no information available on how raptors react behaviourally to turbines (Kingsley & Whittam 2005).

Although no raptor species that occur in New Zealand are represented in the mortality list of Kingsley & Whittam (2005), the genera *Circus* and *Falco* are present in the list, both of which have representatives in New Zealand (Australasian harrier *C. approximans* and New Zealand falcon *F. novaeseelandiae*). Species of nocturnal raptors (owls) are also represented in the list of birds reported to have collided with wind turbines (Kingsley & Whittam 2005).

5.1.6 Landbirds

Amongst the landbirds, passerines are the group most commonly affected by wind farms in parts of North America outside California. Protected passerines comprise 78% of all fatalities documented at wind farms in the USA (Erickson et al. 2001). This proportion would be even greater if it included unprotected species, such as the starling (*Sturnus vulgaris*) and house sparrow (*Passer domesticus*). Grassland bird species with aerial courtship displays, such as the horned lark (*Eremophila alpestris*), appear to be particularly prone to collisions with turbines, as they fly high enough when displaying to collide with turbines (Kerlinger & Dowdell 2003). However, during migration most passerines fly at night and at an altitude in good weather (1000–1500 m; Alerstam 1990) that takes them well above turbine height.

The greatest threat from wind farms to migrant passerines in North America was found to be habitat loss (Kingsley & Whittam 2005). In contrast, the impact of turbines on forest-nesting passerines was found to be low, with several nesting in the forest within 20–30 m of the turbines, although a few species were found to avoid clearings where turbines were located, and some appeared to move further into the forest (Kerlinger 2003). However, since there has only been one study to date into the effect of wind turbines on forest-nesting birds, more studies are needed to understand these effects.

Turbines may displace some grassland species of landbirds. Leddy et al. (1999) found that there were fewer nesting grassland birds within 100–200 m of turbines than beyond, and densities decreased by more than 50% within c. 50 m of turbines. In contrast, Devereux et al. (2008) found that the distribution of four functional groups of wintering farmland birds (granivores, corvids, gamebirds and the skylark *Alauda arvensis*) was unaffected by turbines in East Anglia, England (in 150-m-wide blocks), at distances ranging from 0 m to 750 m. They also measured occurrence in areas 0–75 m and 75–150 m from the turbines, and found no evidence that the four functional groups of farmland birds avoided areas close to turbines.

Gamebirds (pheasants and quail in New Zealand), which are a subset of the landbirds group, are vulnerable to habitat destruction and fragmentation, and disturbance of local breeding populations as a result of human-induced changes in the landscape, such as wind farm developments (see Kingsley & Whittam 2005). In North America, much of the remaining suitable habitat for gamebird species is located in remote areas or where topography makes agriculture difficult. Some of these sites may be suitable for wind farms, and so turbines and associated structures could adversely affect sensitive and vulnerable gamebird species (Kingsley & Whittam 2005). In agreement with this conclusion is the finding of Devereux et al. (2008) that the distribution of the pheasant (*Phasianus colchicus*) was negatively effected by turbines. S.M. Percival (Ecology Consulting, pers. comm., 5 March 2008) considered that there is a low risk of gamebirds colliding with turbine towers.

The feral pigeon (*Columba livia*), rook (*Corvus frugilegus*), skylark (*Alauda arvensis*), blackbird (*Turdus merula*), song thrush (*Turdus philomelos*), starling, chaffinch (*Fringilla coelebs*), greenfinch (*Carduelis chloris*) and house sparrow are landbird species that occur in New Zealand and were listed by Kingsley & Whittam (2005) as having been found fatally injured after colliding with wind turbines. In addition, the genera *Hirundo* and *Anthus* are represented in their mortality list, both of which have representative species in New Zealand (welcome swallow *H. tabitica* and New Zealand pipit *A. novaeseelandiae*). Most species mentioned above are introduced and none are threatened.

The California quail (*Callipepla californica*), chukor (*Alectoris chukar*) and pheasant (*Phasianus colchicus*) are gamebird species that occur in New Zealand and were listed by Kingsley & Whittam (2005) as having been found fatally injured after collision with wind turbines. All of these gamebirds were introduced to New Zealand, and all except the chukor are widely distributed (Heather & Robertson 2005).

5.2 SEASONAL GROUPS

5.2.1 Breeding birds

In general, birds breeding near wind turbines have been reported to have lower collision rates than non-residents (Kingsley & Whittam 2005). In part, this is probably because local birds become familiar with turbines, whereas individuals passing through the area would not have that familiarity and may be unable to detect turbines before a collision occurs if weather conditions are poor, e.g. during fog. However, wind farms are likely to have a greater impact on breeding birds as a result of habitat loss, obstruction of regular flight paths, disturbance by people servicing turbines and obstruction to important feeding areas (particularly important in coastal areas).

Bird productivity (breeding success) does not appear to be negatively affected at many wind farms. For example, in one study, mean productivity at a 66-turbine site, was the same as in surrounding areas (Guyonne & Clave 2000, cited in Kingsley & Whittam 2005). However, few such studies have been carried out (Kingsley & Whittam 2005).

Reduced breeding bird populations were noted at a few wind farms where breeding habitat was destroyed during installation of turbines, and where people and vehicles were continuously present in the area (Percival et al. 1999, cited in Percival 2000). It has also been found that many grassland birds avoid nesting within 100–200 m of turbines (Leddy et al. 1999). Ketzenberg et al. (2002) investigated the breeding densities and spatial distribution of the common skylark (*Alauda arvensis*) and some species of breeding waders (Eurasian oystercatcher *Haematopus ostralegus*, northern lapwing *Vanellus vanellus*, common redshank *Tringa totanus* and black-tailed godwit *Limosa limosa*) before and after installation of wind farms in four coastal areas in Lower Saxony, Germany. They found no consistent pattern in the change in number of breeding pairs following construction, with some decreases but also some increases: for some species of waders, the numbers increased near wind turbines because of the change in farming practice post-construction, emphasising the need to consider other changes contemporary with wind farm development. Similarly, there was no significant difference in numbers of breeding pairs of ducks (Anatinae), waders (Charadriiformes), Arctic skua (*Stercorarius parasiticus*), gulls (Laridae) and small passerines between the year of installation of a 3-turbine cluster and the subsequent 8 years at Burgar Hill, Orkney Islands (Meek et al. 1993).

Many seabirds, including coastal species such as gulls and terns, are readily disturbed by the activities of people near their breeding colonies, so that the presence of turbines may cause the abandonment of a site. Although I am not aware of studies that support this suggestion, it is of note that English Nature (the UK government agency that promoted the conservation of wildlife until 2006, when it was integrated into Natural England) recommended that turbines should not be located within 20 km of sensitive or important colonies of seabirds (e.g. albatrosses, petrels, shearwaters), and should not be within 1 km of sensitive or important gull or tern colonies (Percival 2001).

5.2.2 Wintering birds

The numbers and movements of sedentary species remain much the same year round, particularly for most forest-dwelling and open-country species. However, physical or biological factors, such as localised habitat and/or food supplies, may act to concentrate birds such as waterfowl and shorebirds. Thus, depending on the site of a wind farm, bird densities in the vicinity may remain much the same, increase or decrease during winter. For example, studies at Urk, The Netherlands, found reductions in density within a wind farm area in winter for four duck species (mallard *Anas platyrhynchos*, tufted duck *Aythya fuligula*, common pochard *A. farina* and common goldeneye *Bucephala clangula*), which extended to 300 m away from the farm (Winkelman 1989, cited in Percival 2003). In contrast, there was little or no effect on great-crested grebe (*Podiceps cristatus*), Eurasian coot (*Fulica atra*) or common gull (*Larus canus*), and increased numbers of black-headed gulls (*Larus ridibundus*) and greater scaup (*Aythya marila*). At Blyth Harbour wind farm, UK, great cormorants (*Phalacrocorax carbo*) were temporarily displaced from their roost during construction, but returned once the farm was operational. Numbers of great cormorants, common eiders (*Somateria mollissima*), purple sandpipers and gulls were comparable before and after construction (Still et al. 1995, cited in Langston & Pullan 2003). This wind farm is sited in a commercial harbour and comprises nine turbines built at 200-m intervals along the estuary's breakwater. The harbour is a Site of Special Scientific Interest because it hosts a large winter roost of the purple sandpiper, and the estuary it protects adjoins a Ramsar site.

Wind farm layout can also affect avoidance behaviour. For example, for pink-footed geese, the avoidance distance was c. 100 m for lines of turbines, compared with c. 200 m for clusters of turbines, and geese did not enter the area between turbines arranged in a cluster (Larsen & Madsen 2000).

5.2.3 Migrating birds

Although long-distance movements of birds can occur in any month, the periods of peak migration in New Zealand occur in spring, summer and autumn (Dowding & Moore 2006; Williams et al. 2006). Different species, and possibly different age and sex categories of the same species, migrate through the same area during different periods. Migration can also occur in winter, e.g. northward movements following unusually severe southerly storms that bring snow to sea level. In summer, there can also be movements of subadult birds or failed breeders from nesting areas to staging areas (coastal sites), or to wintering sites further north. Thus, the pattern and timing of migration can be highly unpredictable (Kingsley & Whittam 2005). The broader the spatial and temporal scale, the more predictable migration movements appear, but with regard to a particular local area on a given day, it is very difficult to predict whether migrants will be present (Mabey 2004).

Meteorological conditions can have a large influence on the numbers of birds involved in migration. In Canada, numbers of birds migrating have been shown to vary 10-fold or even 100-fold from one day or night to the next, depending largely on weather (Richardson 2000). A bird may migrate several hundred kilometres in a day or night when the weather is favourable, and then may not migrate for several days when the weather is poor (Richardson 2000). Migrant

numbers appear to be greater at times with (or following) light tail winds than when winds are strongly opposing. Such winds allow birds to travel a given distance more quickly and with less energy expenditure than would be required while flying into a headwind (Richardson 2000). There is also a close interaction between migration and other weather variables such as temperature, humidity and pressure, and it is not well established which specific variables cue birds to migrate rather than remain on the ground (Richardson 2000).

In the case of migrants, flights once underway tend to be at high altitude, well above turbine height, to maximise flight and energy efficiency. Birds wait for suitable conditions before embarking on migration, but may be forced to lower their flight altitude if they encounter bad weather during migration (Newton 2007). Therefore, migrants are at risk of collision with wind farms mainly during takeoff and descent, when their flight paths take them through the height range of the rotor-sweep zone (Drewitt & Langston 2008).

Many collisions reported at wind farms in North America involve migrating birds. For example, Johnson et al. (2002) noted that 71% of carcasses were migrants. Sites in different regions differ in the magnitude of bird migration and the influences on this migration. For example, in western North America, there is little evidence that tall human-made structures kill large numbers of night-migrating birds (Evans 2003), whereas this is a well-documented phenomenon in eastern North America. The reason for this regional difference is unclear, although it may be due to lower densities of nocturnal migrants in the west, or differing meteorological conditions leading to different avian behaviour. Whatever the reason, this is an important point that must be considered when comparing mortality studies from sites outside the general area of a proposed wind farm.

Inclement weather can increase the risk of migrant collision with wind farm structures. For example, a cloud ceiling that drops to near or below the height of turbines will affect high-altitude migration, inducing migrants to move at or below treecap level, and therefore increasing the probability of collisions with tall obstacles (Robbins 2002; Langston & Pullan 2003; Kingsley & Whittam 2005). Drizzle and fog impair visibility, and cause birds to fly at lower altitudes and follow topographical cues. The combination of such weather with lighting at wind farms may attract migrating birds, and so increase the collision rate. Thus, if there is a high proportion of foggy days during a period of migration at a proposed wind farm site that is on a migration route, there is likely to be an increased risk of collision.

Wind farms situated on prominent landforms can also represent greater potential risks to migrating birds. Features that rise abruptly in the landscape, such as high ridges and mountains, can influence bird movements, and if wind farms are sited at high elevations, turbines may end up at a height that enters the altitudinal strata typically used by migrants. For example, the turbine rotor sweep zone of 100-m towers located on a ridge 200 m above the surrounding landscape are effectively 300 m in the air and at an altitude where nocturnal migrants may be flying (Kingsley & Whittam 2005).

Diurnal migrants

Some groups of birds, e.g. raptors, are principally diurnal migrants (Kingsley & Whittam 2005). Diurnal migrants that use thermals (rising warm air caused by the sun heating the earth) to reach their preferred altitude do so to facilitate soaring and conserve energy. As a result, the number of such migrants tends to decline in the late morning and through the afternoon. Diurnal migrants can be more constrained by topographical features than nocturnal migrants, and tend to concentrate along linear features, such as coastlines, rivers, ridges and valleys (Richardson 2000). Birds will often divert by as much as 45° from their preferred course in order to fly along such a 'leading line' (Richardson 2000). The greatest concentration of birds often occurs at these features when there is a crosswind relative to that feature. Therefore, the placement of wind farms on such topographical features may result in interactions with diurnal migrants.

Nocturnal migrants

Many bird species migrate at night (e.g. geese, ducks, rails, waders, cuckoos). There are three main reasons why birds flying at night collide with wind turbines, and these are often inter-related: height of the structure (and the landform it is located on), lighting and weather (Kingsley & Whittam 2005) (see sections 2.3.2 and 3). The flight heights of nocturnal migrants are quite variable and not well understood, even in North America and Europe (Kingsley & Whittam 2005). According to Kerlinger (1995, 2000), the majority of migrants fly between 90 m and 900 m a.g.l. (above ground level), with small numbers flying above 1500 m a.g.l., and few below 150–180 m a.g.l., except during landing and takeoff. Able (1999) stated that most nocturnal migrant songbirds usually flew below 600 m when over land. Cooper (2004) found that 16% of migrants flew at or below turbine height (< 125 m), with most passing at 250–750 m. Similarly, Richardson (2000) believed that most nocturnal migrants flew well above turbine height (50–1000 m a.g.l.). These data suggest that only a small percentage of nocturnal migrants passing over a wind farm with tall turbines (150 m) would fly within the rotor sweep zone. However, migration altitudes are affected by weather, with birds tending to fly lower when heading into opposing winds than when flying with tailwinds. Therefore, numbers of migrating birds flying at turbine height may be as great or even greater when winds are opposing than when they are following, even though total numbers aloft tend to be much reduced with opposing winds (Kingsley & Whittam 2005). Poor weather (cloud and rain) increases the effect of lighting and also lowers the flight altitude of migrants, so that greater numbers fly at turbine height.

Many UK and North American nocturnal migrants continue to migrate for at least part of the day, but do so at lower altitudes, tending to stay within 20–30 m of the ground (within or near vegetation) to avoid predation (Kingsley & Whittam 2005). On a typical day during migration, birds move between higher and lower altitudes at dawn and dusk, and it is during these times that birds may be at risk of colliding with wind farm structures (Richardson 2000; Langston & Pullan 2003). At daybreak, or just before it, nocturnal migrants drop rapidly from higher altitudes (> 200 m) and fly at or above treetop level (< 200 m) until they find a suitable location for landing, features of which will depend on the conditions and the requirements of the individual birds (Kerlinger 1995).

There appears to have been only one comprehensive study calculating the collision risk for nocturnal migrant birds (Winkelman 1992a). This was performed in The Netherlands, and collision risk was calculated by means of observed collisions (using thermal image intensifiers). The results showed a high nocturnal collision probability, with 1 in 40 (2.5%) birds passing at rotor height. Daily searches for collision fatalities during the migration periods, together with systematic field observations of passing birds, could lead to a better picture of the behaviour and collision risk of birds (Everaert & Stienen 2007). The use of night vision devices and/or radar, and thermal image intensifiers are regarded as necessities (Everaert & Stienen 2007).

Staging areas

Some types of migrants, such as shorebirds and waterfowl, flock at restricted areas of suitable habitat while resting and feeding between migratory flights. These 'staging areas' are often lakes, marshes, estuaries, mud flats or other areas that can provide food and/or shelter for large numbers of birds (Richardson 2000). Once a migrant decides to stop, it is constrained by the availability of habitat and resources within the local landscape. Stopover sites are not necessarily large expanses of high-quality habitat, such as mudflats where thousands or millions of birds congregate; they can also include marginal habitat when nothing else is available in the immediate area. For example, a flock may be forced to land and stopover at a marginal site during bad weather (Mabey 2004).

At staging areas, flights of migrants are often concentrated into corridors when the birds are either taking off or approaching to land (Richardson 2000). The flight height of these migrants is often at the height of wind turbines. Some birds, like swans, typically climb only very gradually, and may remain low for a considerable distance after takeoff from the stopover area, while other birds climb more rapidly (Richardson 2000). Therefore, the distance from the stopover area within which flight altitudes will be low enough to be at risk of collisions with turbines will depend on the species (Kingsley & Whittam 2005).

Collision with wind farm structures is not the only potential effect on migrating birds. Disturbance can also affect migrants if turbines are located near important staging areas. Additionally, the alteration or destruction of habitat used by birds during migration can also contribute to adverse environmental effects.

6. Mitigation of impacts

The most useful way to ensure minimal negative effects of wind farms on birds is to choose an appropriate site. However, a number of mitigation measures have been suggested to reduce collision fatalities at operational wind farms, although it must be emphasised that most have yet to be tested to determine their effectiveness.

Mitigation may involve on-site and/or off-site measures. Temporary shutdowns of turbines during periods of high bird activity, especially at migration bottlenecks and staging areas, and near breeding or wintering concentrations, have been proposed (Smallwood & Thelander 2004; Everaert & Stienen 2007; Hotker et al. 2006). Since turbine shutdown has yet to be routinely implemented, it is not known to what extent it would reduce collision fatalities, although stationary blades are likely to pose less of a risk to flying birds than rotating blades (Drewitt & Langston 2008). However, because collisions also occur with turbine towers, this does not remove the need to avoid siting wind farms on migration routes or at other sites where concentrations of species vulnerable to collisions occur. In this regard, it is of note that in response to a 2004 lawsuit filed against the Altamont turbine operators (California, USA) over raptor kills, wind-power companies and local county officials agreed to shut down half the turbines during winter months, and permanently remove 100 turbines over 5 years (Nijhuis 2006).

It has been suggested that scaring devices, such as playback of alarm calls, could be used as a deterrent (Drewitt & Langston 2008). However, this is likely to be of short-term effectiveness and unacceptably intrusive close to human habitation. Radar- or audio-activation of possible risk-reduction measures, such as alarm calls or turbine shutdown, has the potential advantage that it could be initiated when a hazardous situation is developing, as birds approach (Evans 2000; Drewitt & Langston 2008). However, given that such scaring devices have not been trialled at wind farms, much development and testing would be required before they could be accepted as an effective method for deterring bird species from wind farms in New Zealand.

It has been proposed that the visibility of rotating blades to birds could be increased by having high contrast patterns on blades (McIsaac 2001; Hodos 2003). This proposal requires field testing, but even if it reduced collision risk, such obvious turbine blades visible from urban areas may not be acceptable to the general populous (Langston & Pullan 2003). The use of ultraviolet paint has also been suggested as potentially helpful in alerting birds to the presence of rotors while not increasing their visibility to people (Drewitt & Langston 2008). However, results from limited trials have been equivocal, perhaps because of different species' sensitivities to different UV wavelengths (Hotker et al. 2006).

Smallwood & Thelander (2004) found that turbines at the ends of lines and edges of clusters killed disproportionately more birds, and so hypothesised that a pair of poles could serve as dummy turbines beyond the end of lines and edges of clusters. These poles would be placed 5–10 m apart, just beyond the rotor plane of the end turbine and upward to the maximum height of the rotor. These

'flight diverters' would be expected to encourage birds to fly around or over the operating turbines (Smallwood & Thelander 2004). Another suggestion to overcome this problem is to relocate turbines that kill disproportionately more birds because of where they are located (Langston & Pullan 2003).

Another suggested mitigation measure could involve adjusting turbine tower height to minimise collision rates (Anderson et al. 1999; Hotker et al. 2006). Taller or shorter towers could expose fewer birds to collision, although little research has been conducted on this factor. It would require detailed knowledge of the variability of flight altitude of species prone to collision mortality at the site to determine whether such an adjustment would be effective.

Reducing collision mortality of resident species could involve making the site unsuitable for use by birds or a specific bird species through changes in habitat (Anderson et al. 1999). This action has been effective in reducing bird abundance on grassed airfields, where mown swards were made unsuitable to foraging and roosting species by being left to grow long (> 230 mm) (Caithness et al. 1967).

Off-site mitigation can involve actions taken to increase the security of at-risk species at sites away from wind farms (Percival 2003; Smallwood & Thelander 2004; Kuvlesky et al. 2007). This might involve creating or improving habitat near a wind farm to encourage birds to use it rather than the wind farm site. An alternative procedure could involve management to improve adult survival or fledgling production, e.g. by carrying out mammalian predator control for New Zealand species (Ashby 2004). Ideally, where an assessment has quantified the level of adverse effect on a bird population, there may be an opportunity to carry out management to mitigate against such effects (Percival 2003).

An essential aspect of any mitigation measure would be to monitor its impact and test its effectiveness in either reducing collision fatalities or increasing numbers of individuals above those lost to collision fatalities.

7. New Zealand wind farms and their impact on birds

During 2007, wind generation capacity in New Zealand almost doubled to 322 MW, representing 2.2% of total electricity generation (New Zealand Wind Energy Association 2008). Installed wind generation capacity is expected to grow to 494 MW by the end of 2009, and to supply up to 20% of New Zealand's energy needs by 2020 (Rodgers 2006). Lists of operational and proposed wind farms are provided in Appendix 1.

As far as I am aware, there has been no report of carcass searches made at New Zealand wind farms using a scientifically robust methodology. Instead, reports only include anecdotal information. For example, in a popular article, Rodgers (2006) noted that the only fatality at the Brooklyn turbine in more than 10 years of operation was a blackbird, and that 'elsewhere the deaths of a few magpies, gulls and blackbirds have been recorded' (Rodgers 2006: 111). Similarly, ten deaths (all magpies *Gymnorhina tibicen*) have been recorded at the Tararua wind farm, while at Te Apiti five magpies and one kingfisher (*Halcyon sancta*) died during 2004–06 (Clutha District Council 2007). Thus, post-construction monitoring at New Zealand wind farms to date has been inadequate with regard to searches for birds killed as a result of collision with turbines. Maintenance workers are requested to document carcasses they encounter during their work (Seaton 2007). However, this is unlikely to turn up many carcasses unless large birds are killed, because carcasses can be lost due to scavenging, carcasses of small birds can be concealed in vegetation, and untrained personnel, lacking a systematic survey effort, find fewer carcasses than trained staff (Morrison et al. 2007). Since even a low impact can have significant implications for a threatened species' population viability, concerted efforts need to be made to improve post-construction monitoring at wind farms in New Zealand.

I am not aware of any reports or published papers detailing the effects of habitat loss or disturbance on bird populations at New Zealand wind farms.

8. Conclusions

A number of key findings have come from this literature review:

- The effects of wind farms on birds are variable, and can be species-, season- and site-specific. Thus, how applicable the information and conclusions provided in this review are to the New Zealand situation is unknown. Although the general conclusions from studies elsewhere may be pertinent to the New Zealand situation, we need to carry out research at New Zealand wind farms to have confidence in their applicability, particularly with regard to species impacts.
- The four main factors that contribute to collision fatalities at a wind farm are high densities of birds or frequency of movements through it, presence of species prone to collision with turbines, landscape features that concentrate bird movement, and poor weather conditions.
- Species groups that are most prone to collision fatalities at wind farms in Europe and North America are herons and allies, swans, geese, ducks, large soaring raptors, gulls, terns, owls, and nocturnal migrant passerines.
- While carcass numbers found at wind farms have been documented, these will underestimate fatalities unless a systematic methodology is used, including taking into account scavenger rate and searcher efficiency.
- Loss of or damage to habitat as a result of wind farm construction (roads, turbines, buildings) tends to be a minor impact, unless sensitive or rare habitats are involved, or habitat management at the site changes as a result of the development.
- Disturbance of birds as a result of wind farm development and operation may arise from increased activity of people and/or the presence, motion or noise of turbines. Disturbance may lead to displacement or exclusion of birds from areas of suitable habitat. The degree of disturbance can be highly variable, depending on the bird species, wind farm layout and availability of alternative habitat nearby.
- • The choice of an appropriate site for a wind farm is the most useful way to ensure minimal negative effects on birds.
- The amount and extent of ecological baseline data collected at a proposed wind farm site should be determined on a case-by-case basis. A minimum of 3 years of detailed investigation should be carried out to determine which bird species use the site, and how and when they use the site.
- Any detailed study should ensure that seasonal, annual and weather variables are suitably investigated, particularly if a site is found to be used by a species that is threatened or likely to be at risk of disturbance or collision by an operational wind farm.
- Wind farm layout is probably important in reducing disturbance and collision risk to birds. It has been suggested that wide corridors between clusters of closely spaced turbines is the most appropriate layout to minimise collision fatalities and prevent barrier effects for both resident and migrant birds. However, a line formation parallel to the main flight direction of migrants has also been suggested.

- Wind farm developments should ensure that blade revolutions per minute are as low as possible, to avoid motion smear and thus promote blade visibility during the day.
- Bright white lighting is regarded as the main attractant of nocturnally active birds leading to collision with tall buildings, so its use should be avoided at wind farms. Ideally, the intensity of lighting should be minimal and be white and flashing, with the interval between flashes being as long as possible. In New Zealand, the lighting required on turbines is specified by the Civil Aviation Authority on a case-by-case basis.
- Although a number of on-site mitigation measures have been suggested to reduce collision fatalities at operational wind farms (e.g. temporary shutdown of turbines, bird scaring devices, high contrast patterns or UV paint on blades, flight-diverter poles, and adjustments to tower height), almost all have yet to be tested in the field to determine their effectiveness; therefore, these should be considered with caution. Off-site mitigation measures could involve habitat management to encourage birds to use sites away from wind farms and/or to improve adult survival or fledgling production.
- Post-construction monitoring at New Zealand wind farms has been inadequate to accurately determine bird fatalities as a result of collision with turbines because neither systematic search procedures nor trained staff have been used. Fatalities have been reported to involve magpies, gulls, blackbirds and a kingfisher, but these results are probably not indicative of the full range of species killed.

Although some of the findings from studies in other countries described above are applicable to New Zealand wind farms, some are not (e.g. there are no large soaring raptors in New Zealand). In addition, each wind farm site tends to be a little different from any other because of variation in topography, weather, habitats, land use and bird species present. Furthermore, our ability to draw conclusions from the review information is constrained because of changing technology, such as turbines becoming taller, having tubular steel bases rather than being of a lattice construction, and having a slower rotor speed. All of these factors need to be considered when investigating possible impacts of wind farm proposals on New Zealand birds. Pre-construction assessments with regard to birds should always be carried out, but the complexity of the assessment required will depend on various attributes of the site, such as the bird species present, their threat status, collision risk, and vulnerability to disturbance. Post-construction assessments should always be carried out when threatened or vulnerable species are likely to be using the site, or population impacts are likely to occur.

Due to a paucity of studies, it has not been possible to relate habitat type to likely wind farm impacts on birds in New Zealand. However, it is probable that the ideal habitat for wind farms in New Zealand, from an ecological perspective, is pastureland some distance from native forest, wetland or the coast, where it has been shown that the site is not on a migration route. This is because pastureland is largely inhabited by native bird species that are widespread and common (e.g. Australasian harrier, black-backed gull *Larus dominicanus* and paradise shelduck), and therefore are unlikely to be impacted significantly by disturbance and occasional collision fatalities.

There are major gaps in our knowledge with regard to impacts of New Zealand wind farms on birds. For example, it is not known to what extent each species is prone to wind farm development (collision, disturbance, barrier effect), which species are suffering collision fatalities, which routes are taken by migrants, how fixed these routes are in relation to varying weather conditions and time of travel (northward to wintering sites, southward to breeding sites), and the extent to which each species is able to avoid collision with turbines. Given that much effort and funding will go into establishing wind farms in New Zealand over the next 10–20 years (Parliamentary Commissioner for the Environment 2006), much effort also needs to go into filling gaps in our knowledge to ensure that wind farms are sited appropriately with regard to New Zealand bird species.

9. Recommendations

9.1 BIRD MIGRATION

The published literature on bird migration is considerable; however, much of the information is very general and relates to the Northern Hemisphere. Specific information relating to migration routes, timing and prevalence of nocturnal movements for New Zealand species is lacking (Williams et al. 2006). The following questions, in particular, need answering in relation to New Zealand birds and possible impacts of wind farms on their populations:

- Are there identifiable migration routes that should be avoided when siting wind farms?
- Do migrant birds follow or concentrate their flights along ridges, mountains, coastal margins, waterways and/or through saddles?
- At what heights do diurnal and nocturnal migrants fly during various weather conditions?
- What fatalities of migrant species are occurring at New Zealand wind farms (location of wind farm, species involved, numbers and months of occurrence)?
- How successful are birds in New Zealand at avoiding collisions with wind turbines when involved in nocturnal migration during various weather conditions?
- How will any cumulative detrimental impact (as collision fatalities) at more than one wind farm on a species during migration be monitored and considered when there is a further proposal for a wind farm along the migration route?

The issue of identifying important migration routes in New Zealand is a crucial one. It may be informative to overlay a map of annual median wind speed (which would suggest where most wind farms will be located) with likely migration routes and significant bird habitats (e.g. estuaries, freshwater wetlands) of New Zealand bird species. This information would enable a developer of a wind farm to determine whether the prospective site is on the route taken by any migratory species and whether a species' flight characteristics would make it

vulnerable to collision with turbines. The following would be required for this project:

- Mapped routes for each species involved in migration.
- Information about the migration of these species, including timing, altitude of flight in relation to weather conditions, total number of migrants and flock size (mean and range).

While various sources provide information on the timing of migration, and departure and destination locations for some species (volumes 1–4 of the Handbook of Australian, New Zealand and Antarctic birds (Marchant & Higgins 1990, 1993; Higgins & Davies 1996; Higgins 1999); Dowding & Moore 2006; Williams et al. 2006), additional field studies would be required to provide much of this information. For example, information on migration routes would require telemetry studies, and determination of flight statistics (e.g. altitude, flock size) would require the use of marine and/or meteorological radar scans (Kingsley & Whittam 2005; Sun 2007).

With suitable siting (lack of tall structures and complex landforms nearby) and in conjunction with computer-assisted data processing, the latest marine radar units can apparently reliably detect small birds (starling (*Sturnus vulgaris*) size) at a range of 3 nautical miles horizontally (5.6 km) and up to 1500 m vertically, and medium to large birds (gulls, harriers) or flocks of smaller birds out to 6 nautical miles (11.1 km) and up to 3000 m vertically. This equipment would be useful where there are large resident populations or significant seasonal bird movements that require quantification for risk modelling. When used in conjunction with audio recordings and observers, these systems can identify species, range, direction of movement, speed of flight and altitude (if vertical and horizontal radars are combined), and can provide highly accurate records of each bird's or flock's flight path across the landscape. However, the radar is not able to determine the number of individuals in a flock or identify the species when used on its own (Fuller 2008; S. Fuller, Boffa Miskell, pers. comm., 24 October 2008). Meteorological radars can be used on a broader scale to determine the relative size and direction of migrating flocks. Also, the development of PTTs (platform transmitter terminal, satellite transmitter) or GPS (global positioning system) tags may allow barometric pressure or temperature to be measured, which would give an estimate of flight altitude. Before embarking on this migration research, it is important that New Zealand prioritises the order in which New Zealand at-risk species will be investigated.

9.2 COLLISION FATALITIES

Protocols for monitoring collision fatalities and analysing the results have been developed (Anderson et al. 1999), but have not been used at New Zealand wind farms in a systematic way that takes account of searcher efficiency, scavenger activity, habitat type and cause of death. The present information for New Zealand wind farms is inadequate to assess which species have died as a result of collisions with turbines and the number killed per turbine per annum. Therefore, it is important that New Zealand researchers collate information on species impacted and mortality rates at several New Zealand wind farms in various habitat types using the internationally accepted protocols that have been developed to detect collision fatalities.

9.3 AVOIDANCE RATE

Collision risk models have been developed to predict the theoretical numbers of birds that would collide with wind turbines at a proposed wind farm in the absence of any avoidance behaviour (Tucker 1996; Band et al. 2006). In order to make realistic predictions about the number of collisions that may actually occur, the inclusion of various avoidance rates (proportion of flights that might, in theory, result in successful avoidance) has been advocated: 95% by Scottish Natural Heritage (2008) and 97-99% by Percival (2007). Avoidance estimates should include species that continue to fly during conditions of poor visibility, when their ability to detect and avoid operating turbines is likely to be much reduced (Madders & Whitfield 2006). The precise estimation of collision and avoidance rates has proven difficult to determine because the frequency of such events is generally very low. Nevertheless, there is an urgent need for studies to determine avoidance rates of New Zealand birds. New technologies to achieve this are currently being developed, including the use of infra-red video cameras to monitor collisions (Percival 2007). Until avoidance rates have been determined for New Zealand species, a precautionary approach should be adopted, whereby 95% avoidance is assumed when calculating collision risk.

9.4 COLLABORATIVE RESEARCH

A collaborative approach to the research required into the impacts of wind farms on New Zealand's birds should be adopted, including in the development of research programmes, data collection and analyses, and funding. The various parties involved in the research should include wind-power generators, regulatory bodies that are promoting the use of wind energy (central government) and deciding the merits of particular sites (regional government and local authorities), and the Department of Conservation, whose responsibilities include the conservation of New Zealand's indigenous flora and fauna that may be impacted by wind farm developments. Since the membership of the New Zealand Wind Energy Association (NZWEA, www.windenergy.org.nz; viewed 24 October 2008) includes most businesses involved in wind-energy generation, including site development, service industries (law, finance and consulting), construction, engineering and generation, this seems to be the appropriate body to promote such a collaborative research programme among wind-energy businesses.

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Appendix 1

OPERATIONAL AND PROPOSED WIND FARMS IN NEW ZEALAND

A1.1 Operational wind farms

The following operational wind farms are listed in order of construction (Ashby 2004; Rodgers 2006; www.windenergy.org.nz, viewed 7 October 2008):

- Brooklyn, Wellington: a single 225 kW turbine, erected in 1993 by Meridian Energy.
- Hau Nui stage 1 near Martinborough: seven turbines each of 550 kW capacity (3.85 MW), erected in 1996 by Genesis Energy.
- Tararua stage 1 near Palmerston North: 48 turbines each of 660 kW capacity (31.7 MW), erected in 1999 by TrustPower.
- Gebbies Pass near Lyttelton: a single 500 kW turbine, erected in 2003 by Windflow Technology.
- Tararua stage 2 near Palmerston North: a further 55 turbines each of 660 kW capacity (36.6 MW), erected in 2003/04 by TrustPower.
- Te Apiti near Palmerston North: 55 turbines each of 1.65 MW capacity (90.7 MW), erected in 2003/04 by Meridian Energy.
- Hau Nui stage 2 near Martinborough: a further eight turbines each of 600 kW capacity (4.8 MW), erected in 2004 by Genesis Energy.
- Southbridge near Geraldine: one turbine of 100 kW capacity, erected in 2005 by Energy3.
- Te Rere Hau stage 1 near Palmerston North: five turbines each of 500 kW capacity (2.5 MW), erected in 2006 by New Zealand Windfarms Ltd.
- White Hills near Mossburn: 29 turbines each of 2 MW capacity (58 MW), erected in 2006/07 by Meridian Energy.
- Tararua stage 3 near Palmerston North: a further 31 turbines each of 3 MW (93 MW), erected in 2006/07 by TrustPower.
- Te Rere Hau stage 2 near Palmerston North: 14 turbines each of 500 kW capacity (7 MW), erected in 2007/08 by New Zealand Windfarms Ltd.
- Project West Wind near Makara: Meridian Energy has been given approval to erect 62 turbines each of 2.3 MW (142.6 MW). Under construction, and is expected to be fully commissioned by late 2009.

A1.2 Proposed wind farms

Planned farms for which resource consent has been granted or applied for, and for which preliminary investigations are underway are as follows:

- Titikura near Napier: Unison / Hydro Tasmania has been granted approval for stage 1 (16 turbines, 48 MW), but construction is on hold at present.
- Te Waka near Napier: 111 MW. On being declined by the Environment Court, this application was modified by the developers (three turbines removed) and awaits a hearing by the Environment Court after being called in by the Ministry for the Environment.
- Hawke's Bay near Napier: Wind Farm Developments, Hallblock Resources Ltd & Lowe Family Interests have been granted approval for 75 turbines each of 3 MW, awaiting construction.
- Taumatotara near Te Angra, King Country: approval granted by council to Ventus for a 20 MW wind farm in June 2006, awaiting construction.
- Awhitu Peninsula near Waiuku: resource consent granted by the Environment Court to Genesis Energy to build 19 turbines each of 1.0 MW turbines, but construction on hold at present.
- Teviot Valley east of Roxburgh, central Otago: resource consent granted in 2007 to Pioneer Generation to construct a 1.5 MW (three 0.5 MW turbines) wind farm at Horseshoe Bend on the Teviot River. Awaiting construction (this apparently depends on availability of second-hand turbines).
- Lake Mahinerangi of inland Otago: following feedback to a resource consent application for a 200 MW wind farm (up to 100 turbines), TrustPower submitted a revised application for a smaller wind farm in December 2006. Awaiting outcome of an appeal to the Environment Court.
- Taharoa C near Kawhia: 42 turbines (100 MW) to be erected by Taharoa C Incorporation and PowerCoast; consent was granted in August 2006, but has been appealed.
- Project Hayes of inland Otago: Meridian Energy has been given approval to erect 176 turbines (1.8–3.6 MW turbines, 630 MW in total) adjacent to the Lammermoor Range, awaiting construction. May be appealed in the Environment Court.
- Motorimu near Shannon: resource consent application lodged by Allco Australia to build 127 turbines of 500 kW each; local council commissioners gave approval to erect 75 (109.7 MW), but has been appealed.
- Te Uku near Raglan: resource consent application lodged by WEL Networks for an 84 MW wind farm.
- Epakauri on the Northland west coast: resource consent application lodged by Meridian Energy for 18 turbines each of 2.74 MW (49.3 MW) on land administered by the Department of Conservation, and surrounding farmland.
- Kaiwera Downs near Gore, Southland: TrustPower applied in November 2007 for resource consent for a 240 MW wind farm (up to 83 turbines).
- Puketiro near Upper Hutt: the Greater Wellington Regional Council applied to dedicate land to a wind farm in June 2005. In 2006, RES NZ Ltd was awarded the tender, and is now monitoring wind at the site. They propose to erect about 50 turbines each of 2–3 MW capacity. Expected to lodge for resource consent in 2009.

- Project Mill Creek in Ohariu Valley near Wellington: Meridian Energy has lodged resource consent applications for the project (31 turbines each of 2.3 MW capacity, 71 MW combined capacity).
- Project Central Wind near Waiohuru: preliminary investigation by Meridian Energy for a wind farm of 51 turbines.
- Hauauru ma raki, Waikato Wind Farm, between Port Waikato and Raglan: consent application being prepared by Contact Wind Ltd for a wind farm consisting of up to 220 turbines with a capacity of 540 MW in total (turbines up to 3 MW and up to 150 m high at blade tip).
- Turitea near Palmerston North: feasibility study being carried out by Mighty River Power and Palmerston North City Council for a 120 MW wind farm.
- Rock and Pillar Gorge in Otago: feasibility study being carried out by Windpower for a 25 MW wind farm.
- Waverley near Wanganui: a wind farm of 135 MW is under investigation by Allco Wind.



SUBMISSION FORM 13
Submission concerning resource consent or public notified application under
section 95A
Sections 95A, Resource Management Act 1991

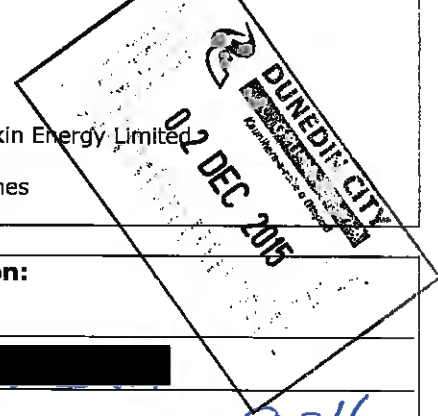
Submission Pg \$279

1/4

To: Dunedin City Council, PO Box 5045, Moray Place, Dunedin 9058

Resource Consent Number: LUC-2015-469
Site Address: 147 Church Road, Merton
Description of Proposal: Establish a community wind farm comprising three turbines

Applicant: Blueskin Energy Limited



^{with}
I/We wish to lodge a submission on the above resource consent application:

Your Full Name: Diana Margaret Struthers

Address for Service (Postal Address) [redacted]

Post Code: 9016

Telephone: [redacted]

Facsimile: [redacted]

Email Address: [redacted]

I: ~~Support/Neutral~~ **Oppose** this Application I: ~~Do/Don't~~ wish to be heard in support of this submission at a hearing

~~If others make a similar submission, I will consider presenting a joint case with them at a hearing.~~
(Delete the above statement if you would not consider presenting a joint case at a hearing)

Please use the back of this form or attach other pages as required

The specific parts of the application that this submission relates to are:

The establishment of a "wind farm" at Blueskin Bay
The claim that this "wind farm" would
be a "community wind farm"

My submission is [include the reasons for your views]:

See attached 3 pages

The decision I wish the Council to make is [give precise details, including the parts of the application you wish to have amended and the general nature of any conditions sought]:

To reject the application.

Signature of submitter: [Signature]

(or person authorised to sign on behalf of submitter)

Date: 2 Dec 2015

Notes to Submitter:

Closing Date: The closing date for serving submissions on the Dunedin City Council is **Wednesday 2 December at 5pm**. A copy of your submission must be served on the applicant as soon as reasonably practicable after the service of your submission on the Dunedin City Council. The applicant's address for service is 1121 Mount Cargill Road, RD 2, Waitati 9085.

Electronic Submissions: A signature is not required if you make your submission by electronic means. Submissions can be made online at <http://www.dunedin.govt.nz/rma> or sent by email to planning@dcc.govt.nz

Privacy: Please note that submissions are public. Your name and submission will be included in papers that are available to the

Submission on Application by Blueskin Energy Ltd.
Diana Struthers

2nd December 2011

A. Reasons for my views: introduction

I have been a property owner at Doctors Point for over 26 years + for the twenty years earlier had spent much time at Doctors Point enjoying the beauty + natural resources of the Waitati area, as had other members + generations of my family.

The entire "basin" of Blueskin Bay, the Waitati area + all that can be seen from Waitati, deserves special status as an area of outstanding unspoiled natural beauty within 20 mins drive of a major city. The basin contains the Ecosanctuary + is an area that many people + many groups strive to maintain in its natural state, for the enjoyment of all.

One of these groups is the Waitati Beach Reserve Society which owns the land at the beach at Doctors Point. This reserve is unique in New Zealand: it is privately owned but dedicated to recreational use + enjoyment by the public. It is almost 100 years since the Doctors began buying the land for this purpose + we, the current members of the society, are dedicated to preserving the land "in its natural state".

The Dunedin City Council ought to support the wishes of local people to limit residential development in this area + assist us in preserving the natural beauty + amenities of the area for all to enjoy: locals, Dunedin residents + tourists.

B. My concerns are :

1. There would be a probable adverse affect on birdlife in Blueskin Bay. This is a very important area for many bird species.
2. Visual Impact.
One of the very important features of Blueskin Bay is the beauty & rural nature of the area. Wind turbines of any height would be an eyesore.
3. Dark skies.
The night skies of Blueskin are one of its important amenity values. Any turbines on the site proposed would have to be lit up & this would detract from the darkness of the night skies & destroy their beauty.
4. Lack of consultation
Local landowners have NOT been consulted.
5. Need for this power to be added to the national grid has not been demonstrated.
6. There IS NO need for local power generation in Blueskin Bay.
7. This is NOT planned as a "community" resource. It will adversely affect neighbouring landowners severely & for landowners within Blueskin Bay but not next to the site, & visitors, it will decrease the beauty of the area.

8. The applicant, Blueskin Energy Limited, is a company owned by BRCT, the Blueskin Resilient Communities Trust. The name of this Trust appears to convey that it is of the Blueskin community, but its trustees are not elected, it has not consulted the community, it does not represent the community + is proposing a "wind farm" which will seriously disadvantage members of our community.

9. If granted this consent would establish a precedent for siting commercial entities close to residential buildings which most New Zealanders would oppose.



SUBMISSION FORM 13 Submission No. S283
Submission concerning resource consent on publicly notified application under
section 95A
Sections 95A, Resource Management Act 1991

To: Dunedin City Council, PO Box 5045, Moray Place, Dunedin 9058

Resource Consent Number:

LUC-2015-469

Applicant: Blueskin Energy Limited

Site Address:

147 Church Road, Merton

Description of Proposal:

Establish a community wind farm comprising three turbines

26 NOV 2015

I/We wish to lodge a submission on the above resource consent application:

Your Full Name: ANDREW PHILIP STEWART

Address for Service (Postal Address):

Post Code: 9049

Telephone:

Facsimile:

Email Address:

I: **Support/Neutral/Oppose** this Application I: **Do/Do Not** wish to be heard in support of this submission at a hearing

If others make a similar submission, I will consider presenting a joint case with them at a hearing.

(Delete the above statement if you would not consider presenting a joint case at a hearing)

Please use the back of this form or attach other pages as required

The specific parts of the application that this submission relates to are:

WINDFARM - 3 TURBINES AS ABOVE

My submission is [Include the reasons for your views]:

ADVERSE

CONCERN (1) POSSIBLE EFFECT ON BIRDLIFE IN BLUESKIN BAY: AN IMPORTANT AREA FOR MANY TYPES OF BIRDS - GULLS, TERNS, WADERS, SWANS, DUCKS & OTHER BIRDS FEED, BREED & FLY VERY CLOSE TO THE SITE PROPOSED. (2) VISUAL IMPACT: SITE IS CLOSE TO AND VERY OBVIOUS FROM WAITATI BEACH & DUNEDIN POINT & RESERVE (3) LACK OF CONSULTATION ON THE MAGNITUDE/SITING OF THE PROPOSED 3 TURBINES (4) LACK OF NEED FOR LOCAL POWER GENERATION

The decision I wish the Council to make is [give precise details, including the parts of the application you wish to have amended and the general nature of any conditions sought]:

DECLINE APPLICATION

DR A. P. STEWART

BOX 2087

DUNEDIN

PH: 03 455 4073

MC REG. 08076 AOC No. P91323

Signature of submitter:

(or person authorised to sign on behalf of submitter)

Date: 26/11/15

Notes to Submitter:

Closing Date: The closing date for serving submissions on the Dunedin City Council is **Wednesday 2 December at 5pm**. A copy of your submission must be served on the applicant as soon as reasonably practicable after the service of your submission on the Dunedin City Council. The applicant's address for service is 1121 Mount Cargill Road, RD 2, Waitati 9085. 26/11/15

Electronic Submissions: A signature is not required if you make your submission by electronic means. Submissions can be made online at <http://www.dunedin.govt.nz/rma> or sent by email to planning@dcc.govt.nz

Privacy: Please note that submissions are public. Your name and submission will be included in papers that are available to the media and the public. Your submission will only be used for the purpose of the notified resource consent process.

I wish to make a submission to oppose the Porteous Hill wind turbine, by Blueskin Energy Limited.
 I do not wish to speak at the hearing.
 The following reasons are why I oppose the wind turbine construction.

Landscape, Environment, Ecology

1. This development will have a major visual impact on a prominent hill 400 m high which will be visible from most places in Blueskin Bay, including Warrington village, Coast Road, the Kilmog, Waitati, Don's Creek, Haywards Coast (Hayward Point to Doctor's Point) and Purakanui.
2. The turbine site is visible from afar. It promises a stigma on the landscape which will put people off wanting to settle in the area.
3. It will result in the physical destruction of a local landmark and the loss of amenity for all, like walking groups.
4. Light pollution across the landscape: the site is on an aircraft flight path. NZ Civil Aviation regulations require bright warning lights visible for many kilometres. Will the 100+ metre turbines also have to be lit from below? How does this new light pollution fit in with the DCC's recent Dark Skies strategy which aims at lowering night light emission levels and increasing the visibility of our beautiful night skies?
5. The turbine blades will result in bird strike, posing a deadly threat to local birds including falcons, harriers, black-backed gulls. The site is close to a major estuarine bird habitat supporting up to 1000 bar-tailed godwits. Impact is particularly likely when the site is lit at night under low cloud conditions and in foggy and stormy weather – a frequent occurrence.

Effects on Residents of Porteous Hill and Others

1. There is a major impact on households closer to the wind farm site - loss of amenity, noise disturbance, ground vibration, light pollution, sharp fall in property values and difficulty around resale. There is a vast quantity of international evidence online about the misery inflicted on residents by nearby wind turbines.
2. If approved this application will set a precedent for further wind farm developments close to homes in other parts of Dunedin; the nearest house is less than 500m away.
3. The impact on our tourism will be negative. The wind farm will also be visible from cruise ships, State Highway One and the tourist trains. Tourists come to Dunedin to see our wildlife and open rural countryside, not to marvel at wind turbines.

Community Benefits

1. The wind farm will not be controlled by the community because the cost of the project, \$6m or more, will require financial backers who will want control of their investment.
2. Most of the power will be "sold to a single commercial consumer in Dunedin" [Scott Willis, NZ Resources], therefore it will not be a community supply. Why should the Blueskin Bay community be generating power to go into the national grid to Auckland and elsewhere?
3. The power will not specifically or exclusively power Blueskin Bay. It will not guarantee provide cheaper electricity or security of supply for our community. The distribution network remains unchanged.

P.T.O.

4. Current demand for electricity is flat. Households and businesses are using power more efficiently. Other wind generators have down-sized or failed to proceed with already consented projects because they are not economic, therefore there is no economic justification for this wind farm to go ahead.
5. Tiwai Point is most likely to close in the next few years which will mean there is an excess of renewable electricity in the south of the South Island.
6. There is a lack of accountability as to how any profits would be returned to the community. The BRCT trustees are not elected. There should be set criteria for applying for funds and an independent committee to distribute grants.
7. BRCT, the owner of Blueskin Energy Ltd, is an unelected body which does not fully represent nor is fully supported by the community; therefore the emphasis on it being a community project is unjustified.
8. Information has not been supplied in the application about the type of turbines, who will build, manage and maintain the project, or its financial viability.

Community Consultation

1. As it has been presented to date the wind farm project may be a project which is **in the community** but it is **not a community project** with benefits equally shared by all.
2. Local support has not been demonstrated. Community consultation has been inadequate, with low turnout at meetings held several years ago. Most local people are unaware of the actual facts about the project. Some didn't know about it at all until now.
3. This proposal has the potential to divide the local community, something neither the community nor the greater Dunedin area wants or needs.



CATHRIN STEWART
"WAIPUHI"
RD2,
WAITATI, Otago.
1.12.15.



DUNEDIN CITY
COUNCIL
Kaunihera-a-rohe o Otago

SUBMISSION FORM 13 **Submission Pg S286**
Submission concerning resource consent on publicly notified application under
section 95A
Sections 95A, Resource Management Act 1991

To: Dunedin City Council, PO Box 5045, Moray Place, Dunedin 9058

Resource Consent Number: LUC-2015-469 **Applicant:** Blueskin Energy Limited
Site Address: 147 Church Road, Merton
Description of Proposal: Establish a community wind farm comprising three turbines

I/We wish to lodge a submission on the above resource consent application:

Your Full Name: Matthew Dennison

Address for Service (Postal Address):

Post Code: 9471

Telephone: _____ Facsimile: _____

Email Address: _____

I: Support/Neutral Oppose this Application I: Do Do Not wish to be heard in support of this submission at a hearing
if others make a similar submission, I will consider presenting a joint case with them at a hearing.
(Delete the above statement if you would not consider presenting a joint case at a hearing)

Please use the back of this form or attach other pages as required

The specific parts of the application that this submission relates to are:

The absence of geotechnical assessment of the proposed site.
The project is inconsistent with the character of the area.

My submission is [include the reasons for your views]:

There has not been any geotechnical information released with this resource consent application. The potential to trigger slips that could endanger local residents has not been explored. The land is known for its instability at the proposed site.

The project will significantly alter the natural attributes of the area; the view of the hill will be tarnished, noise pollution is inconsistent with the quiet rural lifestyle and light pollution is also. Exquisite night star views gone forever.

The decision I wish the Council to make is [give precise details, including the parts of the application you wish to have amended and the general nature of any conditions sought]:

To not allow resource consent for the project.

Signature of submitter: [Signature]
(or person authorised to sign on behalf of submitter)

Date: 23/11/15

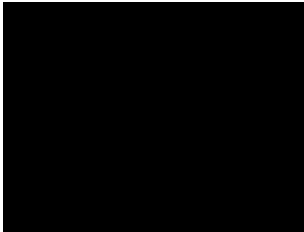
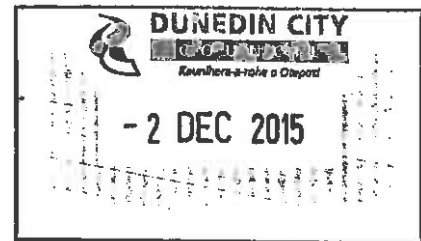
Notes to Submitter:

Closing Date: The closing date for serving submissions on the Dunedin City Council is **Wednesday 2 December at 5pm**. A copy of your submission must be served on the applicant as soon as reasonably practicable after the service of your submission on the Dunedin City Council. The applicant's address for service is 1121 Mount Cargill Road, RD 2, Waitati 9085.

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Privacy: Please note that submissions are public. Your name and submission will be included in papers that are available to the media and the public. Your submission will only be used for the purpose of the notified resource consent process.

Rachel Ozanne

Consent number	Wind Farm - 147 Church Road - LUC-2015-469
Name of applicant	Blueskin Energy Limited
Location of site	147 Church Road, Merton, being that land legally described as Lot 1-2 Deposited Plan
Address for service	Blueskin Energy Limited, 1121 Mount Cargill Road, RD2, Waitati 9085
Support/Oppose or Neutral	OPPOSE
Decision Wanted	DECLINE THE APPLICATION
Want to be heard	YES

1.0 Effect on Residents

1.1 Wind turbines are large industrial structures that have been known to create obtrusive environmental noise pollution when built too close to dwellings.

1.2 Dunedin City Council includes the use of NZS 6808:2010 as a performance standard for the assessment of noise from wind turbines. The Standard includes a noise limit of 40 dB LA90, which can increase at higher wind speeds to 5dB above the background sound level.

1.3 Porteous Hill is in a rural environment

- There has been no attempt to establish what the general or 'background' or 'baseline' noise level in the area is – particularly at night.
- The International Standards Organization (ISO) determined that 25 dBA represents a rural night-time environment.
- 25dBA is likened to 'sound of breathing at 1m distance' i.e. NOTHING, whereas 40 dBA is likened to 'distraction when learning or when concentration it needed'. A significant difference, particularly in a rural setting.

1.4 It is flippant of Chiles Ltd (acoustic consultant employed by BRCT) to conclude that the predicted wind farm sound levels will 'result in acceptable noise effects'. There has been plenty of evidence that wind

turbine noise is not without adverse impacts on nearby residents.

1.5 A NZ study (Shepard et al, 2011), compared the health-related quality of life (HRQOL) in the Makara Valley, a coastal area 10 km west of Wellington and concluded (along with others, i.e. Pederson et al, 2009) that night-time wind turbine noise limits should be set conservatively to minimize harm, and, on the basis of their data, suggested that setback distances need to be greater than 2 km in hilly terrain.

The Porteous Hill wind turbine site is sited on a steep hill above the natural parabola of Blueskin Bay, the nearest residence is less than 500m away. There has been no detailed study to determine how the complex topography of Blueskin Bay will affect the resonance and natural frequency of the three wind turbines.

1.6 Sleep interruption and disturbance indicates the real potential for causing significant public harm from nearby wind turbines. Dr. Michael Nissenbaum et al published 'Effects of industrial wind turbine noise on sleep and health' in *Noise & Health*, September-October 2012. The study conclusion has a strong recommendation for a separation distance of 1.4-km (4593-ft) away from a 1.5 MW wind turbine. This would be especially true for wind turbines located in quiet environments.

The Porteous Hill wind turbine site is sited less than 500m away from the nearest residence. There has been no detailed baseline study to determine noise levels of this quiet rural environment.

1.7 The German Medical Association say that the health effects of infrasound (below 20 Hz) and low frequency sound (below 100 Hz) in relation to emissions from wind turbines were 'still open questions', as were 'the effects of noise below the hearing threshold or lower frequencies with increasing exposure duration'. The assembly said 'the erection of more turbines close to settlements should be stopped until there was reliable data to exclude a safety hazard.'

1.8 With the possibility of pulsing infrasound (below the threshold of hearing, or <20 Hz) and low-frequency (<100 Hz) noise (ILFN) acting on the inner ear to cause unexpectedly high rates of complaints around wind turbines compared with other sources of noise (Janssen et al., 2011; Pedersen and Waye, 2004), acoustic engineers started measuring wind turbine noise in the lower frequencies and found that noise from large wind turbines is characterized by pulsing ILFN that is associated with complaints and health problems (Channel Islands Acoustics et al., 2012; Møller and Pedersen, 2011). The solution is large setback distances to avoid subjecting people to not just increased audible noise as recommended by the World Health Organization (Berglund et al., 1995), but also pulsing ILFN (Kelley, 1987; Noise Bulletin, 2011).

Infrasound and ILFN has not been considered at all by BRCT. I would surmise this is another example of the applicant ignoring a very real risk to the health of residents in Warrington. Multiple international studies surmise that there is a real risk of health related effects and the whole of Warrington and Blueskin Bay may be subjected to such adverse health-related effects.

1.9 Section 3.8 WHO Guidelines, 1999 clearly states: "The evidence on low frequency noise is sufficiently strong to warrant immediate concern". "Low-frequency noise may also produce vibrations and rattles as secondary effects" "Health effects due to low frequency components in noise are estimated to be more severe than for community noises in general (Berglund et al 1996)".

1.10 Section 4.2.3 WHO Guidelines, 1999, Sleep disturbance effects: 'Electrophysiological and behavioural methods have demonstrated that both continuous and intermittent noise indoors lead to sleep disturbance. The more intense the background noise, the more disturbing is its effect on sleep. Measurable effects on sleep start at background noise levels of about 30 dB Laeq.

1.11 Section 4.4 WHO Guidelines, 1999, Values: "It is not enough to characterise the noise

environment in terms of noise measures or indices based on energy summation (eg LAeq) because different critical health effects require different description. ... For indoor environments, reverberation time is also an important factor. If the noise includes a large proportion of low frequency components, still lower guideline values should be applied.

1.12 In many places, turbines have been ordered to be shut down at night so that people can sleep. Sleep disturbance itself is considered to be a health effect by the World Health Organization, because sleep is required for both physical and mental health. Combined with the stress from excessive noise, lack of good sleep can lead to long-term problems such as learning disabilities in children, work impairment, and cardiovascular disease (Berglund et al., 1995; Goines and Hagler, 2007).

1.13 **BRCT has shown a lack of duty of care** by failing to undertake a detailed topographical acoustical survey to accurately reflect what the effects of the turbines might be and where the effects of the Blueskin Bay turbines may lie, rather than relying on an 'off the shelf' modelling tool to produce nearly concentric circles around the turbines, without taking into account the wider implications for the natural parabola of Blueskin Bay.

1.14 The modelling software includes elevation data, aerial photographs and background maps which is provided free of charge, however there is the option to use higher quality digital data.

If BRCT were serious about protecting local residents from the real possibility of noise, they would have clarified that highest possible quality mapping data had been used.

2.0 Landscape, Environment and Ecology

2.1 **Visibility:** The development will have a major impact on a prominent hill 400m high which will be visible from most places in Blueskin Bay, including Warrington village, Coast Road, the Kilmog, Waitati, Don's Creek, Haywards Coast and Purakaunui. **Itotally disagree with Lucas Associates concluding remarks about visual assessment** (*"The visual impact of the cluster on the character of the rural landscape is assessed to not be an adverse effect, but to contribute to the legible and no-nonsense land cover and land use of the character of the hill and surrounding slopes. Any adverse effects on rural character are assessed as negligible".*)

2.3 **Alternative sites :** Other than a list, there is NO explanation of why the other proposed sites were a) considered and b) dismissed. No matrix of assessment is included, An absentee landholder with no connection to the land was likely to be the sole reason for the Porteous Hill site being chosen.

2.4 **Sympathetic siting and design :** Try as Lucas Associates might, there is a vast difference between the character and scale of trees and an industrial wind turbine.

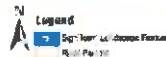
2.5 **Landscape features and Characteristics:** In 2009 a landscape assessment of Dunedin's rural environment was commissioned by the DCC. The following is from a letter and map, addressed to us at 61 Porteous Road, dated 2009

'it has been recognised that specific sites or landscape features within Dunedin's rural environment are particularly valued, due to factors such as their visual appearance, natural significance or their cultural or historical associations. Accordingly it has been proposed that these sites and features be identified and recognised as "Significant Landscape Features".

We have contacted you in regard to this because you own property which forms at least part of, or the whole of, a site



Significant Landscape Feature -
Porteous Hill



which has been identified as a potential Significant Landscape Feature. Please refer to the attached map to see the proposed Significant Landscape Feature/s which would affect property owned by you.

At this stage it is proposed that Significant Landscape Features be afforded a higher level of protection from development and activities than the remainder of the rural environment, due to their significance. Accordingly, it is important to note that on sites identified as Significant Landscape Features it is proposed that a wide range of activities be non-complying activities, including the following:

- Residential Activity;
- Forestry;
- Commercial Residential Activities;
- Community Support Activities;
- Rural Retail Sale Activity; and
- Rural Tourist Activity.

2.6 It is inconceivable that now half of Porteous

Hill is proposed to be zoned 'significant' and the other half 'rural'. When looking at the hill from the Blueskin Bay there is no difference between one half and the other.

2.7 The turbines will impose and compromise the 'Seacliff Significant Landscape zone' which is 'broadly defined as a coastal landscape incorporating a range of both inland and coastal landforms and features. In addition to the high natural values of the immediate coast and important estuarine habitats, the area holds significance for both Maori and European histories. Many of these historical associations are still evident in the working rural landscape of today. It is also valued as a scenic corridor which forms an alternative northern gateway to Dunedin city'

2.8 The proposed location of the turbines is totally inappropriate as they border on a 'significant landscape zone' which will be blighted by the industrial sized turbines. I submit that the 2GP has erroneously split Porteous Hill in two and the entire hill should be 'a significant landscape feature'

2.9 **Compatibility of Scale and Character:** Three wind turbines - located at the top of a 400m hill, above a scenic route, in a rural area (some zoned significant landscape) - is NOT compatible.

3.0 Water table of Porteous Hill

3.1 Porteous Hill has numerous springs. Farms and residences rely on the springs for stockwater and residential water. In the past the whole of Warrington has been served by one of these springs. The hill is extremely fragile, the springs with it.

3.2 BRCT has made no attempt to undertake a detailed geological survey, specifically to understand what effect moving 6500m3 soil or drilling enormous foundations into the heart of Porteous Hill will have on the springs of Porteous Hill, let alone the stability of the mudstone.

4.0 Light pollution.

4.1 The turbines are on a flight path therefore NZ Civil Aviation regulations require lighting. Night-time wind turbine obstruction lighting usually consists of red-coloured flashing lights or white strobe fixtures.

4.2 *The site is rural, looking at Porteous Hill from Blueskin Bay the night-time skies are dark. The proposed turbines do not fit in with DCC's Dark Skies Strategy*

5.0 Community Engagement

5.1 This is being sold as a 'community project' when it is not. Corporate investment of \$6m is required, and the power is NOT going to be used locally.

5.2 BRCT, the owner of Blueskin Energy Ltd is an UNELECTED body, which does not have the full support of the community.

5.3 The community has not been provided with a business plan. There is no clear explanation as to how the community will benefit.

5.4 Return investment is likely to be dismal in the long term especially as the closure of Tiwai Smelter is likely.

5.5 Community consultation has been inadequate, BRCT has leapt from home insulation/solar to an industrial scale wind turbine proposal without effective communication or consultation. This is highlighted by the fact that 70 people turned up to the Warrington wind-turbine 'crisis' meeting in November, yet BRCT managed to consult only 49 people completed a survey (across the whole of the Blueskin Bay Community) and 16 people were interviewed during the 'consultation period'. The majority of consulted people lived in Waitati.

6.0 Human rights

6.1 By carefully promoting the development of Blueskin Bay wind energy as a community initiative and by promulgating wind energy as the vital part of the provision of future NZ energy supply there is the real danger that if the proposal goes ahead without further thorough site specific investigation, then **BRCT has shown a distinct lack of duty of care and** BRCT will have denied the wider Blueskin Bay Community their rights under Article 8 of the Human Rights Act:

Article 8 provides:

- a. Everyone has the right to respect for his private and family life, his home and his correspondence.
- b. There shall be no interference by a public authority with the exercise of this right except as in accordance with the law and as necessary in a democratic society in the interests of national security, public safety or the economic well-being of the country, for the prevention of disorder or crime, for the protection of health or morals, or for the protection of the rights and freedom of others.

7.0 Conclusion

7.1 I totally disagree with the four principles put forward by Blueskin Energy – namely

7.1.1 BRCT advocates that the turbines will complement the fine-grained and lived in landscape

with elegant structures;

FACT: Porteous Hill has 'significant landscape values'. The landscape is rural, not industrial.

7.1.2 BRCT advocates that the turbines will provide significant new renewable generation while maintaining environmental services;

FACT: Most energy used in the South Island is renewable anyway. What is the carbon footprint of building these monsters? What will happen to electricity prices when Tiwai closes (BRCT has shown a complete lack of financial accountability)

7.1.3 BRCT advocates that the turbines will contributing to enhancing the resilience to our local electricity network;

FACT: The electricity generated does not go to the local community.

7.1.4 BRCT advocates that the turbines will be scaled to suit the character and nature of Blueskin Bay.

FACT: These are industrial scale turbines over 100m tall, with blades larger than jumbo jets, sited on the top of a prominent landmark (Porteous Hill), on a DCC designated scenic route. There is nothing about them that is suited to such an area.

- 7.2 The turbines are much closer to residential houses than recommended separation distances and the risk of Infrasound and ILFN has been totally ignored by BRCT. Multiple international studies surmise that there is a real risk of health related effects and the whole of Warrington and Blueskin Bay may be subjected to such adverse health-related effects.
- 7.3 Earthworks have the real potential of interfering with the complex and fragile geology of Porteous Hill, putting at risk springs that supply both residential and stock water. The applicant has not addressed this at all.
- 7.2 **The proposal in its current format is in danger of contravening the Human Rights Act.**

References

Shepherd D, McBride D, Welch D, Dirks KN, Hill EM. Evaluating the impact of wind turbine noise on health-related quality of life. Noise Health [serial online] 2011

Pedersen E, van den Berg F, Bakker R, Bouma J. Response to noise from modern wind farms in The Netherlands. J Acoust Soc Am 2009;126:634-43



DUNEDIN CITY COUNCIL
Kaunihera-a-rohe o Otago

SUBMISSION FORM 13
Submission concerning resource consent on publicly notified application under section 95A
Sections 95A, Resource Management Act 1991

Submission Pg S293

To: Dunedin City Council, PO Box 5045, Moray Place, Dunedin 9058

Resource Consent Number: LUC-2015-469
Site Address: 147 Church Road, Merton
Description of Proposal: Establish a community wind farm comprising three turbines

Applicant: Blueskin Energy Limited



I/We wish to lodge a submission on the above resource consent application:

Your Full Name: MURRAY ALEXANDER CUMMING

Address for Service (Postal Address):



Post Code: 9471

Telephone:



Facsimile:

Email Address:



I: Support/Neutral/Oppose this Application I: Do/Do Not wish to be heard in support of this submission at a hearing

If others make a similar submission, I will consider presenting a joint case with them at a hearing.

(Delete the above statement if you would not consider presenting a joint case at a hearing)

Please use the back of this form or attach other pages as required

The specific parts of the application that this submission relates to are:

Landscape
Contamination of water supply
Geotechnical + engineering reports

My submission is [include the reasons for your views]:

That Resource Consent be denied
2 pages attached

The decision I wish the Council to make is [give precise details, including the parts of the application you wish to have amended and the general nature of any conditions sought]:

Deny resource consent

Signature of submitter:

M.A. Cumming
(or person authorised to sign on behalf of submitter)

Date: 27-11-15

Notes to Submitter:

Closing Date: The closing date for serving submissions on the Dunedin City Council is **Wednesday 2 December at 5pm**. A copy of your submission must be served on the applicant as soon as reasonably practicable after the service of your submission on the Dunedin City Council. The applicant's address for service is 1121 Mount Cargill Road, RD 2, Waitati 9085.

Electronic Submissions: A signature is not required if you make your submission by electronic means. Submissions can be made online at <http://www.dunedin.govt.nz/rma> or sent by email to planning@dcc.govt.nz

Privacy: Please note that submissions are public. Your name and submission will be included in papers that are available to the media and the public. Your submission will only be used for the purpose of the notified resource consent process.

Submission on publicly notified plan concerning:

2142 Waitati-Waikouaiti Rd

To: Dunedin City Council

Name of submitters: Murray Cumming & Michele Cope

This is a submission on the Resource Consent Notice LUC-2015-469, Blueskin Energy Ltd.

The specific parts of this Resource Consent that my submission relates to are the affects this project will have upon:

1. the current landscape zone
2. the environmental impact upon the water supplies' of neighbouring properties
3. the lack of technical information

My submission is:

We oppose the Resource Consent proposal

Specific concerns:

1. the current landscape zone is part of the district plan. It has had wide public consultation with the result that the values identified are worthy of protection.

From the district plan, section 14.Landscape

Some of the most impressive landscapes in this area are on the coast which in places is visually dramatic (for example, the ocean coast of the Otago Peninsula). The Landscape Section deals with management of the City's landscape quality in terms of its aesthetic coherence and scenic values.

This brings the validity of the Lucas and Associates landscape report into question and the scope for subjective opinion to be relevant.

I refer to landscape assessment page 17, section 15, paragraph 3.

"Due to the mosaic of buildings and plantings, the site and coastal slopes to Porteous Hill are assessed to have neither outstanding nor high natural character as per 13(1)(a) and (c)".

This project will impinge upon the landscape values of the area. It has a longitudinal 'footprint from the east of approximately 330m and viewed from the south a footprint of approximately 200m. The vertical footprint is expected to be between 100 and 125 metres high giving an approximate visual impact of 33,000 metres square. This visual impact is on the skyline and cannot be disguised as would a structure with a hill behind it may.

As the structures are continually in motion they will have a greater impact upon the scenic amenity values than a passive structure such as a building.

The application does not provide any information on the affects of the lighting required for a structure of this nature particularly as it is in a commercial flight path. How much light intensity will the nearest neighbours be subjected to? Do the tips of the rotor blades need to be lit and as the highest point of the structure continually changes will these lights appear in the night sky in a manner similar to a showground ferris wheel?

2. the environmental impact upon the water supplies' of neighbouring properties

The Porteous Hill area is a fragile environment. The 2GP plan has currently identified the majority of the hill within the hazard zone criteria.

The west side of this site falls steeply into a high level swamp. This swamp has been a blessing to land owners and a curse for the managers of state highway 1 (SH1). Remedial work has been done to stabilize the SH1 by draining the swamp to the north leaving farming operations at the south end having to make alternative arrangements for water. Water supplies are obtained from shallow springs that are reliant upon rainfall and run-off to replenish them. If this water supply is damaged further through interference with the aquifer of contamination of the surface water through construction the land will revert to dry stock farming.

It is the intention of the contractors to trench down the face to the swamp and no amount of water stop structure will be totally successful in this situation. Construction techniques used to treat run-off from sites may meet low environmental standards for acceptance into waterways however the water will not meet standards that are required for stock water and will require greater levels of treatment to produce potable water for household use.

I contend that the ecological assessment has been limited to the construction site and does not address affects upon the adjoining sites. Any contamination, even if it for a limited time (refer to the application for a 10 year window for construction) will have an immediate impact upon the livelihoods and amenity values of those properties that are reliant upon the water supply to sustain our own resilient community.

3. the lack of technical information

This application does not provide any geo-technical nor engineering information and the effect it will have upon the ground structure. While surface observations and some geotechnical work may have been done in the surrounding area there is no evidence the site is suitable for the stresses and loadings that it will be subjected to. Current practice is seeing a move from shallow wide spread foundations to a foundation supported upon piles often 100s of metres deep that may affect the aquifer. No test holes have been done and no data is included in the application.

I seek the following decision from the consent authority:

That this Resource Consent is denied due to the affect upon the landscape plan, the threat to the water supplies and the general lack of evidence

We wish to be heard in support of my submission.

Signed

Date 27.11.2014

Address for service of submitter:
M A Cumming
RD1
Waikouaiti 9471
Telephone:03 4657304
email:mcumming21@gmail.com
Contact person: Murray Cumming

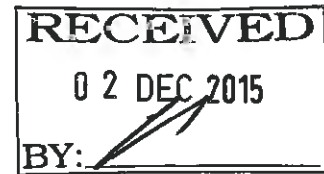
Submission on the Blueskin Wind Farm

Name: Jenna Packer

Date: Wednesday 2nd December 2015

Address: [REDACTED]

Consent Number: Wind Farm - 147 Church Road - LUC-2015-469



I fully support this complete application with the conditions proposed by the applicant and endorse the process.

My Reasons: There are many reasons why I support this application. Some of them are:

1. It is the culmination of a community dream that began in 2006 and has taken many years of community discussion, debate, and participation to come to development, and is a real community scale solution to the great challenge of climate change. It won't be enough alone, but it will show what people in one community can do. The alternative is to do nothing, which is unacceptable.
2. Visual: Our front veranda faces Porteous Hill and the main window of my studio looks out onto Porteous Hill, so I will be given prime views to the three wind turbines on Porteous Hill. I won't see them as clearly as I'd like however, as they are going to be some kilometres away. We have already had some change in our neighbourhood, with the sub-division of Don's Creek and the construction of many new homes with large windows that scatter light widely and extensively up the hillside. Any negative visual impact of the turbines will be far less than this sub-division, but, like this sub-division, will bring greater value and diversity into our community. I feel sad for people who don't like the look of wind turbines, but I doubt they love the look of coal or gas fired stations either. I love wind turbines...
3. Low impact: Wind generation is very low impact energy infrastructure. All the expert reports, which are extensive for such a modest development from a small community organisation, indicate positive environmental effect or minor to less-than-minor adverse environmental effect. We'll see them from various vantage points, but unfortunately we'll have to drive up Porteous Road or Pryde Road to get anything like a close view. I do hope however that once established we will be able to visit the site and stand right underneath them. Farming will continue all around them and
4. Birds: Risk to birds is low. However, even if it was high risk, the worst cases of wind farm bird deaths are nothing compared to car use, or other human constructions and activities like buildings and oil extraction. This is what business as usual looks like.



5. **Emissions Reduction:** Greenhouse gas emissions from electricity use in Dunedin can be reduced by this project. Reducing greenhouse gas emissions is more than just doing our bit. If enough people, communities, cities and countries follow this Blueskin example, we may be able to limit the worst effects of climate change. This will bring benefit to not only humans, but also birds and all other significant species. The Blueskin project may only be a small project, but it has great symbolic power. I've heard some negative comments about this project since it was publicly notified, but these people are the usual protestors and are not good at proposing solutions, and if we let angry people stop good projects we will certainly head for disaster. I don't want to have to go home by canoe, simply because the anti-wind farm people got their way.



6. **Tourism:** Like other wind farms around the country, this one will be a tourist attraction. But it will also attract people who want to hear how a community can do things and learn how to do it themselves. This will be a boon to our local economy and will stimulate interest in the other eco-activities, such as the Orokonui Ecosanctuary, and in our local runaka.
7. **Our commons:** Too often we forget we live in a community and we rely on our neighbours and friends for so many things. This project is about building a community asset and creating infrastructure that will fit well within our multi-functional landscape and return benefits to the whole community. While this project, when successful, will make me personally happy, I think it is more valuable as something that will provide community benefit – even to those people who don't understand the concept of 'commons' yet. And it is scaled to our community, able to generate in a year a little more than the total electricity we consume in our 1000 household community in a year. Of course, most of the electricity will have to be sold to a large consumer for the first few years, but it will still all remain in the local grid and will build greater energy resilience for our community.
8. **Inspiration:** in these changing times we desperately need positive examples of community action. This is certainly it and I urge the Council to get right behind it and support it with everything you've got.

DECISION REQUESTED

Please grant full resource consent with only the conditions proposed by the applicant as this is a resource stressed company owned by our local charity and doesn't have access to a large amount of money to contract additional expertise.

I do not wish to speak to this submission.

Thank you for your attention.

Yours sincerely,

A handwritten signature in blue ink, appearing to be 'Jenna Packer', with a large, stylized initial 'P'.

Jenna Packer

**Submission on Publicly Notified Application for a
Resource Consent under Section 96 of the Resource
Management Act 1991**

To: Dunedin City Council
PO Box 5045,
Moray Place
DUNEDIN 9058.

From: Airways Corporation of New Zealand Ltd
PO Box 294
WELLINGTON

This is a submission on an application from Blueskin Energy Limited for a resource consent to construct and operate a windfarm.

1. **The specific parts of the application that this submission relates to are:**

This submission relates solely to the nature of the activity, in so far as it has the potential to affect the safe and efficient operation of the air traffic network.

2. **Airways Corporation of New Zealand Limited submits that:**

Background

Airways Corporation of New Zealand Limited (Airways) was established under the State Owned Enterprises Act 1986. At that time Airways took over the operational areas of the Civil Aviation Division of the Ministry of Transport.

Airways has principal responsibility for facilitating the safe movement of air traffic through New Zealand airspace. It is responsible for managing all domestic and international air traffic for one of the largest areas of airspace in the world – approximately 30 million square kilometres.

Specifically, in the Otago Region, Airways is responsible for the provision of air traffic management and aircraft navigation services including the direct servicing of Dunedin and Queenstown airports. These services are essential for the economic well-being and the continuing health and safety of the local and wider Otago community.

Airways does not object in principal to the proposed activity provided that any potential danger to aircraft is fully assessed and effectively managed, remedied and/or mitigated.

The need for renewable energy generation

Airways supports wind farms insofar as they respond to the need for greater energy efficiency, and supports the need for promoting the generation of energy from renewable resources.

Effects of wind farms on navigation infrastructure

Airways has concerns over the potential impact that any proposed wind farm could have on their existing navigational infrastructure (or any future radar and navigational aid sites or facilities), which provide essential navigational data for aircraft.

Airways' concerns in respect of any proposed wind farm are as follows:

(a) Obstruction of Radio Propagation

The wind turbines can pose an obstruction to the radar signal path along aircraft routes. This obstruction can happen if the turbine support structures or masts are metallic, have flat metallic components and the array of such structures are oriented to a radar in such a way that they appear as a continuous structure.

In such instances these may not only obstruct coverage over certain areas (where height also becomes a factor) but also could cause reflection of the signal and give false replies. Such an impact is most likely when wind turbines are located on the crest of hills, which is the usual case for wind generators.

Similar concerns will also apply during the construction phase of a wind farm depending on the structures and machinery used.

(b) Source of Radar "Clutter"

The velocity of turbine blades are similar to that of aircraft so the Doppler filtering employed by the Airways Primary radar to detect moving targets would not be effective and would result in the blades producing plots. This could result in the display of false targets (clutter) on Air Traffic Control (ATC) Radar Displays.

Although Airways has the capability to mask signals from areas where there is such disturbance to radar, this would also have the undesirable effect of reducing the aircraft detection capability, so that aircraft would pass undetected through the masked area.

These effects will depend on the internal design of the radar and the specific characteristics of the turbine.

Airways considers that these issues should be considered on a case-by-case basis as other factors such as the proximity of the turbine to the radar, the elevation of the turbine with respect to the radar and the orientation of wind turbines will also be relevant and each have the potential to impact significantly on air traffic control operations.

Airways has experience in submitting on other wind farms in New Zealand and notice it is common practice to undertake an assessment of effects upon communications infrastructure as part of a resource consent application. Airways notes such an assessment has not been supplied as part of this application.

Civil Aviation Rule Part 77

Civil Aviation Rule Part 77 regulates "Objects and Activities Affecting Navigable Airspace".

The relevant Rules are attached as Appendix A. However, among other things, the Rule identifies structures being more than 60 metres in height above ground level at its site as potentially hazardous to aircraft. Airways notes the application states the proposed turbines and blades will exceed this height limit.

Civil Aviation Rule Part 77.19 states the Director shall determine any such activity to be a "*hazard in navigable airspace*".

Airways seeks to eliminate the potential for such hazards and considers that the Council should have appropriate regard to these matters in assessing the adverse effects of the application.

Consultation

Airways notes and commends the applicant for undertaking consultation with the Civil Aviation Authority as part of preparing the resource consent application as identified on page 20 of the application. Airways notes that Clause 6(f) of Schedule 4 of the Resource Management Act requires an applicant, as part of the assessment of environmental effects to include the consultation and responses to the views of persons consulted. Airways notes that provision of this information in respect to the consultation undertaken with the Civil Aviation Authority would have been desirable.

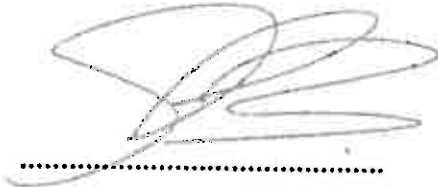
Airways considers it important to bring these issues to the attention of the applicant and Council, so that they can be taken into account should consent be granted and detailed design commence.

3. Airways seeks the following:

- a) The applicant undertake an assessment of effects upon communication and navigation infrastructure;
- b) The applicant supply details of consultation in accordance with Schedule 4 of the Act;
- c) Should consent be granted any consent to the application shall include the following condition:

"The applicant must consult with the Civil Aviation Authority of New Zealand (CAA) in order to eliminate the potential for any danger to aircraft (whether direct or indirect) and will obtain an aeronautical study in respect of the application, if recommended to do so by CAA."

4. Airways wishes to be heard in support of this submission.
5. If others make a similar submission, Airways will consider presenting a joint case with them at a hearing.
6. Airways is not a trade competitor for the purposes of section 308B of the Resource Management Act 1991.



2 NOVEMBER 2015

Shane L Roberts

Consultant Planner to:

Airways Corporation of New Zealand

Address for Service:

Airways Corporation of New Zealand Limited
C/- Opus International Consultants
Private Bag 1913
DUNEDIN

Attention:	Shane L Roberts
Phone:	03 471 5565
Fax:	03 474 8995
Email:	shane.roberts@opus.co.nz

Copy:

*Blueskin Energy Limited
1121 Mount Cargill Road,
RD2,
Waitati 9085*

APPENDIX A

SELECTED SECTIONS OF CAA RULE PART 77 – OBJECTS AND ACTIVITIES AFFECTING NAVIGABLE AIRSPACE

77.5 Notice of construction or alteration of structure

A person proposing to construct or alter a structure must notify the Director of the proposal in accordance with rule 77.13 if the proposed structure or alteration to a structure —

- (1) extends more than 60 m in height above the ground level at its site; or
- (2) exceeds the general tree height in the area by 18 m and is located in an area of low level aerial activity or other low flying activity, or in a low flying zone or low level route as prescribed under Part 71; or
- (3) is located below the approach or take-off surfaces of an aerodrome as outlined in figures A.1 and A.2 of Appendix A, and extends to a height greater than a surface, outlined in Appendix A, extending outward and upward at 1 of the following:
 - (i) a slope of 1:83 from the far origin of the takeoff surface of a runway where the runway is used or intended to be used by aircraft with a MCTOW above 5700 kg;
 - (ii) a slope of 1:50 from the far origin of the takeoff surface of a runway where the runway is used or intended to be used by aircraft with a MCTOW at or below 5700 kg;
 - (iii) a slope of 1:25 from the nearest point of the safety area of a heliport; or
- (4) penetrates the conical, inner horizontal, or transitional side surface of an aerodrome as —
 - (i) outlined in figure A.1 of Appendix A; or
 - (ii) specified in Part 139; or
 - (iii) as defined in the local district scheme.

77.7 Notice of use of a structure discharging efflux, a light, or a laser

(a) A person proposing to use a structure must notify the Director of the proposal in accordance with rule 77.13 if—

- (1) the structure may discharge efflux at a velocity in excess of 4.3 m per second through an obstacle limitation surface of an aerodrome; or
- (2) the structure may discharge efflux at a velocity in excess of 4.3 m per second higher than 60 m above ground level.

(b) A person proposing to operate a light or a laser must notify the Director in accordance with rule 77.13 if—

- (1) because of its glare or affect on a pilot's vision, the light or laser is liable to endanger aircraft; or
- (2) for a laser, it would produce exposures in navigable air space exceeding the maximum permissible exposure defined for that laser in NZS AS 2211; or
- (3) it is likely to endanger aircraft by being mistaken for—
 - (i) a light or part of a system of lights established or approved for display at or near an aerodrome; or
 - (ii) a light marking a hazard in navigable airspace.

77.19 Standards for determining hazards

(a) The Director must determine a structure to be a hazard in navigable airspace if it is 120 m or higher above ground level at its site.

(b) The Director must determine the use of a structure to be a hazard in navigable airspace if the structure will or may discharge efflux at a velocity in excess of 4.3 m per second through the obstacle limitation surfaces applicable to an aerodrome.

(c) The Director must determine the use of a structure to be a hazard in navigable airspace if the structure will or may discharge efflux at a velocity in excess of 4.3 m per second higher than 120 m above ground level.

(d) The Director must determine the use of a light to be a hazard in navigable airspace if an analysis discloses that its use will constitute a hazard in navigable airspace.

(e) The Director may determine, based on the circumstances of each proposal, the use of a laser to be a hazard in navigable airspace if its use will produce exposures in navigable airspace exceeding the maximum permissible exposure defined for that laser in NZS/AS 2211.

(f) The Director must determine the use of a weapon to be a hazard in navigable airspace if an analysis discloses that its use will constitute a hazard in navigable airspace.

(g) The Director must determine the use of pyrotechnics to be a hazard in navigable airspace if an analysis discloses that their use will constitute a hazard in navigable airspace.

(h) The Director may determine, based on the circumstances of each proposal, a structure to be a hazard in navigable airspace if—

- (1) it is located within an instrument flight procedures area that is specified in ICAO document 8168-OPS/611, including standard arrival routes, initial, intermediate, final, visual and missed approach segment areas, departure areas and standard instrument departure routes, and would result in—
 - (i) the vertical distance between any point on the structure and an established minimum instrument flight altitude within that area or segment being less than obstacle clearance required for the instrument flight procedure; or
 - (ii) additional or new ceiling or visibility restrictions or a change in flight procedures applicable to departures within that area; or
- (2) it is located within an IFR en-route obstacle clearance area, including evaluated routes on NZ en-route and area charts but excluding charted routes as published in the AIPNZ, and would necessitate an increase in an existing or planned minimum obstacle clearance altitude; or
- (3) it exceeds the general tree height by 18 m and is located in an area of low level aerial activity or other low flying activity, or in a low flying zone or low level route as prescribed under Part 71; or
- (4) it protrudes through the obstacle limitation surfaces of an aerodrome.

I wish to make a submission to oppose the Porteous Hill wind turbines by Blueskin Energy Ltd.
 I do not wish to speak at the hearing.
 The following are the reasons I oppose this project.

Landscape, Environment, Ecology

1. This development will have a major visual impact on a prominent hill 460m high which will be visible from most places in Blueskin Bay, including Warrington village, Coast Road, the Kilmog, Waitati, Don's Creek, Haywards Coast (Hayward Point to Doctor's Point) and Purakanui.

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02 DEC 2015

BY:

2. The turbine site is visible from afar. It promises a stigma on the landscape which will put people off wanting to settle in the area.
3. It will result in the physical destruction of a local landmark and the loss of amenity for all, like walking groups.
4. Light pollution across the landscape: the site is on an aircraft flight path. NZ Civil Aviation regulations require bright warning lights visible for many kilometres. Will the 100+ metre turbines also have to be lit from below? How does this new light pollution fit in with the DCC's recent Dark Skies strategy which aims at lowering night light emission levels and increasing the visibility of our beautiful night skies?
5. The turbine blades will result in bird strike, posing a deadly threat to local birds including falcons, harriers, black-backed gulls. The site is close to a major estuarine bird habitat supporting up to 1000 bar-tailed godwits. Impact is particularly likely when the site is lit at night under low cloud conditions and in foggy and stormy weather – a frequent occurrence.

Effects on Residents of Porteous Hill and Others

1. There is a major impact on households closer to the wind farm site - loss of amenity, noise disturbance, ground vibration, light pollution, sharp fall in property values and difficulty around resale. There is a vast quantity of international evidence online about the misery inflicted on residents by nearby wind turbines.
2. If approved this application will set a precedent for further wind farm developments close to homes in other parts of Dunedin; the nearest house is less than 500m away.
3. The impact on our tourism will be negative. The wind farm will also be visible from cruise ships, State Highway One and the tourist trains. Tourists come to Dunedin to see our wildlife and open rural countryside, not to marvel at wind turbines.

Community Benefits

1. The wind farm will not be controlled by the community because the cost of the project, \$6m or more, will require financial backers who will want control of their investment.
2. Most of the power will be "sold to a single commercial consumer in Dunedin" [Scott Willis, NZ Resources], therefore it will not be a community supply. Why should the Blueskin Bay community be generating power to go into the national grid to Auckland and elsewhere?
3. The power will not specifically or exclusively power Blueskin Bay. It will not guarantee provide cheaper electricity or security of supply for our community. The distribution network remains unchanged.

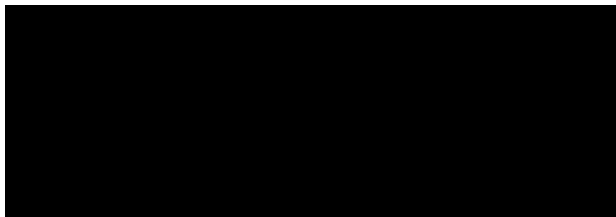
PTO

4. Current demand for electricity is flat. Households and businesses are using power more efficiently. Other wind generators have down-sized or failed to proceed with already consented projects because they are not economic, therefore there is no economic justification for this wind farm to go ahead.
5. Tiwai Point is most likely to close in the next few years which will mean there is an excess of renewable electricity in the south of the South Island.
6. There is a lack of accountability as to how any profits would be returned to the community. The BRCT trustees are not elected. There should be set criteria for applying for funds and an independent committee to distribute grants.
7. BRCT, the owner of Blueskin Energy Ltd, is an unelected body which does not fully represent nor is fully supported by the community; therefore the emphasis on it being a community project is unjustified.
8. Information has not been supplied in the application about the type of turbines, who will build, manage and maintain the project, or its financial viability.

Community Consultation

1. As it has been presented to date the wind farm project may be a project which is in the **community** but it is **not a community project** with benefits equally shared by all.
2. Local support has not been demonstrated. Community consultation has been inadequate, with low turnout at meetings held several years ago. Most local people are unaware of the actual facts about the project. Some didn't know about it at all until now.
3. This proposal has the potential to divide the local community, something neither the community nor the greater Dunedin area wants or needs.

Magnolia Ben
MAGNOLIA BEN



1/12/15

From: Mark Brown
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 1/12/2015 10:21:34 p.m.
Subject: Resource consent application submission - 527180

This resource consent application submission has been made via the Council website on **01 Dec 2015 10:21pm**. The details are listed below.

Personal information

Name Mark Nelson Brown
Address 4 Erne 9085 Waitati
Contact phone 4822833
Fax 4822838
Email address blueskin@xtra.co.nz

Submission details

Consent number LUC-2015-469
Position I oppose this application
Wish to speak? Yes
Present jointly to hearing? No
Parts of application that submission relates to 1. Section 5 "Community Engagement in the Project" plus Appendix B 2. Appendix C – Landscape Assessment Report and Appendices 3. Assessment of Environmental Effects and Resource Consent Application - entire application
Reasons for submission 1. Lack of consultation with wider community and stakeholders specific to this project. 2. The effects on the landscape will be more than minor, for several reasons including that not all areas of visual impact have been considered and incomplete information has been provided. 3. Unsubstantiated information such as claims of support and consultation not documented in application, meeting minutes or signed letters of support would substantiate these.
Desired decision Decline the application

From: marty@northeastvalley.org
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 1/12/2015 4:12:02 p.m.
Subject: Resource consent application submission - 526513

This resource consent application submission has been made via the Council website on **27 Nov 2015 2:05pm**. The details are listed below.

Personal information

Name Marty Cancilla

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that

submission relates to Effects on the environment. - contributes to lowering our greenhouse gas emissions and improves community resilience

Reasons for submission The Blueskin wind farm will generate enough power to supply all of the Blueskin community's annual electricity needs, and more.

Desired decision Please approve this application

Talei Anderson

From: [REDACTED] 2015 04:12 p.m.
To: planning@dcc.govt.nz
Subject: Resource consent application submission - 525402

This resource consent application submission has been made via the Council website on **15 Nov 2015 4:11pm**. The details are listed below.

Personal information

Name madelene ozanne

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I oppose this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that submission relates to noise,ugliness and ecology.

Reasons for submission consistent noise,ugly,unnecessary,nothing is good about it,environmental impact as in bird strike,no benefit to Blueskin Bay.

Desired decision don't grant the consent.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 2/12/2015 2:19:43 p.m.
Subject: Resource consent application submission - 527274

This resource consent application submission has been made via the Council website on **02 Dec 2015 2:19pm**. The details are listed below.

Personal information

Name Mark Walton

Address [REDACTED]

Contact phone [REDACTED]

Fax N/A

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I oppose this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that

submission relates to 1. Lack of consultation. 2. The prominent site of the proposed wind farm. 3. Possible noise pollution. 4. Possible bird strike.

Reasons for submission 1. I attended a public meeting on the proposed wind farm several years ago in the Warrington Village Hall but had received no further information until I recently attended a meeting at the Hall where I was informed that a consent application had already been submitted. I also learned that three turbines were proposed as well as other very significant changes to the original proposal. As a resident of Reservoir Road Warrington, I am not too far from the proposed site to be possibly affected by it. I was very disappointed at the complete lack of consultation with me by Blueskin Energy Ltd. 2. Standing at the proposed site, there is a 360 degree panoramic view, extending from the lighthouse at the Head of Otago Harbour, along to Long Beach, Purakanui, Doctors Point, much of Blueskin Bay including Waitati and Warrington, a wide sweep of the Silver Peaks around to Seacliff. Residents, tourists etc. in all of these places can therefore see Porteus Hill – it is the most prominent hill on the North side of Blueskin Bay. Of all the many hill peaks seen from around Blueskin Bay, only the very distant Mt. Cargill and Swampy Summits have any human structures on them. Consequently the siting of the wind farm on Porteus Hill will make a substantial visual impact on the skyline. I do not consider that it is worth sacrificing the beauty of

the current natural landscape for the sake of making an exceeding small contribution to the energy requirements of the nation. 3. I am very concerned for residents who live close by the site. At the recent meeting at the Warrington Village Hall, no reassurances were offered as to whether noise levels would be acceptable, especially in varying conditions of wind direction and velocity. If, on construction of the farm, the noise proves unacceptable, then this would have significant impacts on many aspects of the lives of those residents. 4. It appears that existing wind farms around the world have differing rates of bird strike. A survey of bird life on Porteus Hill has not been undertaken but should be over a reasonable length of time to establish the bird population and their flight characteristics in order to estimate the possible impact of the proposed wind farm. I consider that the possibility of high bird strike rates would make the proposed wind farm unacceptable.

Desired decision I wish the Council to decline the application for the establishment of a wind farm on Porteus Hill

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 1/12/2015 11:43:45 p.m.
Subject: Resource consent application submission - 527184

This resource consent application submission has been made via the Council website on **01 Dec 2015 11:43pm**. The details are listed below.

Personal information

Name Stephanie McConnon

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number Wind Farm 147 Church Rd LUC-2015-469

Position I oppose this application

Wish to speak? No

Present jointly to hearing? Yes

Parts of application that

submission relates to The installation of wind turbines on Poteous Hill

Reasons for submission The visual effects of a strobe effect created by glinting sunlight from the spinning blades, the lights atop the turbines in a night sky, noise is amplified across the bay and the secrecy around naming the investors at the public meeting.

Desired decision To reject the application.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 30/11/2015 9:40:29 p.m.
Subject: Resource consent application submission - 526927

This resource consent application submission has been made via the Council website on **30 Nov 2015 9:40pm**. The details are listed below.

Personal information

Name Mecaela Baird

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I oppose this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that submission relates to All of it.

Reasons for submission The Health impacts on residents. Death toll of wildlife. Noise impact and health issues surrounding constant noise. Unstable ground issues. Visual impact. No financial benefit to the community. Its share holder financially based. Loss of property value.

Desired decision Decline the application in full.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 2/12/2015 3:25:49 p.m.
Subject: Resource consent application submission - 527293

This resource consent application submission has been made via the Council website on **02 Dec 2015 3:25pm**. The details are listed below.

Personal information

Name Norman Anderson

Address [REDACTED]

Contact phone [REDACTED]

Fax NA

Email address [REDACTED]

Submission details

Consent number 2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that submission relates to Landscape assessment.

Reasons for submission NZ has many wind farms around the country. I do not hear continuing complaints about the visual affect of those farms. Therefore I assume that their appearance is acceptable. I in fact enjoy seeing them come into view when I'm driving in their area.

Desired decision I wish to DCC to approve this application.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 1/12/2015 12:23:11 p.m.
Subject: Resource consent application submission - 527057

This resource consent application submission has been made via the Council website on **01 Dec 2015 12:23pm**. The details are listed below.

Personal information

Name Nathan Keen

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that

submission relates to Carbon emissions, environmental effects, flow on projects through out the country.

Reasons for submission I support the submission as wind energy is the least carbon intensive forms of energy. The community wind farm model is also well developed in more progressive countries. If this wind farm goes ahead it will be a model by which other communities can follow and may also influence legislation. Negative effects have be looked into and found to be not significant when compared to the environmental benefits the wind turbines will provide. Every additional wind turbine that is erected is a step towards closing a existing gas fired plant. With government support and combined with demand reduction, New Zealand could quickly become the least carbon intensive electricity suppliers in the world and be a model for other countries to take lessons from.

Desired decision The council should approve the submission.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 2/12/2015 3:10:18 p.m.
Subject: Resource consent application submission - 527289

This resource consent application submission has been made via the Council website on **02 Dec 2015 3:10pm**. The details are listed below.

Personal information

Name Nicola Mutch

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that

submission relates to application as a whole

Reasons for submission Small communities face ongoing challenges as they seek to thrive, sustainably, into the future. The Blueskin Wind project offers a powerful model where, rather than relying on grants or local government, the community is able to take greater control over its destiny and wellbeing. By creating an independent revenue source, it is able to start envisaging and pursuing what its needs for a vibrant, resilient future. My personal hope is that one day, the energy generated can be used to contribute to a local electric charging station, so we can drive, emissions-free, back and forth to our beloved bay, powered by the very air around us.

Desired decision grant consent, with proposed conditions to mitigate any negative impact

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 1/12/2015 1:11:28 p.m.
Subject: Resource consent application submission - 527067

This resource consent application submission has been made via the Council website on **01 Dec 2015 1:11pm**. The details are listed below.

Personal information

Name Nicola Young

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that

submission relates to The full application for the construction and operation of a community wind farm.

Reasons for submission The proposal is based on community empowerment and reducing carbon emissions - it will strengthen the local, national and (even in a small way!) global community at social, economic and environmental levels.

Desired decision I request that the Council grants this resource consent application, adopts the conditions proposed by the applicant, and works with the applicant to address any outstanding issues, noting that this is a community-initiated and led project from a resource-constrained organisation that is recognised as a NZ exemplar of community engagement and action.

Your name and postal address and phone number/fax number;

Nathan Surendran



Details of the application in respect of which you are making the submission including location;

Wind Farm - 147 Church Road - LUC-2015-469

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:

http://www.dunedin.govt.nz/_data/assets/pdf_file/0004/523966/Blueskin-Resource-Consent.pdf.

Dated: 2 October 2015

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

Whether you support, oppose, or are neutral towards the application;

I support the application.

Your submission, with reasons;

With reference to the applicant's position as follows (9.5 - pg 35 of their application document here:

http://www.dunedin.govt.nz/_data/assets/pdf_file/0004/523966/Blueskin-Resource-Consent.pdf)

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).

As I outlined in my recent written evidence (<http://bit.ly/1j17KtV>) to the ORC RPS hearings, our energy future is very uncertain, but definitely faces constraints based on liquid fuel for transport availability. **Please ensure that this document is considered in conjunction with this submission.**

Efforts to secure a sustainable energy supply, which involves much greater rollout of distributed wind and solar energy systems are hugely important. We are, as a nation, in desperate need of many more projects of the type exemplified by the Blueskin Energy application.

The Blueskin Energy proposal is also thoughtfully and carefully conceived to deliver real ongoing benefits to the community, in that it is proposing to own the generation plant collectively, and put profits towards 'for community benefit' outcomes are hugely important. In the company structure, this application shows real thought leadership in understanding the challenge of providing the cash flow necessary to support activities that the community has identified as essential, which political decisions have not thus far supported at the national and regional levels.

This application is a forward thinking initiative that is a positive response to many of the challenges of the next 100 years, cognisant of the following key points:

- Recognition that there are natural limits to economic, population and consumption growth and points at which further growth produces, overall, negative outcomes.
- Acceptance that, globally, we have long surpassed the natural limits of the planet to allow us to sustain further increases to material consumption.
- Acknowledgement that current models of economic growth have systemically benefited certain populations and species over others and that greater social and environmental justice is required for sustainable futures.
- Support for equitable social and economic systems by which people do not feel forced to leave their homes for the sake of safety, health or opportunity.
- Acknowledgement that the planet comprises our collective heritage (commons) and that all notions of private possession are human constructions, not laws of nature.

- Support for positive forms of growth, such as the (re)generation of local economies, the natural environment, spirituality, well-being, community and respect.
- Acknowledgement that positive outcomes are not always measurable through currently established means.
- Appreciation that creating positive futures requires embracing multiple approaches, rather than seeking 'one right answer'.
- Commitment to placing intentional emphasis on creativity and collaboration as opposed to constant critique, while still valuing the important role of critical engagement – promoting an attitude of 'critical hope'.

In approving this application, DCC could show itself to be aligned with the community's proactive leaders in the inevitable transition away from our heavily fossil fuel dependent society.

The decision you wish the consent authority to make;

Approve the consent application.

Whether you wish to be heard in support of your submission;

Yes

From: Alan Worthington
To: John Sule <John.Sule@dcc.govt.nz>
Talei Anderson <Talei.Anderson@dcc.govt.nz>
Date: 4/12/2015 8:19:04 a.m.
Subject: FW: Late submission, Blueskin Bay Windfarm

Need to include as late for Committee to decide on.

From: Eric Pyle [mailto:eric@nzwea.org.nz]
Sent: Friday, 4 December 2015 8:13 a.m.
To: Anna Johnson; Alan Worthington; Jane MacLeod
Subject: RE: Late submission, Blueskin Bay Windfarm

I would be very grateful if you could include this submission on the Blueskin Bay windfarm. I mistakenly thought submissions closed at the end of this week.

Kindest Regards,

Eric Pyle | Chief Executive | New Zealand Wind Energy Association

T: +64 4 499 5048
M: 027 244 1049
E: eric@nzwea.org.nz

Skype: ericnzwea

www.nzwea.org.nz

From: Anna Johnson [mailto:Anna.Johnson@dcc.govt.nz]
Sent: Thursday, 3 December 2015 8:56 PM
To: Eric Pyle <eric@nzwea.org.nz>
Subject: Re: Late submission, Blueskin Bay Windfarm

	Submission on a Publicly Notified Resource Consent – Blueskin Bay Wind Farm proposal <i>Under Section 96 of the Resource Management Act 1991</i>
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To: Dunedin City Council

Submitter: *New Zealand Wind Energy Association*

Submission: This is a submission on an application from Blueskin Energy Limited for resource a consent for the Blueskin Bay Wind Farm.

This submission relates to the resource consent application in its entirety.

The New Zealand Wind Energy Association supports the application.

Background to the New Zealand Wind Energy Association ('NZWEA')

1. The New Zealand Wind Energy Association (**NZWEA**) is a non-Governmental, non-profit, membership-based industry association that works towards the development of wind energy as a reliable, sustainable, clean and commercially viable energy source. Our membership includes around 40 companies involved in the New Zealand wind energy sector, including:
 - all of the major electricity generator-retailers (Contact Energy, Genesis Energy, Meridian Energy, Mighty River Power & TrustPower);
 - a number of smaller electricity generators;
 - a number of major international wind turbine manufacturers; and
 - a range of other companies with interests ranging from site evaluation through to operations and maintenance.
2. NZWEA's Mission and Objects are set out in the Association's Rules under the Incorporated Societies Act 1908 as follows:

Mission

The mission of the Association is to promote the uptake of New Zealand's abundant wind resource as a reliable, sustainable, clean and commercially viable energy source.

Objects

The objects of the Association are to achieve its mission ... by means of:

- (a) policy advocacy with local and central government officials and elected representatives, regulatory bodies, industry groups and other interested organisations to raise the awareness of, and develop the concept of Wind Energy in New Zealand;
- (b) organising seminars, conferences and other promotional and educational events, and to distribute information, relating to Wind Energy in New Zealand;
- (c) providing a forum for external and internal networking, discussion and co-operation amongst persons with an interest in Wind Energy in New Zealand;
- (d) promoting the economic, environmental, social and other benefits of Wind Energy in New Zealand; and

(e) promoting research and development of Wind Energy technology in New Zealand.

3. Further information on NZWEA, its members and activities, and the New Zealand wind energy industry in general is available on the Association's website: www.windenergy.org.nz.

Reasons for NZWEA's support for the Blueskin Bay Wind Farm

Introduction

4. NZWEA supports the development of well-planned wind farms. Wind power can be used to generate competitively priced electricity while at the same time typically having far fewer effects on far fewer people than any other existing alternative source of electricity generation.
5. Wind generation has now "come of age" in New Zealand. Currently New Zealand has nearly 700 MW of installed wind capacity that on an annual basis generates around 5% of electricity. Wind generation is proven and reliable form of electricity in New Zealand. Wind turbines in New Zealand are the best performing wind turbines in the world.

The project contributes to the sustainable management of natural resources

6. Electricity is an essential service and a means by which people and communities provide for their social, economic and cultural wellbeing and for their health and safety.
7. The electricity generated from this project will be supplied into the electricity transmission system (i.e. 'the grid'). This connection into the transmission system, which can transport electricity over the entire country, enables the electricity to be utilised both locally and/or nationally. It will therefore contribute to both the region's and the nation's ability to provide for its well being. The project will also increase the security of the region's electricity supply by providing an alternative source of electricity to the existing generation sources. This will also provide related benefits with respect to losses in the transmission system.
8. Windfarms provide a number of economic benefits, ranging from employment and other regional economic benefits during construction through to long term benefits to electricity prices. Benefits also include reducing greenhouse gas emissions.
9. Electricity generated from wind utilises an indigenous and renewable resource and does so with a minimal impact on the environment. The assessment reports included with the application considers that the effects of the windfarm are either acceptable or can be appropriately avoided, remedied or mitigated. On this basis the Blueskin Bay Wind Farm appears to be aligned with the purpose of the RMA – the management of the use of natural and physical resources in a way which enables communities to provide for their well being and for their health and safety.

Wind energy helps to mitigate the potential impact of climate change

10. The use of renewable energy sources such as wind energy reduces New Zealand's emissions of the greenhouse gases (GHG) that contribute to climate

change when compared to electricity generation from fossil fuel sources such as gas and coal. Wind energy uses mature, well-proven technology and so is able to be applied immediately to meet our need to provide both electricity generation and a reduction in our GHG emissions.

11. New Zealand's CO₂ emissions from the electricity sector have increased 44% from a 1990¹. Our increasing demand for electricity will also see these emissions increase further unless new demand growth is met with new renewable electricity generation.
12. Climate change is dependent on the concentration of greenhouse gases such as carbon dioxide in the atmosphere. The Environment Court identified in its decision on the Mahinerangi Wind Farm² that by ensuring that new demand growth is met with new renewable electricity generation, carbon dioxide emissions will not increase (with resulting climate change benefits). In the event that this new renewable generation also displaces existing generation (i.e. by being dispatched in preference to more expensive sources of generation that produce greenhouse gas emissions) this could result in a net reduction in carbon dioxide emissions.

The project sustainably and efficiently uses a significant and important resource

13. The capacity factor of the proposed wind farm is in the order of 40-50% and could possibly be higher, based on expected and actual windfarm capacity factors in New Zealand. As an example of capacity factor, a 100MW windfarm with a capacity factor of 50% will on average produce 50MW of electricity over the long run.
14. The high capacity factor expected at the Blueskin Bay Wind Farm project makes this project significant in both national and international terms and is a demonstration of the excellent wind resource that the project is intending to utilise. In the Environment Court decision in favour of Project West Wind in Wellington³ it was identified that the utilisation of a wind resource that was significant on an international scale was an important consideration when approving the resource consent application.

The site is an appropriate location for a wind farm

15. NZWEA recognises that wind energy projects can have significant visual effects on the landscapes in which they are located. However these effects do not necessarily need to be considered to be adverse. While they certainly represent a change in the landscape a wide range of views exist as to the scale of these effects, whether these changes are positive, neutral or adverse and whether these changes represent changes in the landscape itself, or its visual amenity. Accordingly the effects of the landscape need to be considered together with the various other effects and benefits identified for the project, rather than independently.
16. The location of wind farms is dictated by the wind resource – they are most effective where the wind is strong and persistent and relatively low in turbulence. Accordingly the ideal sites tend to be in exposed locations and on top of hills and ridgelines that cause localised wind speed increases. The expected performance of Blueskin Bay Windfarm indicates that these ideal conditions exist at the proposed site. Accordingly the siting of the wind farm in its chosen location

represents the most efficient use of the wind as a natural resource, which is consistent with s7(b) of the RMA.

Wind energy is becoming an increasingly important component of the electricity system in New Zealand

17. New Zealand's electricity generation capacity is dominated by hydro generation. Wind generation can complement existing hydro-generation facilities, allowing New Zealand to optimise the use of important water resource and providing additional security against the risk of the "dry-years" that reduce generation capacity. When the wind is blowing the water can be stored behind the dams for future use (i.e. the dams effectively act as a "battery") while if the wind stops or reduces it can quickly be substituted by allowing water to flow from the dams. In this way the wind energy generation can be thought of as an additional hydro inflow (where the wind "inflow" is used in preference to the water).
18. Wind energy also represents an important source of energy that varies little on a long-term basis. Wind farms in New Zealand generate electricity for up to 90% of the time and this performance can be expected at the Blueskin Bay Wind Farm project. By diversifying our sources of generation and by providing a reliable, long-term source of energy and with its synergies with the hydro system (as described above) wind generation makes an important contribution to the security of New Zealand's electricity supply.

Legislation and policy

19. New Zealand has a target of 90% renewable electricity generation as set out in the New Zealand Energy Strategy⁴. This target is also mentioned in the preamble to the 'National Policy Statement for Renewable Electricity Generation 2011'⁵. As a reference, in 2014 some 80% of electricity in New Zealand was from renewable sources.
20. NZWEA has estimated that in order to achieve the target of 90% renewable electricity by 2025 alongside a forecast demand growth of 1% per year (see above) an average of approximately 150MW of new wind generation per year is required. NZWEA's projection allows for the development of other renewable generation such as geothermal and gas peaker plants to meet New Zealand's electricity needs.
21. We therefore request that the Council give sufficient weight to;
 - the national benefits and positive effects of the proposal (as per the National Policy Statement on Renewable Electricity Generation (April 2011) and the 2004 changes to the Resource Management Act requiring that particular regard be given to the benefits derived from the use of renewable energy, i.e. s7(j))
 - other relevant national policy documents, management plans and strategies such as;
 - a. The New Zealand Energy Efficiency and Conservation Strategy (NZEES).
 - b. The New Zealand Energy Strategy.

Consistency

22. NZWEA has observed inconsistency between resource consents for wind farms, particularly in terms of resource consent conditions which in some cases have proved to be unnecessarily onerous.
23. NZWEA acknowledges that resource consent applications are to be determined on a case-by-case basis in accordance with the relevant statutory assessment provisions under the RMA (i.e. s104, s108, Part II) as they relate to each particular proposal. Notwithstanding this, the types of environmental effects associated with wind farms are typically consistent between different wind farm proposals and there is now a good level of understanding of such effects by suitably experienced experts.
24. In terms of noise effects NZWEA supports the use of NZS6808:2010, which NZWEA believes is suitable for use in its entirety, without any requirement for additional modifications or additions. The Standard was adopted by the Environment Court in the Mill Creek Wind Farm Decision⁶ and paragraph 109 of that decision states: “..we accept that it [NZS6808] sets the appropriate noise standards to apply to Mill Creek”.

Decision requested:

25. NZWEA requests that the Councils approve the application for resource consent for the Blueskin Bay Wind Farm project. NZWEA believes that the assessments submitted as part of the resource consent application provide an accurate reflection of the various issues associated with the proposed development.
26. NZWEA also requests that NZS6808:2010, the New Zealand Standard for the assessment and measurement of sound from wind turbine generators be used as the basis for setting any conditions for noise from the operating wind farm.

Oral Submission at the hearing

27. NZWEA wishes to be heard in support of this submission.

Eric Pyle
Chief Executive
New Zealand Wind Energy Association

Date: 2nd December 2014

Address for service of Submitter:

New Zealand Wind Energy Association
PO Box 553
Wellington 6140

Telephone: (04) 499 5048
Mobile: 027 244 1049
Fax: (04) 473 6754
E-mail: eric@nzwea.org.nz

References:

¹ <http://www.mbie.govt.nz/info-services/sectors-industries/energy/energy-data-modelling/publications/energy-greenhouse-gas-emissions/documents-image-library/NZ%20Energy%20Greenhouse%20Gas%20Emissions.pdf>

² Upland Landscape Protection Society Inc. versus Clutha District Council, Otago Regional Council & TrustPower Ltd., Decision No. C 85/2008, 25 July 2008.

³ Meridian Energy and others v. Wellington City Council and Wellington Regional Council, Environment Court Decision W031/2007, 2007

⁴ New Zealand Government, 'New Zealand Energy Strategy – Developing our energy potential', 2011. Available from www.med.govt.nz/energystrategy.

⁵ <http://www.mfe.govt.nz/publications/rma/nps-renewable-electricity-generation-2011/index.html>

⁶ Environment Court Decision No. [2011] NZEnvC232



RESOURCE MANAGEMENT ACT 1991

**Submission on an Application for Resource Consent
By Blueskin Energy Limited (LUC-2015-469)**

To: Dunedin City Council
PO Box 5045
Moray Place
DUNEDIN 9058

Submitter: NZ Transport Agency
PO Box 5245
Moray Place
DUNEDIN 9058

Pursuant to Section 96 of the Resource Management Act 1991, the **NZ Transport Agency** (Transport Agency) hereby makes a neutral submission to an application by Blueskin Energy Limited for land use consent to establish, operate and maintain a three turbine wind farm on Porteous Hill near Warrington.

The subject property is legally described as Lot 1-2 Deposited Plan 473199 held in Computer Freehold Register 646829

NZ Transport Agency's submission is:

Porteous Road/State Highway 1 Intersection

The construction traffic will be associated with the site development works and the transportation and installation of the wind turbines. Construction traffic will access the subject site via State Highway 1 (SH1) and Porteous Road. The Porteous Road/SH1 intersection has good sight distance visibility. The intersection has an approximate width of 6.7 metres and has inconsistent seal and small shoulders. Porteous Road is only currently sealed for 5 metres from the intersection. The Transport Agency suggests that the formation of the intersection is not of a standard to accommodate the number and types of vehicles that will be required to use this intersection.

The application suggests site development work will be required as part of the construction activities. Among other specific works this includes "the improvement of the existing farm access road (Porteous Road) to the wind farm site. The application also notes that the access entrance will be upgraded to meet the Transport Agency's entrance requirements. The Transport Agency suggests the intersection will need to be widened to provide a sufficient swept path for the trucks transporting the wind turbines. This will likely involve extending the culvert and laying pavement on the northern side of the Porteous Road/SH1 intersection. The Transport Agency therefore supports the applicant promoting the upgrade of the Porteous Road/State Highway 1 intersection to ensure the safety and efficiency of the State highway is maintained. Consequently, the Transport Agency submits that if Council are of a mind to grant consent then conditions requiring the upgrade of Porteous Road/SH1 intersection should be included as part of the consent.

Traffic Management

The construction phase of activities includes the transportation of the windfarm's infrastructure. Some of the construction traffic is likely to be heavy/overweight and long/over dimension load configurations. These have the potential to adversely effect the State highway operations. The applicant proposes to provide a traffic management plan for the movement of vehicles on publicly accessible roads. The Transport Agency supports the provision of a traffic management plan which will need to satisfy the requirements of the Dunedin City Council as the road controlling authority of the local roads and the Transport Agency as the road controlling authority for the State highway. The Transport Agency suggests that if Council are of a mind to grant consent then a condition requiring the submission of a traffic management plan and its approval by the appropriate road controlling authority should be included as a condition of consent.

The Transport Agency also suggests the applicant should be responsible for repairing any damage to the State highway that is caused by the transportation of any equipment during construction. If Council are of a mind to grant consent then this should be included as a condition of consent.

The reasons for this submission are:

The Transport Agency's statutory objective is to carry out its functions in a way that contributes to an affordable, integrated, safe, responsive and sustainable land transport system. Some of these functions relevant in this case are:

- to promote an affordable, integrated safe, responsive, and sustainable land transport system
- to manage the State highway system in accordance with the relevant legislation; and
- to assist, advise, and co-operate with approved organisations (such as regional councils and territorial authorities).

The Transport Agency submits that the proposed land use activity has the potential to have an adverse effect on the sustainability, and safety of the land transport system.

NZ Transport Agency wishes the consent authority to:

If the Consent Authority is of a mind to grant consent to this activity, the following conditions be attached:

- 1) The consent holder shall engage a suitably qualified person to design the layout of the Porteous Road/State Highway 1 intersection. The consent holder shall supply the consent authority with written confirmation from the road controlling authority that the Porteous Road/State Highway 1 intersection has been suitably designed. The design of the Porteous Road/State Highway 1 intersection shall be approved prior to any construction works commencing.
- 2) An application to carry out work within the State highway road reserve and an appropriate traffic management plan shall be submitted to our network management consultant, MWH New Zealand Limited of Dunedin, at least seven working days prior to work commencing on the State highway road reserve.

- 3) The consent holder shall provide the road controlling authority with a detailed traffic management plan for the transportation of the windfarm components. The consent holder shall supply the consent authority with written confirmation from the road controlling authority that the traffic management plan has been approved. The traffic management plan shall be approved prior to the transportation of the windfarm components.
- 4) The consent holder shall repair any damage to the transport network that has resulted from the transportation of components of the windfarm to the subject site.

The NZ Transport Agency does wish to be heard in support of this submission.

Dated at Dunedin this 2ND day of December 2015.



Tony MacColl

Senior Planning Advisor

Pursuant to a delegation from
the Chairman and the Board
of the NZ Transport Agency

Address for Service:

NZ Transport Agency

PO Box 5245

Moray Place

DUNEDIN 9058

Attention: Tony MacColl

Phone: (03) 951 3009

Facsimile: (03) 951 3013

Consent Number: LUC-2015-469 Wind Farm - 147 Church Road -

Derek Onley

[REDACTED]

[REDACTED]

[REDACTED]

I oppose this application and wish to speak in support of my submission.

I am Derek Onley, ornithologist and illustrator. I studied Geography at Cambridge University, then after a short spell at the British Trust for Ornithology, I worked at the Edward Grey Institute for Field Ornithology at Oxford where my main task was to look after long term studies of passerines in Wytham Wood and seabirds on Skokholm Island. I came to New Zealand in the 1970s where I have done a wide range of jobs from farming and fishing to ornithological work both in the field and museum. Studies of Albatrosses, Petrels and forest birds have taken me to many parts of New Zealand including Campbell and Poor Knights Islands and the Chathams. I have recently been made an honorary lifetime member of the Ornithological Society of New Zealand and have at times been a member of their council and various committees.

I have been living in the coastal Otago area for nearly 25 years. Over the past 15 years I have illustrated guides and handbooks to New Zealand and Australian birds and illustrated and co-authored works on seabird bi-catch and the Albatrosses, Petrels and Shearwaters of the world for publishers and organisations in Europe and North America as well as Australasia. More recently I have carried out field work and advised on bird interactions with wind turbines and water management in Otago, Southland and North Canterbury and am involved in several conservation related projects on birds and habitats both locally and in Paraguay. For the last 10 years I have been organising and carrying out bird monitoring in and around the Orokonui ecosanctuary.

My submission relates mainly to the avifauna covered in Appendix E, Ecological Assessment of Environmental Effects by Katherine Dixon and Robin Mitchell.

I would like to make it clear that I am not against wind turbines if they are part of the solution to greenhouse gas emissions. In the UK for example, where they replace electricity generation by fossil fuels I'd be more inclined to compromise on the other environmental effects. But let's make it clear that in NZ they are not replacing fossil fuel, CO2 emitting generation.

I also would like to point out that while I am concerned about bird mortality, I am not, as the ODT has misquoted me as saying, *"specifically concerned about the birds that might be killed by the wind turbines"*. I am much more concerned about ensuring good science, good process and sound decision making.

At a time like this when we are trying to deal with CO2 emissions and climate change, it is important that we make sound decisions based on good research, good data and unbiased analysis. So:-

Do wind turbines kill birds? And if so are they likely to cause problems for bird populations?

There is a wide range of literature, comment, news reports etc available on the subject of the interactions between birds and wind turbines. The assessment of the effects of turbines upon birds ranges from that in "The Truth about the danger to birds and bats" endorsed by NZ wind farms. (WEL 2008) which says that wind farms are not a problem for birds in New Zealand, to a recent claim by Mark Duchamp, president of Save the Eagles International (STEI), derived somewhat deviously it seems from a SEO/Birdlife publication (Atienza et al 2012) that 6-18 million birds have been killed by wind farms in Spain.

The disparate nature of these claims makes it all the more important that sources should be scientifically sound and I suggest that in order to ensure that conclusions are valid the original studies from reputable, refereed journals should be, and seen to be, consulted. The five bird related papers cited (only one of which is in a refereed scientific journal) in BRCT's environmental ecological assessment of environmental effects are far from adequate.

What do the scientific publications show? First, they show that in sensitive environments, marshlands and high rainfall areas, the construction, roading etc can destroy and alter habitat and cause displacement (Drewitt & Langston 2006). In this case, the siting in sheep paddocks is unlikely to destroy bird habitat to any great extent - though I do note that there is no mention of skinks or geckos in this assessment.

Second, as for the direct effect of turbine blades killing birds (and bats, incidentally - no mention of them either) the evidence shows that mortality varies considerably for a variety of reasons. Not surprisingly the general level is somewhere between The Truth's not a problem and Duchamps' 6-18 million. (Drewitt & Langston 2006)

A few examples: wind turbines on the Belgian coast near a tern colony caused considerable mortality. (Everaert & Stienen 2007). Wind turbines stretching along ridges in migration routes close to the Mediterranean crossing from Europe to Africa also cause considerable mortality for larger eagles, hawks etc.(Barrios & Rodriguez 2004). On the other hand wind turbines in the North Sea off the coast of the Netherlands have been shown to cause fewer problems and in fact birds fly around them. (Desholm & Kahlert 2005). The average bird strike mortality rates may be relatively low but it is the variability in mortality, site characteristics and species affected that require caution and a thorough assessment of each project.

So, should we put turbines on Porteous hill? How do we work out whether to do so or not? First, we need to find out what birds are up there. The ecological assessors for this report made one field visit to the site on 10-July-2013 and have done no field work to evaluate either bird numbers or activity at the site; two different parameters requiring different assessment methodologies. In their report the authors admit that *"it is not possible to fully assess the potential adverse effects of turbine bird strike at this*

time owing to the lack of data on the species, numbers and use frequency of birds flying through the site." I agree.

Somewhat puzzlingly, they then go on to analyse the available information and come to the conclusion that the effect is minor at most. But it is far from clear what available information they are analysing as they provide no references to local data bases, literature or observations by residents. As I point out above, we need good, sound data in order to make good decisions. I, also, could make an informed guess as to what's up there: lots of introduced birds hopping around on the ground - blackbirds, finches etc, virtually no native forest birds, and few from the Orokonui. However, there may well be kereru (wood pigeons), and tui moving between forests. Harriers and, as acknowledged, falcons may hunt there.

As also acknowledged, Porteous hill is within several km of Blueskin Bay, a major wader and seabird habitat with up to 1000 each of bar-tailed godwits and pied oystercatchers, plus late summer flocks of ten thousand or so endemic black-billed gulls - a large proportion of the total world population. Who knows, in their migrations, whether it be to Alaska or Central Otago, if they pass over Porteous hill? The authors do not, yet having stated that *"Movement patterns for the black billed gull are unknown"*, they are prepared to state *"but its seasonal movements from the main breeding sites in Southland rivers to coastal feeding sites such as Blueskin Bay are very unlikely to involve Porteous Hill"* with no data and no references. Risks to pied and variable oystercatchers are then dismissed in an equally cavalier and uninformed manner and those to the eastern falcon based on the results of one study at Mahinerangi. This is not the way you make responsible decisions about the risk to some of the rarest birds in the world. (All but pied oystercatchers appear in the IUCN Red List 2014)

And who knows what flies over at night? Will birds be attracted by the lights?

So what do you need to do to find out what's up there? What information do you need to collect to make an informed decision? You need to follow international guidelines on the methodology of assessing risks to birdlife from wind farms and you need to supplement this with an understanding of the bird census techniques from the ornithological literature. Basically you need to do some field work. You need to decide on an appropriate field regime, for example you may well need to go there for at least one year, preferably two, at least twice a week, in all weathers. You need to use trained, experienced observers. You need to set up sound recorders to find out what is flying over at night and in foggy conditions. With this knowledge, properly analysed, we may actually be in a position to decide whether the environmental effects can be judged to be minor or otherwise.

A similar informed approach has to be made to post construction monitoring. The methodology suggested to assess the incidence of bird strike is but one of a number of approaches and others may well be more appropriate to the site. More recent literature has documented further techniques. Monitoring of bird strike needs to continue throughout the life of the wind turbines, not for just one year. Annual avian cycles can be markedly different. Species may become more widespread and more likely to use the site as tui have locally over the last 15 years. Over the life of the turbines other species may be reclassified by the panel that regularly meets to

consider the conservation status of the fauna and flora of NZ. (Miskelly et al 2008; Hugh Robertson et al 2012) Changes may be made in the turbines, site or maintenance regime that may alter the risk of collision.

The only methodology suggested to monitor bird numbers and activity at the site i.e. *"The most time-efficient monitoring method would be to use the point-centred-count method for four five minute periods at a frequency of twice per month across one whole year, and alternating survey times of successive visits between the hour after dawn and the hour before dusk"*, would have every ornithologist or population ecologist falling off their seat laughing or having an apoplexy depending on their temperament. It shows a complete lack of understanding of the complexities and the effort required to meaningfully monitor birds, let alone assess the activity at the site; a different parameter requiring different methodology. It strongly suggests that the authors have not read any of the extensive literature on the subject and calls into question their ornithological qualifications.

Equally as revealing of the author's minimal grasp of the subject is the shallow approach to mitigation: *"An effective strategy to offset any loss of individuals due to turbine strike would be predator control to improve the breeding success of local populations of the possibly affected species."* Predator control seems to have lately become the solution to all local avian ills. True with some species, for example mohua and yellow-eyed penguin, it plays a part in ensuring their survival but it is one of many factors that influence a species' population levels. To bluntly claim that predator control would be an *"effective strategy to offset any loss of individuals"*, is simplistic in the extreme, untrue for some species and ignores the role of changes in habitat, winter survival and food availability amongst many other factors that influence bird numbers, many of which could be worthwhile and more valuable targets for mitigation measures.

Good fieldwork, ongoing monitoring and any mitigation requires funding. Spending on environmental matters is often the first to go when profits falter. This application needs to show that the venture will generate enough profits to ensure that any environmental issues will be adequately and continually supported.

And finally, a comment about the assessment's "precautionary approach". My understanding of precautionary approach is that you assess the risks before embarking on the project, in order to decide whether to go ahead or not, whether mitigation is required, or whether there are no problems. To me it doesn't mean *"to monitor bird usage of the site during the construction phase"* as stated and then decide whether you can go ahead (wouldn't that be an economic faux pas if you couldn't?), whether mitigation is required, or whether there are no problems.

In conclusion the avifauna section of the ecological assessment fails to adequately assess or cite the literature, contains no hard data on the birds at or near the site and adopts an ill informed and cavalier approach to risk assessment and a shallow and ill-informed approach to monitoring and mitigation. Yet the authors are prepared to conclude, *"Based on this general knowledge of movement patterns and the predicted magnitude of effect, a significant adverse effect on native or conservation concern species is unlikely to result from wind farm mortalities at the site"*. It is remarkably similar in many respects to the avifaunal assessments carried out by Anadarko in

their deep water drilling proposals off NZ (Anadarko 2013) and is especially disturbing as it has been prepared for BRCT, a supposedly environmentally aware trust. It is little better than the simplistic science that has caused us to introduce stoats into NZ to control rabbits and the she'll be right approach that allows us to dismiss good science and thorough research as unnecessary, expensive and time wasting.

References

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Everaert, J.; Stienen, E.W.M. 2007: Impacts of wind turbines on birds in Zeebrugge (Belgium): significant effect on breeding tern colony due to collisions. *Biodiversity and Conservation* 16: 3345–3359.

Hugh A. Robertson, John E. Dowding, Graeme P. Elliott, Rodney A. Hitchmough, Colin M. Miskelly, Colin F.J. O'Donnell, Ralph G. Powlesland, Paul M. Sagar, R. Paul Scofield, Graeme A. Taylor, 2012. Conservation status of New Zealand birds, New Zealand threat classification series 4. Department of Conservation. Wellington NZ.

IUCN (International Union for Conservation of Nature) 2014: The IUCN Red List of Threatened Species 2014. www.iucnredlist.org

Miskelly, C.M.; Dowding, J.E.; Elliott, G.P.; Hitchmough, R.A.; Powlesland, R.G.; Robertson, H.A.; Sagar, P.M.; Scofield, R.P.; Taylor, G.A. 2008: Conservation status of New Zealand birds, *Notornis* 55: 117–135.

WEL Networks Wind Park Update April 2008, The Truth about the danger to birds and bats.

Our Reference: A865007

RMA Form 13
Submission on publicly notified application concerning resource consent
Sections 96 Resource Management Act 1991

To: Dunedin City Council
PO Box 5045
Dunedin 9058

Name of submitter: Otago Regional Council

This is a submission in opposition of
resource consent applications: LUC-2015-469

Applicant: Blueskin Energy Ltd, 147 Church Road,
Warrington

Brief Description of Application: Community owned windfarm
comprising three turbines sited on
Porteous Hill, Warrington

Submission overview

This submission relates to the application as a whole.

This submission is:
The Otago Regional Council (ORC) supports this application.

Decision requested

The ORC seeks the following decision;

That consent be granted provided the Dunedin City Council (DCC) is satisfied that:

1. Any adverse effects can be appropriately avoided, remedied or mitigated.

ORC does not wish to be heard in support of this submission.

Discussion

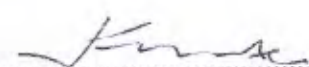
1. Regulatory Framework

The ORC supports this application as the proposal gives effect to the provisions of the following three documents:

- a) National Policy Statement for Renewable Energy Generation – including Policy E4; and
- b) Operative Regional Policy Statement for Otago – including Chapter 12 and Policy 12.5.2 in particular; and
- c) Proposed Regional Policy Statement for Otago – including proposed Objective 3.6 and proposed Policy 3.6.2 in particular, which promote activities such as that proposed by the applicant, provided adverse effects are avoided, remedied or mitigated.

While currently a proposed document, hearings for the Proposed RPS have now concluded and a decision is pending.

ORC notes that the applicant is still to formulate a detailed site works plan. Any activities that affect water bodies, such as access track crossings, will need to comply with the Regional Plan: Water for Otago.


.....
Fraser McRae
Director Policy, Planning and Resource Management

2 December 2015

.....
Date

Address for service of submitter:	Otago Regional Council Private Bag 1954 DUNEDIN
Telephone:	(03) 474 0827
Fax:	(03) 479 0015
Email:	warren.hanley@orc.govt.nz
Contact person:	Warren Hanley Resource Planner - Liaison

A copy of this submission has been sent to:

Blueskin Energy Ltd, 1121 Mount Cargill Road, RD2, **Waitati** 9085

Submission Regarding Resource Consent Application

Consent Number: LUC-2015-469 Wind Farm - 147 Church Road -

Name: Philip Clarke

Address: [REDACTED]
[REDACTED]

Postcode: 9085

Phone: [REDACTED]

Fax: [REDACTED]

Email: [REDACTED]

I oppose this application.

I wish to speak in support of my submission to the Consents Hearing Committee.

My submission relates to the following aspects of the application:

The applicant's claim to a community mandate
Community consultation or "engagement"
Claimed benefits to the community
Sustainability
Environmental effects

1.0 Relevant Personal Information

1.1 I have lived in Waitati for more than twenty years.

I hold a Masters Degree in Environmental Science from Otago University.

From 2002 until 2013 I worked as a forensic scientist at the Ministry for Fisheries.

Between 1987 and 1996, I did three terms as an elected local body representative.

From 1990 until 1996 I was a director of a community-owned electricity supply company.

During 2011 and 2012 I was a trustee of the Blueskin Resilient Community Trust.

1.2 I oppose the current application but am not opposed to appropriate use of so-called "alternative" energy. My wife and I purchased and installed a photovoltaic array at our Waitati home. We run a hybrid vehicle and are converting another vehicle to full electric drive. We are both involved in community food production. I have been a sailor for more than 50 years, so have a long acquaintance with and affection for wind power. I believe this application needs careful consideration, uninfluenced by any preconceived belief that wind power is invariably a good thing.

2.0 The Application and Claims of a Community Mandate

2.1 The applicant, Blueskin Energy Limited (BEL) is applying for resource consents for a "Community Owned" Wind Farm.

Under the current District Plan, wind farms are a "non-complying" activity.

The Dunedin Second Generation District Plan (2GP) proposes to make "community wind farms" a "discretionary" activity. For the current application, 2GP objectives and policies must be taken into consideration. In effect, the current application will face a lower consent threshold than one made pre-2GP.

2.2 Given the special consideration applying to “community wind farms” the applicant’s claim of community ownership requires critical scrutiny. What is the “Community” referred to and who can legitimately claim to represent it? In whom will ownership of a wind farm be vested? What is a “community wind farm?”

2.3 Leaving aside questions of defining the legitimate community of interest, and questions of ownership, we could define a “community wind farm” as one *mandated by, and/or controlled by the community*. Does the current application meet these criteria?

2.4 BEL’s parent organisation is the Blueskin Resilient Community Trust (BRCT). Legally, this entity is indeed a trust, but the mere inclusion of “Community” in the organisation’s name does not convey a mandate to represent the community.

2.5 At least as recently as 2012, BRCT trustees acknowledged the organisation had no mandate. This was after much of the community consultation described by the applicant in Appendix B of the application.

2.6 I became a BRCT trustee in 2011 because the avowed aims of the Trust seemed worth supporting. Regrettably, I soon became aware BRCT had a number of governance problems. Executive control of management was often ineffectual. There was no public involvement in the appointment of trustees. Trustees were recruited rather than elected. As a consequence, and because of a preference for propaganda and lobbying rather than genuine consultation, BRCT has failed to appreciate or represent the range of community opinion. Since resigning as a trustee, I have seen little evidence of a change in the BRCT culture. Turnover of trustees has remained exceptionally high. The “damn the torpedoes” promotion of a wind-farm has continued unabated and has consumed much of the Trust’s resources.

2.7 I submit that governance issues are relevant to the current application because, amongst other things, they provide some indication of the credibility and integrity of the applicant, and of the legitimacy of their claim to represent the community.

3.0 Community Consultation

3.1 The applicant claims a community mandate by virtue of public consultation or “engagement.”

3.2 The consultations the applicant describes in Appendices B1-5 occurred before 2013. The Blueskin Energy Project proposals put to the public from 2008 until 2012 did not represent the current project. It is, at best, disingenuous of the applicant to cite these events in support of the project.

3.3 The initial concept was that the community would directly own a wind farm, that the electricity generated would be used locally and, if possible, discounted. For technical, financial and legal reasons, BRCT trustees had decided by mid-2012 this concept was not feasible. Despite this, many people in the Blueskin Bay area are still under the impression that the proposed wind farm will directly provide them with cheap electricity.

3.4 Based on the community “engagement,” the applicant makes various claims about the level of community support. For example, the proposition that the process described in Appendix B6 implied that “88% supported the project” is misleading. There is no evidence the people who participated in these consultations represented an unbiased sample of the population of interest, nor that any effort was made to ascertain whether this was the case or to correct for bias. In general, BRCT polling on the wind project has been inadequate in design and execution. Any conclusions inferred from it must be regarded as unreliable.

3.5 BEL and BRCT essentially comprise a group of private individuals promoting a commercial venture. This is not necessarily a bad thing, but the application should be considered on its merits as a commercial rather than a community project. The trustees do provide their time voluntarily and with good intentions, but low pay and good intentions do not convey a mandate.

4.0 Community Benefits and the Absence of a Business Case

4.1 If the proposed wind farm is not mandated or controlled by the community, is it reasonable to assert the community will nevertheless benefit from the project?

4.2 The applicant has not submitted a business plan for the wind farm. I submit this is a serious deficiency, because:

i) Any claim of potential financial benefit to the community must rest on the feasibility of the business case.

ii) If the project proceeds but is a commercial failure, the community may be left with the cost of remedying the residual environmental effects.

4.3 If the wind-farm project does obtain resource consent and proceeds, BEL will need to raise capital.

4.4 The \$6 million required for the project is a formidable sum in the context of a community of about a thousand households. It is very unlikely that sum could be raised within the "community," even if local support for the project was unanimous, which it certainly isn't.

4.5 If sufficient capital is raised, the wind farm may be built and operated, but any claim of community ownership at that point would be very tenuous. By the time it became operational, the wind farm would be owned by its shareholders.

4.6 If the farm then made a surplus above operating costs, the first claimants on that surplus will be the providers of capital. Any distribution to the community would come after those commitments had been met. Is it reasonable, given the information available, to expect large enough surpluses to provide significant benefits to the community?

4.7 Throughout the world, unsubsidised wind farms, even in prime locations, struggle to operate profitably and attract investors. Some wind farm operators do pay grants to local communities. In Australia, grants from commercial operations typically range from a few hundred to a few thousand dollars, per turbine per year. The Hepburn wind farm is an entity with a strong claim to being a community-owned wind farm, albeit with a very different structure than BEL. Hepburn pays an annual community dividend of about \$15 000 per turbine. A similar dividend in Blueskin Bay might amount to about \$45 per household, hardly a bonanza and little compensation for the adverse effects of the proposed wind farm.

4.8 The BEL project is unlikely to provide even these modest dividends. Early analyses of the potential viability of a wind farm on Porteous Hill indicated that it would struggle to provide electricity at prevailing retail rates. The choice of the Porteous Hill site was not based on a rational process. The decision to only consider sites adjacent to and preferably visible from Blueskin Bay precluded consideration of sites with potentially greater wind resources.

4.9 The turbines considered in the initial modelling were determined to be too small to generate commercially viable amounts of electricity on the proposed site. Wind data were subsequently collected from higher altitudes. The current commercial proposal is presumably based on those data. The applicant has not provided data to demonstrate there is a commercially viable wind resource at the proposed site. On the available evidence, and until credible evidence to the contrary is available, the wind resource at the site must be considered mediocre.

4.10 If wind data are provided in support of the application they should be subjected to expert analysis. How were the data manipulated? What distributional assumptions were made? How was variation evaluated over various time scales? How were gaps in the data resolved?

4.11 If the project did achieve a financial surplus, who in the Blueskin Bay community would benefit? Under the aegis of being a "community organisation," BRCT has obtained significant amounts of public and philanthropic money during its existence. A high proportion of the funding has been used for BRCT salaries and administrative costs. There is little evidence of a proportionate benefit to the community, despite the applicant's claims in section 4 of the BEL Resource Consent Application.

4.12 Since Antiquity, the history of capital projects is one of unjustified optimism during planning and of construction cost and time overruns. Nobel Prize winner Daniel Kahneman has documented how such failings in project management are all but universal, even with supposedly expert supervision [1]. Wind energy projects are certainly not immune to planning failures. In New Zealand, the Te Rere Hau wind-farm was downgraded when the farm failed to meet production estimates by large margins. If there is a business case for the current proposal, it should be regarded sceptically.

5.0 Sustainability?

5.1 New Zealand is recognised as a good place for wind energy for two main reasons: there is plenty of the basic resource, and the relative abundance of controllable hydroelectric power means wind energy can, in many cases, be accommodated in the grid with relatively little disruption or expense.

5.2 The New Zealand electricity market is nevertheless a dangerous place for a small electricity generator. New Zealand already has a high proportion of generation from renewables. Many existing generators have relatively low marginal costs of generation. Current electricity prices in New Zealand, and therefore profit margins, are relatively high by world standards. These high prices may not be sustainable, particularly if the Tiwai aluminium smelter closes, which it eventually must. Even in the current high-price environment, some forms of generation (e.g. thermal) are no longer commercially viable. Any business case for the proposed project must allow for the possibility that power prices will fall. If the project is already marginal it is unlikely to survive significant falls in electricity prices.

5.3 The major problem in New Zealand electricity distribution is transmission loss, primarily on the main transmission lines to the North Island. It is the North that would benefit most from an increase in renewable, distributed generation close to major population centres. The south has a surfeit of power. This surfeit will increase when Tiwai closes. Electricity demand is flat and further efficiencies are likely. High prices are driving small electricity consumers to efficiency and micro-generation.

5.4 Any increase in local generating capacity from the proposed project would therefore be gratuitous. It will not enhance the sustainability of electricity supply in the region. It will provide little if any carbon offset, but will have significant embodied carbon. It may provide some intermittent relief to the load on the local transmission lines, but it may also cause local instability, particularly when winds are variable.

6.0 Real Benefits?

Six million dollars would go a long way to providing every household in the Blueskin Bay area with a photovoltaic array and the direct benefits of distributed generation, with little visual impact, without obtrusive infrastructure, without exposure to the electricity spot market. Households and businesses in the area have already installed photovoltaics and demonstrated a return on investment higher than the proposed wind farm could hope for.

7.0 Environmental effects.

7.1 Visual

7.1.1 The applicant claims that the proposed structures are “elegant.” The aesthetics of wind turbines are actually a matter of taste. There’s some as likes them, there’s some as don’t.

7.1.2 The application proposes turbines between 80 and 102 metres in height. It appears that BEL has not yet determined which turbines it would install on the site. It is seeking consent for an incomplete proposal.

7.1.3 Even if some consider these machines beautiful, they are not small. They are large machines by industry standards and their associated costs and impacts will be at least proportionately greater than the smaller machines initially considered. The logic of installing larger turbines at this site to compensate for an inferior wind resource is questionable. It’s rather like a mining company choosing to mine inferior ore but compensating by digging a bigger hole.

7.1.4 The visual impact of three 80- to 102 metre high structures on a coastal area of high landscape values will be inescapable, and offensive to many. The Mount Cargill TV tower is 104.5 metres high. Consent would permit building three structures effectively as high as the Mount Cargill TV tower on the site.

7.2 Noise

Wind turbines produce noise. Larger turbines produce more noise, including higher proportions of problematic low frequency noise. Many wind-farms have attracted noise complaints despite efforts to estimate and minimise noise impacts during design. Tararua and Te Apiti are two of a number of New Zealand wind farms that have provoked large numbers of noise complaints, despite acoustic expert involvement in the design and consent processes. Expert assessments of the likely noise impacts from the proposed project should therefore be regarded with caution. With respect to wind-farm noise impacts, US acoustic expert Dr Paul Schomer commented that “when community responses disagree with the physics, the physics are usually wrong.” [2]

7.3 Ecological effects:

As a qualified ecologist I find the Ecological Assessment of Environmental Effects (Appendix E) somewhat once-over-lightly and overly based on data from other areas. This is acceptable for a preliminary survey but credible local data should be obtained before consent, especially with respect to bird populations. The proposal that some surveys of bird populations in the area could proceed contemporaneously with construction is questionable. It may be too late to mitigate impacts once construction starts.

8.0 Summary

- a) The applicant's claim that the proposed wind-farm will be “community owned” is not credible. The application is essentially for a commercial project.
- b) There is no credible evidence that the project, as proposed, has significant community support.
- c) There are no guaranteed benefits to the community. The applicant has not made a business case for the proposed wind farm that might permit assessment of its possible financial benefits.
- d) On available evidence, the wind resource at the proposed site is not exceptional. There is no shortage of wind resources in New Zealand and no need to build a wind-farm at a site with an inferior resource.
- e) There is a surfeit of electricity in the region and no need for additional generating capacity. Likely price fluctuations may impact on the potential viability of the wind-farm.
- f) There are better options, financially and environmentally, for enhancing the resilience of local electricity supply.
- g) Visual impacts will be significant. Noise impacts and bird mortality may also be significant.

8.1 If the project did provide tangible benefits to the community, trade-offs between those benefits and the environmental impacts might be reasonable. It seems unlikely there will be any such benefits. On the local scale, the proposed project is neither small nor beautiful. It will be capital intensive, complex, essentially industrial, and will have undeniable adverse effects. There is a significant probability it will be an expensive folly. Rather than benefit, it may divide, degrade and disadvantage the community.

8.2 The Resource Management Act requires consenting authorities to “avoid, remedy or mitigate” adverse effects of resource use. In this case remedying or mitigating by altering the size and scope of the project is probably not an option. I submit that the best option is to avoid adverse effects by not granting consent.

9.0 References

[1] Kahneman, D (2011) *Thinking, Fast and Slow*. Farrar, Straus and Giroux, 499 pp.

[2] Dr Paul Schomer (2015), *White Pines Wind Project ERT Hearing*, November 20, 2015

From: Paul Dennison
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 15/11/2015 7:55
Subject: Resource consent application submission - 525334

This resource consent application submission has been made via the Council website on **15 Nov 2015 7:55**. The details are listed below.

Personal information

Name Paul Dennison

Address [REDACTED]

9449

Contact phone [REDACTED]

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I oppose this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that submission relates to all of it

3

Reasons for submission "Its a no from me on the wind farm proposal.

Here are my reasons:

Cost is far to high,

Waste of money,

Noise (these are very noisy),

There is little benefit economic benefit to the area,

no ""signed"" takers for any power generated.

There is no real business case-where is this money coming from? A: To build them and then B: to keep them maintained? We are looking at over \$6,000,000 plus as nothing ever seems to run to budget these days.

The size of them is obscene for the area and there will be a drop in house values as these wind farms will dominate this scenic area.

What can I suggest instead?:

A better and more useful idea could be to raise money to add solar panels to every house in the Warrington and Waitati areas noting warrington has about 100 houses and Waitati 200- we would be looking at about 300 houses in total.

By doing 300 houses they would be able to get a far better deal but it is noted the price of panels is dropping and a conservative \$10,000 per home (\$3,000,000 for all of the above mentioned area noting that it can be done for far less) is far better value these areas then the proposed \$6,000,000 plus on wind farms plus ongoing upkeep.

panels would be far better visually for the areas and better economics and would be of benefit to every homeowner.

Desired decision decline it totally.

From: Polly Higham
To: planning@dec.govt.nz <planning@dec.govt.nz>
Date: 01/12/2015 21:23
Subject: Resource consent application submission -
327171

This resource consent application submission has been made via the Council website on **01 Dec 2015 21:23** The details are listed below.

Personal information

Name Polly Higham

Address [REDACTED]

Otago 9471

Contact phone [REDACTED]

Email address [REDACTED]

Submission details

Consent number LUC 2015-469

Position I oppose this application

Wish to speak? Yes

Present jointly to hearing? Yes

Parts of application that

submission relates to Appendix B1, B3, B4, C1, C2, C3,D,E

3

Reasons for Submissions "We live approximately 1.6 km from the proposed wind turbines, on the coast. We are directly affected by the proposal.

We really really do not want to have the constant noise, the light flicker, the visual impact and light pollution (esp at night) from the turbines.

We get some of our water from a spring below the proposed turbines and we are concerned that the excavation and placing of lots of concrete will disturb the fragile structure and destroy our water supply, (and 11 other households which share this spring and resulting stream).

We don't understand how these can be of benefit to our community when we don't get any power from them and are unlikely to receive any benefit from them. It is not a ""Community Support Activity"". We certainly will not be supporting this venture in any financial way. We were not consulted, and the decision is based on only 37 people, therefore not representative.

We are concerned about our property value decreasing.

The scientific study for the impact on the bird life is very poor, and represents the lack concrete evidence throughout the application.

Desired decision Do not give consent for the wind farm to go ahead.



DUNEDIN CITY
COUNCIL
Kaunhera-e-rohe o Otepoti

SUBMISSION FORM 13 Submission Pg S348
Submission concerning resource consent on publicly notified application under section 95A
Sections 95A, Resource Management Act 1991

To: Dunedin City Council, PO Box 5045, Moray Place, Dunedin 9058

Resource Consent Number: LUC-2015-469
Site Address: 147 Church Road, Merton
Description of Proposal: Establish a community wind farm comprising three turbines

Applicant: Blueskin Energy Limited

DCC

24 NOV 2015

I/We wish to lodge a submission on the above resource consent application:

Your Full Name: PETER STANISLAUS OLENDZIK

Address for Service (Postal Address): [Redacted] Streeton

Post Code: 901620

Telephone: [Redacted] Facsimile: [Redacted]

Email Address: [Redacted]

I: Support/Neutral/Oppose this Application I: Do/Do Not wish to be heard in support of this submission at a hearing

If others make a similar submission, I will consider presenting a joint case with them at a hearing.
(Delete the above statement if you would not consider presenting a joint case at a hearing)

Please use the back of this form or attach other pages as required

The specific parts of the application that this submission relates to are:

The whole application.

My submission is [include the reasons for your views]:

(1) Major concerns over earthworks - access tracks & excavation.

~ Potential slippages etc - already unstable area.

(2) With a Reservation area.

(3) Not complying with District plan.

(4)

The decision I wish the Council to make is [give precise details, including the parts of the application you wish to have amended and the general nature of any conditions sought]:

Rejection of Plan - outright

Signature of submitter:

(or person authorised to sign on behalf of submitter)

*Director of
Kilmog Trust*

Date:

13/11/2015

Notes to Submitter:

Closing Date: The closing date for serving submissions on the Dunedin City Council is **Wednesday 2 December at 5pm**. A copy of your submission must be served on the applicant as soon as reasonably practicable after the service of your submission on the Dunedin City Council. The applicant's address for service is 1121 Mount Cargill Road, RD 2, Waitati 9085.

Electronic Submissions: A signature is not required if you make your submission by electronic means. Submissions can be made online at <http://www.dunedin.govt.nz/rma> or sent by email to planning@dcc.govt.nz

Privacy: Please note that submissions are public. Your name and submission will be included in papers that are available to the media and the public. Your submission will only be used for the purpose of the notified resource consent process.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 2/12/2015 8:37:09 a.m.
Subject: Resource consent application submission - 527200

This resource consent application submission has been made via the Council website on **02 Dec 2015 8:37am**. The details are listed below.

Personal information

Name Paul Smith

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that submission relates to Entire submission

Reasons for submission I firmly believe that small scale energy projects by communities of New Zealand are a very positive development. They build resilience, they build community and they generate awareness of energy use and sustainability. People become part of a wider conversation that is very positive. They meet with and work with others in their community. I am not in favour of all wind farms but this is a very well thought out and well planned development that is a suitable size for the community. It is community led developments such as this that will make a real impact on developing a more sustainable way of life for the rest of New Zealand. This is a forward thinking, innovative project that is leading the way. The hard work put in by this group is commendable as is the depth of their ongoing public consultation and honesty. Many of the proceeds will go back into the community which is another positive outcome. The effects of the development will be minor visually and in terms of environmental impact. This development fits with the very vision developed in the City Council's Spatial Plan to support local energy production.

Desired decision Approved in full

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 1/12/2015 10:23:59 p.m.
Subject: Resource consent application submission - 527181

This resource consent application submission has been made via the Council website on **01 Dec 2015 10:23pm**. The details are listed below.

Personal information

Name Pat Wall

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number Wind Farm - 147 Church Road - LUC-2015-469

Position I support this application

Wish to speak? Yes

Present jointly to hearing? Yes

Parts of application that

submission relates to This relates to the whole application since I support it in its entirety.

Reasons for submission I support renewable energy in all forms and I support community driven activities such as this because I feel that communities are often let down by the ever corporatized national government. I believe that small communities such as Blueskin Bay have a right and a real need to take such actions and that it should help to create a blueprint for other communities in the future. I feel also that Dunedin can greatly benefit from this and other such activities and I want this to go through in order to pave the way. I also have been witness to some of the nasty tactics that the opposition have used and I want to publicly support this in order to counter their actions. I have seen the opposition take out ads in the ODT, making unfounded and dubious claims about the negative impacts of the project. I know full well that there are very few people opposing the project but they are very loud and aggressive and I do not wish to allow a loud and irrational minority over rule the majority. While I recognize that there are indeed people who may not want to see wind turbines and they have the right to complain, the reality is that the installation will not be on their property and the majority supports it. As a scientist, I find the claims that have been made by the opposing parties quite absurd and distressing. I have personally had the occasional go round with

these people and have found them to be irrational and not interested in the greater good. I feel that we as a nation and a people must transition to renewable energy forms and we must try to generate our energy as close to point of use as possible. This wind cluster makes good sense from an energy and economics point of view. I say this with authority as energy is my profession. Therefore, for the above reasons, I support this project totally.

Desired decision I wish the council to vote in favor of the project.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 2/12/2015 2:35:57 p.m.
Subject: Resource consent application submission - 527276

This resource consent application submission has been made via the Council website on **02 Dec 2015 2:35pm**. The details are listed below.

Personal information

Name Rachael Palmer

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that

submission relates to The application as a whole.

Reasons for submission I feel that Blueskin energy have conducted a thorough and complete Assessment of Environmental Effect, I applaud the grass-roots nature of the project and its importance for the Blueskin area, the potential for reduction of Dunedin's greenhouse gas emissions from electricity, the example it provides to other communities, and the value it will provide in terms of community development.

Desired decision Approve.



**DUNEDIN CITY
COUNCIL**
Kaitiaki's a-roto o Teiwan

SUBMISSION FORM 13

Submission Pg S353

Submission concerning resource consent on publicly notified application under section 95A

Sections 95A, Resource Management Act 1991

To: Dunedin City Council, PO Box 5045, Moray Place, Dunedin 9058

Resource Consent Number:

LUC-2015-469

Applicant: Blueskin Energy Limited

Site Address:

147 Church Road, Merton

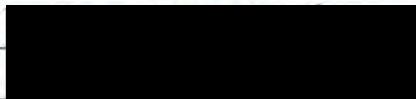
Description of Proposal:

Establish a community wind farm comprising three turbines

I/We wish to lodge a submission on the above resource consent application:

Your Full Name: ANTHONY HAEREROA PAIRATA

Address for Service (Postal Address):



Post Code: 9471

Telephone:



Facsimile:



Email Address:



I: ~~Support~~ ~~Neutral~~ ~~Oppose~~ this Application I: ~~Do~~ ~~Do Not~~ wish to be heard in support of this submission at a hearing

If others make a similar submission, I will consider presenting a joint case with them at a hearing.

(Delete the above statement if you would not consider presenting a joint case at a hearing)

Please use the back of this form or attach other pages as required

The specific parts of the application that this submission relates to are:

THE WHOLE OF THE APPLICATION

My submission is [include the reasons for your views]:

THAT THE WIND FARM SHOULD NOT PROCEED BECAUSE IT WILL ADVERSELY EFFECT THE LANDSCAPE & AMENITY VALUES OF THE AREA WITHOUT PROVIDING ANY BENEFIT

The decision I wish the Council to make is [give precise details, including the parts of the application you wish to have amended and the general nature of any conditions sought]:

THAT THE APPLICATION BE DECLINED

Signature of submitter:

A.H. Puthi

Date:

30.11.2015

(or person authorised to sign on behalf of submitter)

Notes to Submitter:

Closing Date: The closing date for serving submissions on the Dunedin City Council is **Wednesday 2 December at 5pm**. A copy of your submission must be served on the applicant as soon as reasonably practicable after the service of your submission on the Dunedin City Council. The applicant's address for service is 1121 Mount Cargill Road, RD 2, Waitati 9085.

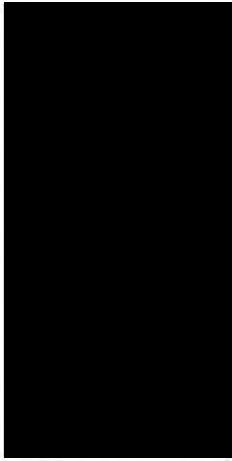
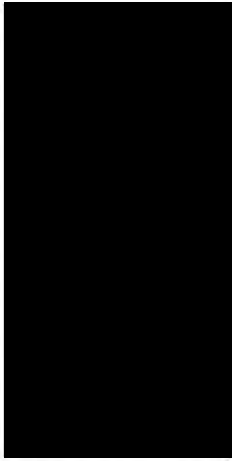
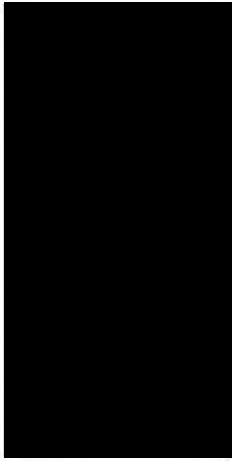
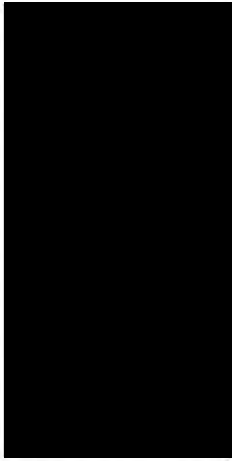
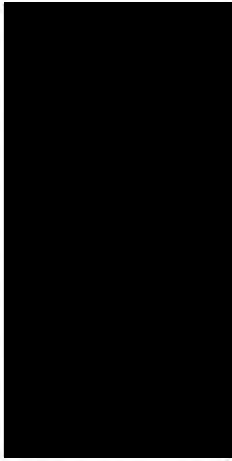
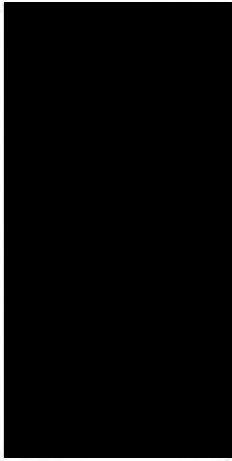
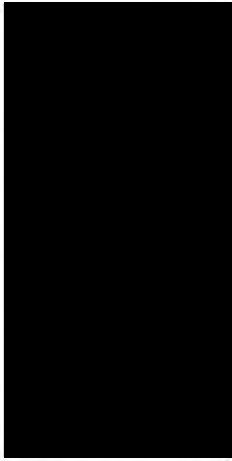
Electronic Submissions: A signature is not required if you make your submission by electronic means. Submissions can be

Thank you for your online submission.

This email is to confirm that your submission on resource consent application Wind Farm - 147 Church Road - LUC-2015-469 made via the Dunedin City Council website has been received.

Below are the details of your submission.

Your details

- Consent number: Wind Farm - 147 Church Road - LUC-2015-469
- First name(s): Paul
- Last name: Cardno
- Street number: 
- Street name: 
- Suburb: 
- Postcode: 
- City / town: 
- Contact phone: 
- Fax number: 
- Email address: 

Submission details

- Your position: I support this application
- Do you wish to speak in support of your submission to the Consent Hearings Committee: No
- If others make a similar submission, I will consider presenting a joint: No

case with them at a hearing:

- Specify the specific parts of the application that this submission relates to: The application as a whole

- Explain your reasons for this submission:

1) I believe that a project like this provide a key visual link to the energy that we use. Thus giving people a constant reminder that what they use has to be generated more. I believe that this will raise awareness of people around how to use and conserve energy. 2) There are many people in the community that support this project and seeing this project come to completion will give the community strength and encourage them to take control of there energy requirements. 3) Blueskin bay area is a very go ahead community and this project would help consolidating this. 4) Producing power in this way is good for the environment it reduces our dependancy on energy that is produced in a manner that has much more environmental impact. 5) Will give focus on renewable energy and how its done.
- State the decision you wish the Council to make: Grant the consent including with the conditions we have proposed be included, and being mindful that this is a very low impact development being undertaken as a community support activity and should be treated as such

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 24/11/2015 7:41:57 p.m.
Subject: Resource consent application submission - 526129

This resource consent application submission has been made via the Council website on **24 Nov 2015 7:41pm**. The details are listed below.

Personal information

Name Rowan Davies

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that

submission relates to establishment of a wind farm on porteous hill

Reasons for submission I think it will greatly benefit the community and provide an example for other initiatives with minimal negative effects.

Desired decision give consent for the establishment of the wind farm

Talei Anderson

From: rosiehojt@hotmail.com
Sent: Saturday, 14 November 2015 08:37 a.m.
To: planning@dcc.govt.nz
Subject: Resource consent application submission - 525359

This resource consent application submission has been made via the Council website on **14 Nov 2015 8:37am**. The details are listed below.

Personal information

Name Rosemary Hoyt

Address [REDACTED]

Contact phone [REDACTED] 1

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I oppose this application

Wish to speak? No

Present jointly to hearing? Yes

Parts of application that submission relates to Resource consent to establish a wind farm Object the proposal

Reasons for submission Too close to residential houses Effect on the surrounding landscape- risks of erosion Unknown effect on the health of the local environment including potential harm to existing farm animals, peoples health and well-being The impact of these turbines on the cultural and traditional attachments people have to the surrounding land by altering the landscape with the construction of these wind turbines so close to where people are living. Unknown impact on the value of properties in the area when such structures will effect their land values, views and outlooks from their properties Surveys of peoples attitudes were several years ago and the population of people within this area has changed.

Desired decision To not approve the application and request alternate sites to be considered where there are less people living in close proximity to such structures.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 27/11/2015 5:02:31 p.m.
Subject: Resource consent application submission - 526568

This resource consent application submission has been made via the Council website on **27 Nov 2015 5:02pm**. The details are listed below.

Personal information

Name Rosemary McBryde

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I oppose this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that

submission relates to Community Engagement

Reasons for submission The 2008 study by Matthew Hoffman indicates that the initial proposal was based on a concept whereby the energy generated by the turbines would provide power for the local community, thus protecting Blueskin Bay residents from power outages and high prices and making the community more "resilient". On this basis the investigations proceeded. The proposal in its final form is no longer about resilience for the community. It is simply an investment in infrastructure on behalf of an electricity provider, with no guaranteed power supply for local households and no guaranteed return to the community. In the Hoffman study (2008), respondents showed a strong preference for local ownership, with frequent mention of the advantage of security of supply for local residents (see Appendix B2 page 74 for typical responses). Five years later, skepticism about the role of a large power company was expressed in the Opinions on the Blueskin Wind Project Dec 2013 (See interviews C, G, J, M). No security of supply is guaranteed in this proposal. I do not believe that the BRCT should be considering a multi-million dollar construction project on behalf of existing electricity networks and providers. Should the wind turbines be constructed and commissioned, the hugely indebted Blueskin Energy Limited will be not an equal partner but rather a price-taker in a very competitive electricity market. In this application, the Trust has not

made a business case; instead it bases its argument for the turbines on the very broad and widely supported aims of 1) developing renewable energy to reduce reliance on fossil fuels and other types of energy sources and 2) reinvestment in the local community. Few people would dispute that these are admirable aims, and much of the community support quoted by the Trust is based on approval for these general outcomes. However, the proposal is very short on financial specifics and projections. If this were a viable, economic and scientifically sound proposition, I would expect local wind generation to be undertaken by one of the large energy companies as part of its core business. I think this is a well-intentioned proposal, which is too ambitious for a small Trust and a small, diverse community.

Desired decision I ask the Council to decline the application.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 22/11/2015 9:35:57 p.m.
Subject: Resource consent application submission - 525919

This resource consent application submission has been made via the Council website on **22 Nov 2015 9:35pm**. The details are listed below.

Personal information

Name Rhys Steffan Owen

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number 469

Position I oppose this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that

submission relates to (1) Section 8.3. Operation and Maintenance Effects, Visual and Landscape

Reasons for submission (1) Section 8.3. Operation and Maintenance Effects, Visual and Landscape. "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." I totally agree with this statement. "...the wind farm is addressed as having landscape and visual impacts that are assessed to be less than minor." I disagree with this statement. The windfarm will have significant visual impacts. The windfarm will be visible looking north from SH1 Leith Saddle. The view from SH1 Leith Saddle is something that I hold special, it is the view I associate with my home and is something very different to the view of the city. The view from SH1 Leith Saddle looking north, is a mixture of farmland and natural bush, with a natural silhouette, there are no large man made structures. The proposed construction of 3 wind turbines on the top of Porteous Hill will significantly change the view from SH1 Leith Saddle. The skyline will change from being a natural hill silhouette with trees to a silhouette dominated by 3 man made structures. The mixture of landscape will change with the introduction of large scale man made structures being a newly introduced prominent element. This is a significant change that will change my perspective on what it means

to drive over SH1 Leith Saddle on my journey home from work. Currently the drive north over SH1 Leith Saddle is a switch, a point where I leave the City behind and visibly soak in the fact that I am now in the natural setting of Blueskin Bay and surrounds. This is what could change. This is significant to me and I am sure would be consciously or subconsciously significant for many others. Secondly, the proposed wind turbines will be visible both from my backyard and from the beach. The construction of the proposed wind turbines will in my view detract from my experience of being in these locations. I know that beauty is in the eye of the beholder, and some people may like looking at large scale engineered structures. But there is a place for such structures. Industrial sized engineered structures should not be constructed in places where they detract from the natural environment. They should not be constructed in a place where it is likely that local people will find them an eyesore. These wind turbines will only harm the natural aesthetics of the area. The proposed wind farm would have landscape and visual impacts that are assessed to be significant and adverse. This is not an essential asset. Its not a bridge or road or hospital. It is an in-efficiently sized power scheme. The benefits are therefore less than minor. But the adverse effects are significant. Good resource management would tell you that this is a terrible proposal, the adverse effects significantly outweigh any potential benefits.

Desired decision The Council cannot accept this consent application. The adverse effects are significant and benefits are less than minor.

From: [REDACTED]
To: Talei Anderson <Talei.Anderson@dcc.govt.nz>
Date: 2/12/2015 4:59:56 p.m.
Subject: LUC-2015-469 Wind Farm - 147 Church Road

Submission Regarding Resource Consent Application

Consent Number: LUC-2015-469 Wind Farm - 147 Church Road

I do not support this application

My name is Rosemary Penwarden. I live in Blueskin Bay and am involved in a number of community groups including Waitati Open Orchards, Waitati Community Garden, Waitati Edible Gardeners, Blueskin Baywatch, Valley Community Workspace (North East Valley). I am spokesperson for Oil Free Otago and an organising group member of Coal Action Network Aotearoa. I am co-author of "Jobs After Coal".

I have 12 photovoltaic panels on my roof and am at the beginning stages of building an electric car to personally eliminate my reliance on fossil fuels.

I am committed to a just transition to a low carbon economy. I believe one of the key factors in that transition is a strong, connected community, local jobs, local food and local energy.

Why then, do I oppose this application?

This project is not making our community stronger; it is dividing it.

The necessary transition to a low carbon economy will require a different, fairer way of doing things. I believe that must include genuine consultation. In a fair, participatory society, everyone must take part. Those most affected by a new project must have the most say. We need more transparency and more information on which to base our decisions. Those decisions must be based on sound evidence, which I feel is lacking in this application.

For me the bottom line is that we need to reduce our emissions. How does this project reduce emissions? It is not causing the closure of fossil-fuelled electricity generation as would be the case in other countries.

I do not see sufficient evidence to support this project. I see opposition from those in my community closest and most affected by it.

Rosemary Penwarden



From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 21/11/2015 10:49:40 a.m.
Subject: Resource consent application submission - 525863

This resource consent application submission has been made via the Council website on **21 Nov 2015 10:49am**. The details are listed below.

Personal information

Name Rick Peters

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? Yes

Parts of application that

submission relates to Resource consent is sought to establish a community owned wind farm on Porteous Hill near Warrington. The proposed facility will comprise 3 turbines. The full height of the turbines from ground level to rotor tip will be between 80-102m in height.

Reasons for submission I support this submission as it offers a starting point for this area and the rest of the world to wake up and start doing something positive to bring an end to our dependence on carbon based fuels by producing electricity using a totally free and renewable natural resource that does not produce any harmful waste. It is recognized most of the rivers have been dammed and there is no desire for coal or diesel powered power production in New Zealand so solar and wind power generation is the only remaining option. However the people who always oppose such things as wind farms seem to have a louder voice than those who are for them. I think that is due to the fact people who are forward thinking and want wind farms are too busy working and minding their own business to support such ventures. Those who oppose tend to be people with too much time on their hands and not to mention they often get funding from the Government to form committees and pay lawyers for the purpose of opposing.

Desired decision I request the Council APPROVE the Resource Consent.

Dunedin City Council
dcc@dcc.govt.nz

Richard Reeve



01.12.15

To whom it may concern

1. This personal submission on the proposed Blueskin Energy Project expresses a neutral view as to whether resource consent is granted, subject to the matters raised in it being taken into account by the Commissioners as relevant matters under the Resource Management Act 1991 ("Act").

Background

2. I am a permanent resident of Warrington, and the registered proprietor of [REDACTED] (CT: OT216/48).
3. Relevantly in the context of wind farms, I was formerly Chair of the Upland Landscape Protection Society and a founding member of Save Central, which opposed Trustpower's Mahinerangi Wind Farm (**MWF**) and Meridian Energy's Project Hayes (**Hayes**) from 2005-2011. In that time, I wrote numerous public articles and letters advocating the merits of small generation close to load rather than giant utility-scale wind farms, appeared as a spokesman on radio and television, and developed a comprehensive knowledge of wind energy issues.
4. As a result of the wind farm battle, I retrained and am now a practising solicitor with Dunedin law firm, Wilkinson Rodgers Lawyers.
5. I am also a published local poet, and have written work about the Warrington and greater Dunedin landscapes.
6. Though this submission is made in a personal capacity, and does not represent the views of the Branch or the Society, I am co-Chair of the Dunedin Branch of the Royal Forest and Bird Society of New Zealand.

Adverse effects

7. Relative to utility-scale generation such as MWF or Hayes, I consider the physical impact of installation to be minor, with the land surface already significantly modified by agriculture and to that end much less difficult to rehabilitate than, for instance, tussock grassland or herbfield in Otago alpine or subalpine areas, karst ridges in Canterbury, or kauri beds in Northland (where other wind farms have been proposed).

8. I also see less chance of invasive pest species posing a risk to plant cover. The small scale of the wind farm gives me no serious concern about the scale of earthworks required, provided that rehabilitation is undertaken effectively.
9. Having visited many wind farms with larger turbines than the relatively small models proposed, I am not personally concerned by light-flicker, shadow-banding or noise-related adverse effects.
10. I do not believe the wind farm will have any significant bearing on my property values, though the situation may be different for other residents elsewhere.
11. To the extent that turbines are to me no more than industrial infrastructure, I do regard the proposed wind farm as an incursion on the present rural-natural character of the landscape. I am surprised that images of the wind farm were not circulated more extensively to Warrington residents prior to the resource consent application, particularly given the applicant's familiarity with the community. The most public display of the Blueskin Energy Project that I have seen to date has been an image placed by an opposition group on the local noticeboard.
12. I note that the current siting of the Blueskin Energy Project is indicative only.
13. I wish to adopt the views of local ornithologist Mr Derek Onley as to avifauna issues, who has also submitted on this resource consent application.
14. I have reservations about the adverse effects of mandatory night-lighting for the turbines. This concern is by no means specific to the Blueskin Energy Project. From Mt Cargill to Seacliff, the northern Dunedin district has become increasingly light-polluted in recent years. The flashing lights of the turbines at night will almost certainly exacerbate that trend.
15. It is possible that the wind farm could cause blackouts from local transmission surges. I am no expert on this matter, but suggest that this potential adverse effect requires investigation.

Positive effects

16. I remain of the view that the placement of smaller-scale generation close to community represents a more appropriate path for wind energy than utility-scale generation in fragile backcountry environments.
17. I am also of the view that all new generation should be renewable, and that the Blueskin Energy Project qualifies as renewable energy.
18. While I do not believe that the Blueskin Energy Project will have significant climate-change benefits, I agree that the activity is better than building new thermal stations.

19. While I do not regard turbines as sculptural, I agree that the underlying land and landscape are less sensitive than other sites in Otago that have previously been proposed as sites for wind farms.
20. The applicant is a company wholly owned by a charitable trust, the Blueskin Resilient Communities Charitable Trust, and the application is therefore claimed to be a community project, with benefits flowing back to local residents. The parties with the commanding interest in the Blueskin Energy Project, however, by virtue of the securities they hold over assets and earnings, will inevitably be private investors. Any community benefits extending from the wind farm's profitability must therefore be assessed against a background of the repayment terms of the secured lenders, other capital costs such as maintenance, compliance and administration, and progressive depreciation/obsolescence of the plant itself. These economic factors will govern whether the wind farm does in fact pay a meaningful dividend to the community.
21. I express no view on the economic merits of the proposed wind farm per se.
22. I do not believe that the Blueskin Energy Project will have any bearing on local energy sustainability. Electricity generated by the turbines will simply enter the national grid to be transmitted elsewhere. I note that there is now over 1000MW of consented generation in Otago-Southland, with just over 100MW installed. As with hydropower, Otago-Southland produces a nationally disproportionate amount of wind generation input, relative to these regions' domestic consumption and population. While the Tiwai smelter alters the overall consumption landscape, its future is also increasingly less certain.
23. A benefit of the proposed location, however, is that less energy will be lost in transmission to Dunedin than energy generated from further afield.
24. I believe the wind farm will likely be easier to repair than remoter installations, being local, and that this may add to its lifespan.

Summary

25. For the above reasons, this submission is neutral as to the outcome of the present application.
26. It is however noted that, as a non-complying activity, the Blueskin Energy Project is subject to the statutory tests of section 104D(1) of the Act.
27. It is left to the Commissioners' determination as to whether the views and concerns raised in this submission, in combination with the applicable planning documents, trigger those statutory tests.

1 December 2015

Richard Maurice Reeve

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 30/11/2015 5:02:43 p.m.
Subject: Resource consent application submission - 526915

This resource consent application submission has been made via the Council website on **30 Nov 2015 5:02pm**. The details are listed below.

Personal information

Name Raewynne Williams

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number Wind Farm - 147 Church Road - LUC-2015-469

Position I oppose this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that

submission relates to I object to the Visual Pollution of the current landscape. Also that this is referred to as a Community project with very little consultation with the local community of Warrington

Reasons for submission I have lived in Warrington for 22 years and previously at Omimi for 5 years and this is the first I have heard of this proposal. It appears to be another project referred to as a Community project that is run by a few people for the benefit of a few people with very little consultation with the Local Community.

Desired decision I would like the Council to decline this application

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 1/12/2015 2:48:58 p.m.
Subject: Resource consent application submission - 527125

This resource consent application submission has been made via the Council website on **01 Dec 2015 2:48pm**. The details are listed below.

Personal information

Name Hank U Rebmann

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that submission relates to the whole

Reasons for submission I wholeheartedly support this application, including the conditions proposed by the applicant. History: Scott Willis has been working on this community project for a great number of years now; researching all humanly possible aspects, getting expert advice, independent advice, measuring data and collation thereof, business models, peer reviews. I personally participated in the 2006 visioning workshop, the 2009 systems thinking workshop, the field trip (inland Roxborough) to experience clean power generation and a community beneficial business model close up (and being absolutely surprised how quiet modern windmills are close up) and many of the community meetings and events Scott (BRCT) organised; he also kept informing the whole community of his and the trusts findings via email groups and monthly info essays in the Blueskin Media, sometimes in the ODT. Most importantly he listened to input and concerns, then set about finding solutions and then reporting back again. Now the whole well prepared package goes for Consent by the authorities. My reasons for this submission: I would love to have the visual experience of generating renewable energy, demonstrating to the whole community and even to the wider world what can be done positively. For example the site can, beside the Orokonui sanctuary, be another focal point for eco-tourists on electric bikes (supporting another local business, Blueskin

Bikes). I also love to see the business model in action where locals can invest in the community, where profits get put back into community benefitting projects and opening means of empowerment. I do find the environmental assessment very thorough, particularly for such a small scale and low-impact development. I'm confident that the risk to birds is minor to less-than-minor as the expert report indicates, and certainly far less risk than cars or cats or big landscape windows - none of which require a resource consent. Another reason for me is to actively lower the percentage of the greenhouse gas emissions – currently sitting at 14% in Dunedin, because some electricity is produced by coal fired power stations a long way away. Finally, this is about community benefit, as part of the profits generated from this project will benefit the whole community, not just individuals and not just a big company. I am happy to have this type of energy generation classified a discretionary activity in rural zones. It allows for adequate input and control from the community whilst not being overly bureaucratic. Travelling through Europe, one can see many big-scale windfarms, also a lot of solar panel arrays and other means of renewable energy installations working alongside each other. And people are proud of the energy generated. To secure continuity of supply I would like to see a lot more of that happening here in Dunedin and New Zealand.

Desired decision That the CONSENT is APPROVED. In fact consideration could be given to the open and inclusive nature of community engagement. Another fact is that the owner of the company is a small charitable trust undertaking this project on behalf of the community so the DCC should not impose more conditions that will make this low impact small-scale project more challenging than it already is.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 30/11/2015 4:21:46 p.m.
Subject: Resource consent application submission - 526901

This resource consent application submission has been made via the Council website on **30 Nov 2015 4:21pm**. The details are listed below.

Personal information

Name Sue Roberts-Blyth

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? Yes

Parts of application that

submission relates to The installation of wind turbines on Porteous Hill. Warrington

Reasons for submission I understand there are some concerns around birdlife and visual impact, however I wish to support the process and development as I think the environmental benefits and future proofing attached to this application out weigh these. Alternative energy sources are a necessity.

Desired decision Please support the development of the three-turbine wind farm, community owned, in Warrington. As a member of the Blueskin Bay community I strongly support this proposal.

**SUBMISSION IN OPPOSITION TO A RESOURCE CONSENT APPLICATION
BY BLUESKIN ENERGY LIMITED ESTABLISH A WIND FARM ON PORTEOUS HILL
NEAR WARRINGTON (LUC-2015-469)**

To: **Attention: City Planning**
BY EMAIL: planning@dcc.govt.nz

Name of Submitter: Simon Ryan and Jennifer Ashby
[REDACTED]

Address for service: c/- ChanceryGreen
PO Box 106 202
Auckland Central 1143
Attention: Karen Price

Telephone: 09 357 0330

Email: karen.price@chancerygreen.com

1. INTRODUCTION

- 1.1 Dunedin City Council has publicly notified an application by Blueskin Energy Ltd (the "Application" / "Applicant") to construct a three turbine wind farm on Porteous Hill near Warrington (the "Proposal").¹ The Proposal address is listed as 147 Church Road, Merton (the "Site").
- 1.2 This submission is made on behalf of Simon Ryan and Jennifer Ashby (the "Submitters").
- 1.3 The Submitters **oppose** the Application for the reasons set out in this submission.

Background to Submitters

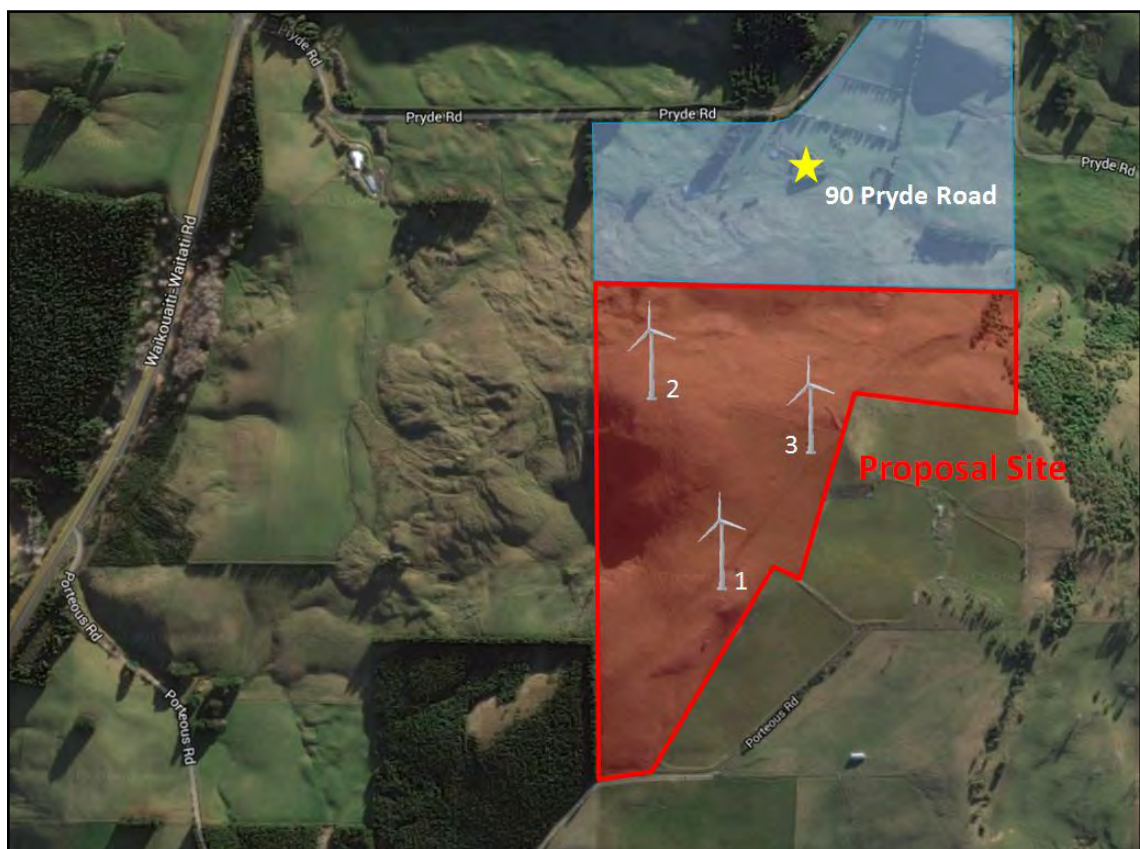
- 1.4 Simon Ryan and Jennifer Ashby own and live at the rural property at [REDACTED], which directly adjoins the Proposal Site. Their 15 year old daughter also lives in the family home on the property. The family has lived at the property for ten years. The

¹ Resource consent reference number LUC-2015-469.

house on the property is less than 200m from the proposed wind farm Site,² and is the closest of any house to the Site and to any of the indicative turbine locations.

- 1.5 In light of the above, the Submitters will be amongst the most affected nearby residents if the Proposal is granted consent.
- 1.6 The map below shows the location of the Submitters' home and property in relation to the Proposal Site.

Figure One: Indicative location of Submitters' home and property in relation to the Proposal Site (including indicative turbine locations³)



- 1.7 The Submitters are supportive of the development of renewable energy, including the concept of appropriately sited and scaled community wind generation projects. However, the Submitters consider that the specific Proposal is entirely inappropriate and that it will have significant adverse effects on them and on the environment.

² Distances in this section are approximate.

³ The base of each turbine image corresponds with the indicative turbine locations provided in the Application documents (best efforts have been made to ensure accuracy). The turbine images indicate location only and are not to scale.

- 1.8 In the Submitters' view, while it is easy to support concepts like renewable energy generation in the abstract, in reality it is the neighbours that will shoulder the burden of the adverse effects of the Proposal. In the context of this Proposal, the Submitters consider that the likely adverse effects on them amount to an unreasonable burden.⁴

2. PRINCIPAL SUBMISSION

- 2.1 The Submitters oppose the Proposal in its entirety. The Submitters' principal submission is that the Application does not make adequate provision to avoid, remedy or mitigate potential adverse effects associated with the Proposal. The Application will therefore not promote the sustainable management of natural and physical resources in accordance with Part 2 of the Resource Management Act 1991 (the "RMA").
- 2.2 The reasons for the Submitters' principal submission are addressed below.

3. LANDSCAPE/VISUAL EFFECTS

- 3.1 The Proposal will have a range of adverse visual, landscape and natural character effects, if constructed. Visual effects are a key issue for the Submitters, who are particularly concerned with landscape amenity impacts, as experienced from their property. The Submitters consider that such effects will be adverse and significant, and that the Proposal is therefore inappropriate from a visual landscape perspective.

Turbines

- 3.2 The Application documents state that the Submitters' property at 90 Pryde Road will be only 471m away from the nearest indicative turbine location⁵ (which is very close in the context of other New Zealand wind farms). Therefore, the Submitters are surprised and concerned that there is no detailed analysis, including photo simulations, regarding the adverse visual effects that will be experienced from their home. Such analysis is common practice for wind farm proposals, and without it the Submitters cannot adequately assess the potential adverse effects on them. Nor, in the Submitters' opinion, can the consent authority for the purposes of making its decision on the Application.

⁴ See *Motorimu Wind Farm Ltd v Palmerston North City Council* W067/08 where the Environment Court held that the adverse effects on nearby neighbours' visual amenity imposed an unreasonable burden on them, such that consent for additional turbines was declined.

⁵ Acoustic report, page 4.

3.3 From the material provided, the Submitters can only conclude that adverse visual effects on them will be significant.

3.4 At page 10 the Applicant's landscape assessment states:

From the north, the sample view from Pryde Road...shows turbines 2 and 3 less than a kilometre distant. The turbines will thus appear **quite close**.⁶

3.5 At page 12 the Applicant's landscape assessment states:

Viewed directly from Pryde Road, the turbines less than a kilometre away will be a **substantial presence**.⁷

3.6 At page 13 the Applicant's landscape assessment states:

With the clear view to the uncluttered open summit, the effect of turbines on the road corner view from Pryde Road is assessed to be **significant**.⁸

3.7 Given that the Submitters' home is closer to the proposed turbines than Pryde Road, the Submitters consider that from their home the turbines will appear *very close* and will be a *very substantial presence*, with *significant* adverse effects. The few visual simulations accompanying the Assessment of Environmental Effects ("AEE"), far from offering comfort to the Submitters, serve to reinforce their concerns with the Proposal. The simulations confirm that the turbines will be highly visible, intrusive, out of character, and dominant/overbearing from the Submitters' property, and that they will significantly affect amenity values. The turbines will undermine the visual integrity of the natural character and landscape of the rural/coastal environment. The movement of the turbines will further draw attention to them and heighten their visual impact.⁹ And the inability to see the base of the turbine structures from the Submitters' home will affect the ability to place the structures within the context of the wider landscape, which will therefore add to the turbines' sense of dominance and "out of place-ness". While marketed as a "small scale" "community" energy generation project,¹⁰ the Submitters consider that a group of turbines possibly over 100m tall and within a few hundred meters of nearby homes is not "small scale" on any normal meaning of those words, and will be more in keeping with an industrial scale.

⁶ Emphasis added.

⁷ Emphasis added.

⁸ Emphasis added.

⁹ See *Meridian Energy Ltd v Wellington City Council* [2007] NZEnvC 128 at [141].

¹⁰ See for example the AEE, page 2.

- 3.8 In *Meridian Energy Ltd v Wellington City Council* [2007] NZEnvC 128 and *Motorimu Wind Farm Ltd v Palmerston North City Council* W067/08 the Environment Court found that two significant factors which contributed to the visual significance of the proposed wind farms were proximity to the turbines and the elevation of the turbines above the ridgeline. The Submitters consider that both factors are present in this case.
- 3.9 Numerous objectives and policies at all levels of the applicable planning framework highlight the need to protect amenity values.¹¹ The fact that part of the Site is located within the North Coast Coastal Landscape Preservation Area under the Dunedin City Council District Plan demonstrates the high landscape values associated with the locality. (The Proposed Dunedin Second Generation District Plan (“2GP”) also identifies part of the site as a Significant Natural Landscape.) While the turbines will not be located within the Landscape Preservation Area (by a small margin), they will have similar adverse visual effects upon the Landscape Preservation Area in comparison to a layout that is positioned just inside the Area. The Environment Court has confirmed that a proposed wind farm does not need to be within an outstanding natural landscape (or similar characterisation) to have an adverse effect on it.¹²
- 3.10 Given the comments from the Applicant’s landscape assessment that are discussed above, and the nature and scale of the likely effects of the Proposal, the Submitters cannot understand the landscape assessment’s conclusion that visual effects from their property will be minor; or that “[o]verall, the effects of the turbine cluster on visual amenity are assessed to be predominantly positive”.¹³ The photo simulations indicate that the adverse effects on amenity from the Submitters’ property will be significant, with the turbines likely to read as overbearing industrial-scale structures in an otherwise rural setting.
- 3.11 In addition, the AEE states that “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.”¹⁴ The Proposal will certainly be visible from the Submitters’ home/wider property.

¹¹ See, for example Objectives 6.2.2 and Policy 6.3.6 of the District Plan.

¹² *Rangitikei Guardians Society Inc v Manawatu-Wanganui Regional Council* [2010] NZEnvC 14 at [94]-[95].

¹³ Page 11.

¹⁴ AEE, page 30.

3.12 The Applicant's landscape assessment places considerable emphasis on visual perception being shaped by the community's relationship with the Proposal (i.e. that because the Proposal is marketed as a "community wind farm" this reduces the adverse visual effects).¹⁵ Large portions of the local community, including the Submitters, do not consider the Proposal to be "their project". The Submitters do not consider that the Proposal's significant visual impacts will be mitigated by the notion that the turbines are "community owned".¹⁶ In addition, the Board of Inquiry into the Turitea wind farm proposal near Palmerston North confirmed that public perception (in relation to which the Submitters question the Applicant's claims of widespread support in this case) is not an acceptable basis on which to "mitigate" significant adverse effects – public perception studies may indicate support for a proposal, but cannot justify proceeding in the face of adverse effects.¹⁷

3.13 There are also a number of major uncertainties which add to the Submitters' concerns regarding visual effects, including the following:

- (a) Given the Applicant states that the layout of the turbines as described in the Application is indicative only (i.e. subject to change), the Submitters can have no certainty regarding the level of effects on them. Given the indicative nature of the proposed layout, the Submitters would have expected all assessments by the Applicant, including on visual effects, to be conducted on a realistic "worst case" scenario¹⁸ in order to provide Submitters a reasonable opportunity to understand the potential effects on them. Despite this being common practice for wind farm proposals, the Applicant has not adopted such an approach. The AEE provides scattered references suggesting that turbine locations will not be made closer to dwellings. However, it is clearly not just the proximity of the turbines that impacts on visual effects. Grouping also has a major impact, and the Submitters have no certainty over the final grouping of the turbines, if consent is granted.

¹⁵ See for example the AEE, page 31.

¹⁶ The Environment Court has accepted that landscape issues are matters which reasonable people may hold conflicting views, and it is not possible to determine that one view is right and the other wrong. See *Unison networks Ltd v Hastings District Council* [2006] NZEnvC 249 at [68].

¹⁷ *Final Report and decision of the Board of Inquiry into the Turitea Wind farm Proposal* (September 2011).

¹⁸ Taking into account any constraints volunteered by the Applicant.

- (b) There are crucial inconsistencies/uncertainties in the Application documents regarding the proposed height of the turbines. At places the proposed height is provided as “between 80-102m” in height;¹⁹ at others as “under 125m”;²⁰ and elsewhere it is stated that the maximum height will be 103m.²¹ The height of the turbines is of fundamental importance to the Submitters, and will have a major impact on the level of adverse effects on them. Such inconsistencies mean that the Submitters have little confidence in the Application and its assessment of effects.
- (c) The Submitters have not identified any information in the Application regarding how the turbines will be lit at night. Night lighting has the potential to cause significant visual effects on the Submitters.

Transmission lines

- 3.14 The AEE states that the Proposal will connect directly into OtagoNet Limited’s 33 kV distribution line that runs adjacent to State Highway 1.²² However, as the detailed design regarding the transmission line (including route) has not been undertaken the Submitters do not have any certainty as to the potential visual effects of the line, particularly the overhead (as opposed to underground) components. The AEE indicates that overhead poles may be 20m high, which is considerable. In addition, the Applicant’s ecological report suggests that the overhead lines may have flags attached in order to reduce the risk associated with electrocution of birds.²³ This would be of additional concern from a visual effects perspective.
- 3.15 In light of the above, adverse visual effects associated with the Proposal’s electricity transmission line is also a concern for the Submitters.

4. OPERATIONAL ACOUSTIC EFFECTS

- 4.1 Noise from the operation of wind turbines can have significant adverse effects, including in relation to sleep disturbance, health and amenity.
- 4.2 The Applicant’s acoustic report states that the Submitters’ house will receive the highest noise levels of any dwelling from the Proposal. The limited acoustic modelling

¹⁹ Dunedin City Council public notice of the Proposal; and AEE page 10.
²⁰ Resource consent application form, page 2; and AEE page 7.
²¹ Applicants’ acoustic report, page 3.
²² AEE, page 7.
²³ Page 2.

that has been undertaken demonstrates that the Proposal will exceed one of the key limits specified in the New Zealand Standard NZS 6808 *Acoustics – Wind farm noise* at the Submitters' home (the 40 dB L_{A90} noise limit). The acoustic report glosses over this non-compliance, asserting that the acoustic effects of the Proposal will be acceptable.

4.3 The Applicant's acoustic report does not satisfy the Submitters' concerns regarding operational noise from the Proposal. The Submitters' concerns include the following:

- (a) Since the turbine make, model and layout have not yet been finalised, the Submitters consider that the acoustic assessment should have been undertaken on a realistic "worst case" scenario, within the layout parameters provided by the Applicant. This has not been done. For example, if the turbines are arranged differently to what is shown in the indicative layout (e.g. closer together), the Submitters would expect that the combined sound levels could be increased (as experienced at their home). Also, if another model of turbine is used, noise effects may be significantly increased. There are major uncertainties around such issues.
- (b) The Submitters' property generally experiences low background noise levels, especially at night (including low traffic noise,²⁴ and relatively low wind noise as a result of the house being screened from the prevailing wind due to being below nearby ridgelines). Therefore, wind farm noise experienced at the property may also breach the background noise limit in NZS 6808 (i.e. background noise limits plus 5dB) which the Applicant relies on (given the modelled non-compliance with the 40 dB L_{A90} noise limit). No analysis has been carried out regarding the background noise levels/limit, as set out in NZS 6808.
- (c) There has been no assessment undertaken to consider whether a more stringent noise level may be justified in relation to the Submitters' property under clause 5.3 of NZS 6808.
- (d) The Submitters are concerned that the Applicant, through its acoustic report, purports to ignore the District Plan noise limits and instead assess potential noise effects based on another standard that it considers more

²⁴ At 90 Pryde Road, traffic noise from State Highway 1 is often imperceptible.

appropriate in the circumstances.²⁵ It is common for wind farm developments to be assessed in relation to both the District Plan limits and NZS 6808. With only a cursory explanation provided in the acoustic report as to the reason for disregarding the District Plan limits, the Submitters are concerned as to the appropriateness of such an approach. In the absence of additional explanation, the Submitters would have thought that it is not for applicants to select which District Plan rules it wishes to comply with. District Plan rules are for the benefit of all residents, and as a matter of fairness the same rules should apply across the board. Because the Applicant has chosen not to assess the likely noise levels associated with the Proposal against the District Plan limits, the Submitters have no comfort that the District Plan limits will be complied with.

- (e) Local acoustic features mean that sounds from Porteous Hill (for example tractor noise) often echo/seemingly amplify off Hammond Hill (as experienced at the Submitters' property). The Submitters are concerned that the modelling undertaken may not adequately reflect such local conditions.

5. VIBRATION EFFECTS

- 5.1 Given that the Submitters could not identify any analysis on potential vibration effects in the AEE, such effects remain a concern, especially given the proximity of the Submitters' property to the Proposal.

6. SHADOW FLICKER AND BLADE GLINT

Shadow flicker

- 6.1 Due to their height, wind turbines cast long shadows. In addition, shadow flicker occurs as a result of the rotating shadow of a wind turbine rotor passing over a receiver location (for example a house window). The proximity of the receiving location, the time of day, variation in light intensity, humidity and levels of other dispersants in the air, cloud cover, the angle at which the turbines are yawed, and a range of other factors can influence the quantity and intensity of shadow flicker experienced at a dwelling. Extreme shadow flicker can cause health effects, and any shadow flicker will impact on amenity values/annoyance.

²⁵ New Zealand Standard NZS 6808 *Acoustics – Wind farm noise*.

Blade glint

- 6.2 Blade glint occurs when the sun reflects off rotating turbine blades. Its occurrence depends on a number of factors including the orientation of the nacelle, the angle of the blade and the sun, and the reflectiveness of the blades. Blade glint has the potential to cause major annoyance (i.e. impact on amenity values) and also to distract nearby drivers.

Summary

- 6.3 The Submitters have not identified any mention of potential shadow flicker or blade glint effects in the Application documents. This is concerning to the Submitters, who consider that shadow flicker and blade glint effects have the potential to be significant, especially considering the proximity of the Submitters' home to the indicative turbine locations.²⁶
- 6.4 The Submitters consider that detailed shadow flicker modelling, and an assessment of potential blade glint, needs to be undertaken in order to assess the potential adverse effects at the Submitters' property, which could be significant. Given that the locations of the turbines are indicative only, such an assessment needs to be undertaken on a realistic worst case scenario.

7. BIRD STRIKE

- 7.1 Wind farms can have significant adverse effects on bird populations as a result of mortality due to collision with turbines.
- 7.2 The Applicant's ecological report states that "[t]he most important potential [ecological] adverse effect is that upon local birds, and especially those of conservation importance",²⁷ yet no detailed assessment or monitoring of local bird populations has been undertaken by the Applicant. Importantly, no modelling of bird strike mortality rates has been undertaken, which would be expected for any wind farm proposal (such modelling should be based on long term field work/monitoring). Given that no adequate assessment of local bird populations, or bird mortality modelling, has been

²⁶ When modeling shadow flicker, a "shadow distance limit" is typically assumed, being the distance at which the intensity of the shadow is deemed to be low enough that flicker is not likely to cause material adverse effects. Shadow distance limits are typically approximately ten rotor diameters from the turbine (approximately 1.0 to 1.5 km for a modern wind turbine) (See, for example the Australian National Wind Farm Development Guidelines.) The Submitters' house is only a few hundred meters from the nearest indicative turbine location.

²⁷ Page 2.

undertaken by the Applicant (a point which the Applicant's ecological report acknowledges),²⁸ the Submitters cannot understand how the Applicant can assert that adverse effects on birds will be "minor at most".²⁹ In the Submitters view, such a claim has no evidentiary basis.

7.3 Many issues have not been adequately considered or assessed by the Applicant, including the following:

- (a) Numerous native birds, including those with conservation importance, are known to frequent the Proposal Site. The NZ Pied Oystercatcher, which is acknowledged in the Applicant's ecological report as likely to be using or passing the Site is classified as *At Risk – Declining* under the New Zealand threat classification system.
- (b) Even low rates of annual mortality can have cumulatively significant impacts on bird populations over time.
- (c) The coastal location increases bird strike risk, with high numbers of coastal and land-based birds frequenting the area.
- (d) The Proposal Site is notoriously foggy which is recognised in the Applicant's ecological report as increasing the risk of bird strike.
- (e) The Proposed turbine layout is an odd triangular shape, potentially making the turbines more difficult for birds to avoid, particularly in foggy or stormy weather.
- (f) The Proposal Site is close to the Orokonui Ecosanctuary which provides habitat for numerous birds, including rare and native birds. No assessment has been made by the Applicant regarding the risks associated with the Proposal's proximity to the Orokonui Ecosanctuary.
- (g) The Applicant has not provided an adequate assessment regarding the Proposal's potential impacts on a range of other fauna, including bats.

²⁸ Applicant's ecological assessment, page 3: *"It is not possible to fully assess the potential adverse effects of turbine bird strike at this time, owing to the lack of data on the species, numbers, and use frequency of birds flying through the site".*

²⁹ Applicant's ecological assessment, page 3.

- (h) The post-construction monitoring discussed by the Applicant in its ecological report is entirely inadequate.³⁰

7.4 In light of the above, bird strike is a concern for the Submitters, who value local bird life.

8. RADIO COMMUNICATION EFFECTS

8.1 Wireless communication systems (such as radio, cell phones and TV etc) use radio waves to transmit information from a transmitter to a receiver. Wind turbines can interfere with wireless receivers through the following four main mechanisms:

- (a) diffraction;³¹
- (b) reflection (or scattering);³²
- (c) electromagnetic interference;³³ and
- (d) near-field effects.³⁴

8.2 The Submitters have not identified any mention of potential radio communication effects in the Application documents.³⁵ The Submitters consider that such assessment needs to be undertaken in order to assess the potential adverse radio communication effects at the Submitters' property.

8.3 In particular, Mr Ryan and Ms Ashby have no telephone landline as there is no copper wire provided to Pryde Road. Their internet connection, on which they depend for personal and professional communications, is therefore available through satellite link only. The rooftop internet satellite dish at 90 Pryde Road is located on the proposed wind farm side of the house and reception is very sensitive to interference. In addition,

³⁰ Applicant's ecological assessment, page 4.

³¹ Diffraction is the reduction in power of a radio wave as a result of the bending of waves around an object (i.e. the wind farm turbines). Diffraction is a problem because it can attenuate signals below the minimum working threshold or make them more susceptible to atmospheric fading.

³² Reflection/scattering occurs where delayed "echoes" of the desired signal, or interference from another signal, are directed to a "victim" receiver as a result of reflection off wind turbines. This distorts the signal received.

³³ Electromagnetic interference occurs when electronic equipment inside a turbine generator radiates radio energy of a frequency that interferes with a radio service.

³⁴ Near-field effects occur when a turbine is located close to an existing radio antenna, meaning that it changes the radiation characteristics of the antenna.

³⁵ In particular, there has been no undertaking from the Applicant that any adverse radio communications effects associated with the Proposal will be avoided, remedied, or mitigated, including (for example) through the upgrading of services at the Submitters' property.

the Submitters use cellphones (including 3G data), radio, and a digital (satellite) television service, all of which may be subject to potential interference from the Proposal.³⁶

9. CONSTRUCTION EFFECTS

- 9.1 The Submitters are concerned with construction effects associated with the Proposal, particularly noise effects (both construction traffic noise and construction noise) and dust (including from exposed cuts/stockpiles and construction traffic). The AEE does not adequately address such potential effects (notably, the Applicant's acoustic report does not address construction noise). While the Applicant suggests in the AEE that a Construction Management Plan is proposed to be prepared to manage such effects, since no draft Construction Management Plan has been included with the Application the Submitters have no comfort that their concerns regarding construction effects will be appropriately managed.

10. GEOTECHNICAL / HYDROLOGICAL ISSUES

- 10.1 The risks associated with potential geotechnical and hydrological impacts as a result of the Proposal are significant – the Site's geological/hydrological complexity and sensitivity is well documented.³⁷
- 10.2 The Application fails to provide adequate analysis of potential geotechnical or hydrological effects. In particular:
- (a) Despite landslips/rock falls being common in the area, even as a result of minor excavations, the Application contains limited (in scope and utility) information regarding the risks of land instability/subsidence as a result of the major excavations associated with the Proposal (including for the turbine foundations, hardstand areas, and the service road network). There are no civil engineering/geotechnical reports confirming the suitability of the excavations required, which would be expected for an application of this scale and nature. The Submitters are particularly concerned with any potential land instability/rock fall effects of the Proposal, given their property is located down slope from the Proposal.

³⁶ Vodafone cell phone/3G coverage and FM radio reception is currently very poor at the Submitters' property.

³⁷ For example the Site is zoned "Land Instability Area" in the Proposed 2GP.

- (b) Notwithstanding the significant hydrological impacts that excavations could have on sensitive springs and underlying aquifers, the AEE does not adequately assess such risks. Because there is no reticulated water scheme at Pryde Road, many residents (including the Submitters) rely on groundwater from springs emerging from around Porteous Hill for domestic and/or stock water purposes. Therefore, any hydrological impacts may have significant downstream effects, including in relation to public safety/health.

10.3 Given the above, the Submitters consider that further work is required in order to appropriately assess the potential geotechnical and hydrological effects of the Proposal, which are a concern for the Submitters.

11. LAPSE PERIOD

11.1 The AEE seeks a lapse period of ten years. The Submitters consider that a lapse period of ten years is too long and, if consent is granted for the Proposal, will create unreasonable uncertainty for the Submitters and the community over an extended period of time. The Submitters consider that a standard lapse period of five years, as is the default under s125 of the RMA, is more appropriate. (Given that the Applicant states in the AEE that construction is intended to commence in early 2017, a five year lapse period should be more than sufficient.)

11.2 The case law confirms that there are good policy reasons against resource consents subsisting for long periods without being put into effect. For example, in *Akaroa Organics v Christchurch City Council* [2010] NZEnvC 37 the Environment Court declined an appeal seeking to extend (primarily for financial reasons) the lapse period.

12. INADEQUACY OF AEE

12.1 The Application is notable for its brevity regarding key aspects, given the scale and potential adverse effects of the Proposal. Ultimately, the skeletal assessment fails to provide sufficient information and detail in order to allow the consent authority and potential submitters to adequately assess the extent of potential effects resulting from the Proposal.

12.2 In particular, and in addition to the numerous other inadequacies identified above, the Application does not provide expert assessments on a number of potentially important

considerations, including economic impacts/benefits; social impacts; geotechnical/civil engineering and hydrological effects; archaeology; radio communications; recreation; bird strike; and transport effects.

- 12.3 The AEE is therefore fundamentally deficient and does not amount to a document that can be relied upon to inform anyone involved in the consent process of the actual and potential effects of the Proposal.

Incorrect activity classification, activity status and consents sought

- 12.4 The AEE provides the following:³⁸

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.

- 12.5 The Submitters have major concerns with a significant wind farm proposal being classified as a “Community Support Activity”. The Proposal does not fit within the District Plan definition of Community Support Activity. In the Submitters’ opinion the Proposal is clearly of a nature and scale beyond the types of activities envisaged by the District Plan as falling within the Community Support Activity category.³⁹ Therefore, the planning analysis and justification in the AEE is largely irrelevant.

- 12.6 From a preliminary review of the Plan, the Submitters consider that the Proposal is likely more appropriately classified as a **non-complying** activity and should therefore be assessed under the more stringent gateway tests of s104D of the RMA, including for the following reasons:

- (a) Rule 6.5.7 of the District Plan states that any activity not specifically identified as permitted, controlled, discretionary or prohibited by the rules in

³⁸ AEE page 8.

³⁹ In particular, the Submitters do not consider that the fact the Proposal will be owned by a charitable trust automatically renders it a “Community Support Activity”, as seems to be suggested from the Application documents.

the Rural zone is non-complying. (Neither “Utilities” or “Infrastructure”, both of which are defined terms in the District Plan and which more appropriately describe the Proposal, are provided for in the rural zone.)

- (b) In addition, the Utilities section of the Plan states at Rule 22.5.4 that:

[A]ny activity not specifically identified as permitted, controlled or discretionary by the rules in this section or the rules of the zone in which the activity is located, or in the rules of Sections 17 to 21 of this Plan, is non-complying.

Wind farms are not provided for in the Utilities section.

12.7 The Submitters have also identified several other major potential flaws with the Application, including that no resource consent has been sought for the large quantities of earthworks. Section 17.7 of the District Plan requires that resource consent be sought for earthworks over 200m³ in the Rural zone. The AEE states that earthworks of approximately 6,500m³ will be required. The Submitters also note that any earthworks that may intercept groundwater are likely to require resource consent from the Otago Regional Council (which have not been sought by the Applicant).

12.8 In addition, the Submitters are surprised that the AEE purports to classify the Proposal as a “Community Support Activity” as opposed to a “utility” or other appropriate activity under the Operative District Plan (thereby taking advantage of the more permissive provisions applying to such community activities); but then also purports to take advantage of the provisions in the 2GP supporting “network utilities”.⁴⁰

12.9 Taken as a whole, the above issues⁴¹ give the Submitters little confidence in the accuracy and robustness of the Application documents.

13. UNCERTAIN / POTENTIALLY OVERSTATED “COMMUNITY” VALUES AND BENEFITS OF THE PROPOSAL

13.1 The Proposal is promoted by the Applicant as a “community owned”, “community scale” renewable energy project. The AEE draws heavily on the 2GP’s support for community scale energy generation. However, details given by the Applicant regarding

⁴⁰ See the AEE at page 38. The Submitters note that little weight should be given to the 2GP in terms of section 104(1)(b)(vi) of the RMA, because the 2GP is at a very early stage in the plan process, and has not yet been tested through hearings (see *Queenstown Central Ltd v Queenstown Lakes District Council* [2013] NZHC 815).

⁴¹ Which do not provide an exhaustive list of the inadequacies in the Application documents identified by the Submitters.

the structures and mechanism that will make the Proposal a true community project have been non-committal and uncertain. For example, the corporate governance structures and profit distribution of the project remain uncertain. Also, the Submitters understand that generated electricity may be sold to one or a few institutional customers and any remainder supplied to the national grid (as opposed to being supplied to local community members). It is therefore hard to understand a number of the community values/benefits claimed by the Applicant.

13.2 In addition, the Submitters consider that the Proposal has the potential to divide the tight knit local community. In the Submitters' experience, in certain circles the process of alienation of sectors of the community has already begun.

13.3 Given the above, over-emphasising the purported "community" nature of the Project, without concrete assurances as to how the Project will achieve community benefits and values is, in the Submitters' view, inappropriate (at least until the merits of such claims can be fully understood and tested). The Submitters are concerned that the Application may overstate the economic and other benefits associated with the Proposal, particularly benefits to the local community.

14. POTENTIALLY OVERSTATED PUBLIC ENGAGEMENT AND SUPPORT FOR THE PROPOSAL

14.1 The AEE and supporting documents claim widespread consultation and community support for the Proposal. However, the Submitters are concerned that selective and at times ineffective public consultation may have caused the Applicant to considerably overestimate/overstate the community support for the Proposal. Certainly, there are large parts of the community, including the Submitters, who do not support the Proposal.

14.2 In the Submitters' experience, including from attending public meetings, until recently very few people have had a working understanding of the Proposal, and even fewer have been actually consulted by the Applicant. As the resource consent hearing has drawn closer and further details have become more widely known (i.e. the Proposal has become a concrete reality as opposed to an abstract idea) more residents have come to appreciate the likely adverse effects of the Proposal, particularly on nearby neighbours. This has led to an increased number of locals opposing the Proposal.

15. RELIEF SOUGHT

15.1 The Submitters seek that the Application be declined.

15.2 Alternatively, and without prejudice to the primary relief sought, the Submitters seek that the Proposal be amended and/or conditions of consent imposed in order to address the Submitters' concerns addressed above.

15.3 The Submitters wish to be heard in support of their submission.

15.4 If others make a similar submission, the Submitters will consider presenting a joint case with them at hearing.

Simon Ryan and Jennifer Ashby

by their lawyers ChanceryGreen:



Karen Price

Dated 2 December 2015

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 1/12/2015 12:56:09 p.m.
Subject: Resource consent application submission - 527062

This resource consent application submission has been made via the Council website on **01 Dec 2015 12:56pm**. The details are listed below.

Personal information

Name SEan Barnes

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that

submission relates to The full application for the construction and operation of a community wind farm.

Reasons for submission • This is a community lead project that will strengthen the energy and financial independence of Blueskin Bay. • There has been nine years of dialogue and preparation to get to this point. • The consent application has been carefully and thoughtfully prepared. • The thorough Assessment of Environmental Effects that accompanies the application contains expert reports addressing all the key concerns that have been raised. • The project will provide a net benefit for the community of Blueskin Bay through the action of the Blueskin Resilient Communities Trust. • The positive visual impact as a symbol of renewable energy and low carbon community action • Noise falling within New Zealand Standard NZS 6808 (see appendix D) • Minor or less-than-minor adverse ecological impact, after all potential risks have been considered • Contribution to reducing greenhouse gas emissions from local electricity generation and transmission • The project has high strategic value and regulatory compliance and is consistent with the Policy statements of the Dunedin City Council, Otago Regional Council and the National Policy Statement for Renewable Energy Generation (2011).

Desired decision I request that the Council grants this resource consent application,

adopts the conditions proposed by the applicant, and works with the applicant to address any outstanding issues, noting that this is a community-initiated and led project from a resource-constrained organisation that is recognised as a NZ exemplar of community engagement and action.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 1/12/2015 6:02:34 p.m.
Subject: Resource consent application submission - 527156

This resource consent application submission has been made via the Council website on **01 Dec 2015 6:02pm**. The details are listed below.

Personal information

Name Sally Brown

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC2015469

Position I oppose this application

Wish to speak? Yes

Present jointly to hearing? Yes

Parts of application that

submission relates to The incorrect explanation of the project being a "Community project!" Visual Landscape of Blueskin Bay

Reasons for submission I don't agree that this Blueskin Energy project is a community project. I also believe that calling it a community project is incorrect. It is a corporate project with private funding. If it was a 'community' project all feasibility studies, wind velocity percentages, business plans and return on investment would be available for the public to view. None of this information is available for the community to view and could not be answered by Scott Willis at the Community Meeting on Thursday 19th November at Warrington. The community consultation process should be a lot more apparent within the community. A lot of residents have only become aware of this corporate project since the resource consent has gone to the Council. At a public meeting recently in Warrington- the community did not seem very well informed of the project, making it hard to believe that community consultation has been undertaken within the last 12 months. There were a lot of questions which the community addressed and Blueskin Energy couldn't soundly answer. The community is not benefitting directly from this as all power generated is going into the national grid. There is no economic benefit to the community. Scott Willis promised at the meeting that the community would get \$100,000 for community use each year. But with no data on the

finances it is hard to see whether not this is an actual figure or a “keep the community happy” remark. Also if it was a community project the ‘community’ should have 100% input on where they think the \$100,000 per annum should be spent or distributed within community groups. Landscape Porteous Hill flank lies within the Coastal Landscape Preservation Area (CLPA) – ‘This means there is restriction to the visual impact arising from the activity on the landscape character and quality of its setting’. I understand that only part of the proposed site is within this area but it still has a major effect on the quality of the setting of Porteous Hill. When viewing Porteous Hill which is in the CLPA the wind turbines will be protruding above it as viewed from various places- State Highway 1 at Pigeon Flat, Heywards point, Mount Cargill, Waitati village, Doctors Point and from sea by cruise ships. Porteous Hill provides an important view within the coastal landscape from Heywards Point to Blueskin Bay. It would be a shame to visually ruin this incredible coastal landscape by putting 3 wind turbines within this the skyline of this view. I feel that the addition of 3 turbines will change the visual character of this unique landscape forever. The turbines at 120 m in height and with blades 30m long protruding from the summit of Porteous Hill will not make a positive presence within the Blueskin Bay community. These three turbines will have an adverse effect on this landscape and potentially the wildlife of Blueskin Bay. In no way are these structures seen as ‘elegant and meaningful addition to this landscape’ stated in The Blueskin Energy Landscape assessment. Example of a Resource Consent application being turned down Two houses at Potato point were not granted resource consent because they would potentially have adverse effect on the CLPA. As a Landscape architect the proposed Wind turbines would have a much greater adverse effect on the landscape than 2 houses. If allowing resource consent for this Blueskin Energy Ltd ‘Corporate’ project to go ahead the Dunedin City Council is setting a precedent for other similar projects in the future to spoil our very unique coastal landscape for both residents, tourists and our world renowned wildlife.

Desired decision I think the council should decline the application for Resource Consent to preserve the unique coastal landscape we have. Both tourists from land and sea admire our coastal Landscape for the untouched beauty and unique wildlife.

From: Samantha Elder
To: planning@ddc.govt.nz <planning@ddc.govt.nz>
Date: 02/12/2015 16:27
Subject: Resource consent application submission - 527285

This resource consent application submission has been made via the Council website on 02 Dec 2015 16:27 The details are listed below.

Personal information

Name Samantha Elder

Address [REDACTED]

Contact phone [REDACTED]

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I support this application.

Wish to speak? No

Present jointly to hearing? Yes

Parts of application that

submission relates to The full application for the construction and operation of a community wind farm.

Reasons for submission This is a community lead project that will strengthen the energy and financial independence of the Blueskin Bay community and be an inspiration and pathfinder for other communities across NZ looking to grow their resilience through community-owned renewable energy assets.

- i. There has been nine years of dialogue and preparation to get to this point.
- i. The consent application has been carefully and thoughtfully prepared.
- i. The thorough Assessment of Environmental Effects that accompanies the application contains expert reports addressing all the key concerns that have been raised.
- i. The project will provide a net benefit for the community of Blueskin Bay through the action of the Blueskin Resilient Communities Trust.
- i. The positive visual impact as a symbol of renewable energy and low carbon community action
- i. Noise levels fall within New Zealand Standard NZS 6808 (see appendix D)
- i. Minor or less-than-minor adverse ecological impact, after all potential risks have been considered.
- i. Contribution to reducing greenhouse gas emissions from local electricity generation and transmission.
- i. The project has high strategic value and regulatory compliance and is consistent with the Policy statements of the Dunedin City Council, Otago Regional Council and the National Policy Statement for Renewable Energy Generation (2011).

Desired decision I request that the Council grants this resource consent application, adopts the conditions proposed by the applicant, and works with the applicant to address any outstanding issues, noting that this is a community-initiated and led project from a resource-constrained organisation that is recognised as a NZ exemplar of community engagement and action.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 2/12/2015 2:19:17 p.m.
Subject: Resource consent application submission - 527273

This resource consent application submission has been made via the Council website on **02 Dec 2015 2:19pm**. The details are listed below.

Personal information

Name Shane Gallagher

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number Wind Farm - 147 Church Road - LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that

submission relates to Application to build the wind farm as a whole

Reasons for submission I support locally produced renewable energy as part of our response to global climate change as well as supporting our local communities

Desired decision I wish council to grant consent to build this wind farm.

From: samuel masters
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 02/12/2016 16:29
Subject: Resource consent application submission - 427200

This resource consent application submission has been made via the Council website on 02 Dec 2016 16:29. The details are listed below.

Personal information

Name samuel masters

Address [REDACTED]

Contact phone [REDACTED]

Email address [REDACTED]

Submission details

Consent number LUO-2015-460

Position I support this application

Wish to speak? No

Present jointly to hearing? Yes

Parts of application that

submission relates to Turbine installation and connection to the grid

Reasons for submission This is a critical project - despite its modest size. Distributed, renewable energy generation is the best defense against climate change and the best way to future-proof both the grid and our energy supply.

If we accept mobile phone towers, telecommunication towers etc... as a normal part of the landscape then the more beautiful wind turbines must also have a place.

The positive environmental impact far outweighs the minor negative impacts. It is important that this project proceeds.

Desired Decision Grant resource consent, please.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 22/11/2015 8:15:08 p.m.
Subject: Resource consent application submission - 525916

This resource consent application submission has been made via the Council website on **22 Nov 2015 8:15pm**. The details are listed below.

Personal information

Name Sam McMullan

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number 2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that

submission relates to Allowing project to continue

Reasons for submission I support positive projects that mitigate climate change

Desired decision Approve

From: Stephen Packer
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 02/12/2015 17:00
Subject: Resource consent application submission - 527004

This resource consent application submission has been made via the Council website on 02 Dec 2015 17:00 The details are listed below.

Personal information

Name: Stephen Packer
Address: [REDACTED]
9011
Contact phone: [REDACTED]
Email address: [REDACTED]

Submission details

Consent number: LUC-2015-469
Position: I support this application
Wish to speak? Yes
Present jointly to hearing? Yes
Parts of application that submission relates to: "Construction and operation of wind turbines at the site listed, 147 D Church Rd Merton, for the purpose of generating electricity"

Reasons for submissions It is very plainly evident that climate is changing and there is obligation Â for individuals and communities to minimise their contribution of greenhouse gas emissions. Â This proposal is timely and appropriate, and of a scale that fits with the local community. Â It sends a message that every community must consider what it might best do to contribute to the national and international need. Â Noting that the DCC has passed the Hawkins motion and noasting the Mayor's support for measures against climate change at thew march at the Octagon this Sunday, the Council should take this opportunity to push further in its move to clean renewable and sustainable energy sourcing. Â There have been objections against the wind turbines on basis of despoiling landscape, but the landscape has already been hugely modified by farming activities in the lasat 150 years, and there is an elegant beauty in modern turbine installations that would enhance, not detract from the landscape. Â These might be considered as providing a link between earth and sky emphasising our earthly dependance on Â the sky /atmosphere.

The use of the energy captured by this system is planned for use in the local network, not across the national grid, and this again is consistent with the locally sustainable community emphasis of the BRT.

Desired decision The Council is requested to APPROVE this Resource Consent

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 28/11/2015 2:46:24 p.m.
Subject: Resource consent application submission - 526624

This resource consent application submission has been made via the Council website on **28 Nov 2015 2:46pm**. The details are listed below.

Personal information

Name Suzanne Robins

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I oppose this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that

submission relates to Environmental impact, consultation issues, differences between arguments used in support materials and the actual proposal.

Reasons for submission The coastal site (very close to the boundaries of protected land) suggests that the impact on birdlife could be serious. With no ornithological study, it's impossible to predict the possible impact, especially on seabirds. I note that DOC (in a very even-handed report) have concerns about coastal sites for wind farms because of possible impact on

birdlife: <http://www.doc.govt.nz/Documents/science-and-technical/sfc289entire.pdf> It seems to me, looking at the background material submitted, that there has been very little attempt made to consult with the people most likely to be negatively affected by this proposal. Why has there been no thorough discussion with the community of people living around Porteous Hill? Asking for opinions from people who are not likely to be significantly affected is not sufficient. Fewer than 50 people were polled (a self-selecting sample, given the methodology) and the choice to consult at events held in Waitati and other places is not in itself sufficient. Why has there been no door-knocking or other attempts to directly contact people in the immediate area around Porteous Hill? (Those occupying what is repeatedly - and ungrammatically - referred to as the "scatter of houses" around Porteous Hill.) It is my understanding that a public meeting held in

mid-November and organised by a group of residents opposed to the proposal was the first opportunity they had had to hear details and ask questions about this matter, or to share their reactions and concerns. At the very least, such a meeting should have been called many months ago by the group proposing the development. I also note significant differences between the reasoning used in various of the documents presented in support of this development and the actual proposal. One major difference is that the 2013 paper about local energy initiatives was arguing on the basis of energy being stored and used in the local community. The actual proposal is aimed at selling energy to the national grid. It seems incongruous to support this proposal with material that is so significantly at odds with what is being proposed. Arguments about local control of energy resources and increased local resilience (which many of the people in the "straw polls" commented on) have no relevance to the final version of this proposal. In general, I do not oppose wind farms (and do not consider them ugly). I do support detailed study of impact on wildlife, though, and I do support good consultation and decision-making processes. I do not believe this proposal meets those standards and so I believe it should be declined.

Desired decision Decline.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 1/12/2015 6:01:56 a.m.
Subject: Resource consent application submission - 526941

This resource consent application submission has been made via the Council website on **01 Dec 2015 6:01am**. The details are listed below.

Personal information

Name Worik Stanton

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? Yes

Parts of application that submission relates to Visual amenity

Reasons for submission I will be very pleased to be able to see the planed wind farm from Waitati. I will be pleased to be able to see the generation of the power I use. Being an area that is farmed it is already a heavily modified landscape so an ideal location for such structures. I am pleased if it would set a precedent.

Desired decision Approve the consent

Talei Anderson

From: [REDACTED]
Sent: Friday, 13 November 2015 04:10 p.m.
To: planning@dcc.govt.nz
Subject: Resource consent application submission - 525319

This resource consent application submission has been made via the Council website on **13 Nov 2015 4:10pm**. The details are listed below.

Personal information

Name Mick Strack

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? Yes

Parts of application that submission relates to The activity and the AEE

Reasons for submission The activity is a direct result of the community focus on sustainable management, community consultation and participation, a transition to local and renewable energy, and future thinking. It is driven by the values of the BRCT community. The AEE is thorough and detailed and accurately points out the benefits of the local turbines in addressing sustainability issues. The Dunedin community as a whole will benefit from the example this project will establish for all other communities to act locally, to become more self sufficient, to develop their own resources and infrastructure. Any adverse effects must be less than minor in relation to the major benefits generated by this project.

Desired decision Grant resource consent approval with the conditions as proposed



DUNEDIN CITY
COUNCIL
Kaitiaki Take Kōwhiri o Te Pahi

SUBMISSION FORM 13 Submission Pg S403
Submission concerning resource consent on publicly notified application under
section 95A

Sections 95A, Resource Management Act 1991

DCC

26 NOV 2015

To: Dunedin City Council, PO Box 5045, Moray Place, Dunedin 9058

Resource Consent Number:

LUC-2015-469

Applicant: Blueskin Energy Business Information

Site Address:

147 Church Road, Merton

Description of Proposal:

Establish a community wind farm comprising three turbines

We wish to lodge a submission on the above resource consent application:

Your Full Names THOMAS JAMES AND LINDA KAY THOMPSON

Address for Service (Postal Address):

WAIKOUAITI 9471

Post Code: 9471

Telephone:

Facsimile:

Email Address:

I: Support/Neutral/Oppose this Application I: Do/Do Not wish to be heard in support of this submission at a hearing

If others make a similar submission, I will consider presenting a joint case with them at a hearing.

(Delete the above statement if you would not consider presenting a joint case at a hearing)

Please use the back of this form or attach other pages as required

The specific parts of the application that this submission relates to are:

THE ENTIRE PROPOSAL FOR THREE WIND
GENERATORS ON PORTEOUS HILL

My submission is [Include the reasons for your views]:

- 1) BLUESKIN BAY IS A PRISTINE RURAL/RESIDENTIAL AREA AND THREE 120m HIGH TOWERS WILL CAUSE VISUAL POLLUTION DURING THE DAY AND LIGHT POLLUTION AT NIGHT, VISIBLE OVER A VAST AREA. LOW FREQUENCY NOISE COULD ALSO BE A PROBLEM FOR SOME PEOPLE.
- 2) THE GROUND AT PORTEOUS HILL IS UNSTABLE AND MASSIVE EXCAVATION PLUS GROUND VIBRATIONS WHEN TOWERS ARE OPERATING WILL HAVE AN UNKNOWN EFFECT VARYING FROM NIL TO POSSIBLY CATASTROPHIC TO THE ENTIRE HILLSIDE P.T.O.

The decision I wish the Council to make is [give precise details, including the parts of the application you wish to have amended and the general nature of any conditions sought]:

TO REFUSE CONSENT FOR THE ENTIRE
PROPOSAL FOR THREE WIND TURBINES ON
PORTEOUS HILL

Signature of submitter:

[Signature]

(or person authorised to sign on behalf of submitter)

Date: 23/11/2015

Notes to Submitter:

Closing Date: The closing date for serving submissions on the Dunedin City Council is **Wednesday 2 December at 5pm**. A copy of your submission must be served on the applicant as soon as reasonably practicable after the service of your submission on the Dunedin City Council. The applicant's address for service is 1121 Mount Cargill Road, RD 2, Waitati 9085.

Electronic Submissions: A signature is not required if you make your submission by electronic means. Submissions can be made online at <http://www.dunedin.govt.nz/rma> or sent by email to planning@dcc.govt.nz

Privacy: Please note that submissions are public. Your name and submission will be included in papers that are available to the media and the public. Your submission will only be used for the purpose of the notified resource consent process.

- 3/ THE PROPOSED SITE IMPINGES TO A SMALL EXTENT ON THE CLPA, BUT THE INTENTION OF THE CLPA WILL BE NEGATED BY THE CONSTRUCTION OF THE EQUIVALENT OF A 30 STOREY BUILDING, WHEN A RESIDENTIAL BUILDING IS FROWNED UPON.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 2/12/2015 4:14:58 p.m.
Subject: Resource consent application submission - 527296

This resource consent application submission has been made via the Council website on **02 Dec 2015 4:14pm**. The details are listed below.

Personal information

Name Thomas Clark

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number Wind Farm - 147 Church Road - LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that

submission relates to Appendix C3 - Landscape assessment

Reasons for submission I am a resident of Warrington and I pleased that my community has the opportunity to make its mark as a leader in community supported renewable energy in New Zealand. The visible presence of this wind farm will serve as a tangible symbol of the community's commitment to fighting global warming and preserving our environment.

Desired decision I would like the council to approve this application

Talei Anderson

From: [REDACTED]
Sent: Monday, 16 November 2015 09:55 a.m.
To: planning@dcc.govt.nz
Subject: Resource consent application submission - 525454

This resource consent application submission has been made via the Council website on **16 Nov 2015 9:55am**. The details are listed below.

Personal information

Name Trudy Lee

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I oppose this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that submission relates to The absence of reference to impact on the land in the surrounding hill area, due to the unknown nature of potential to trigger slips. Also the representation of resident feedback does not align with the views of myself and my neighbours, who reside beneath Porteous Hill.

Reasons for submission The upcoming district plan would have this whole hill classified landslide hazard 2, and places serious restrictions on existing residential building activities. There has been no exploration into the scientific potential that the installation of these windmills, with the earthworks required, and thier subsequent weight, would aggravate the risk to residents further down the hill. There has not been enough resident consultation of people who are in Warrington and are potentially more directly affected by their presence than those residents in the greater blueskin area.

Desired decision I would like the council to ensure that the voices of the people who will be most closely affected by the windmills to be directly informed and consulted. Also that the decision to allow consent should take into consideration the impacts of the activity in relation to a mitigating approach to landslides under the new district plan.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 1/12/2015 8:39:45 p.m.
Subject: Resource consent application submission - 527166

This resource consent application submission has been made via the Council website on **01 Dec 2015 8:39pm**. The details are listed below.

Personal information

Name Theresa Marion Trotter

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that submission relates to All

Reasons for submission I support positive community projects that help minimise the effects of climate change

Desired decision Allow wind farm to be built.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 30/11/2015 7:42:36 p.m.
Subject: Resource consent application submission - 526920

This resource consent application submission has been made via the Council website on **30 Nov 2015 7:42pm**. The details are listed below.

Personal information

Name Metiria Turei

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I support this application

Wish to speak? Yes

Present jointly to hearing? Yes

Parts of application that

submission relates to Effects of the proposal on the environment and the benefits to reducing greenhouse gas emissions.

Reasons for submission I am a resident of Waitati in Blueskin Bay. I make this submission in my personal capacity not on behalf of any organisation. I support this project fully and look forward to its completion. I have always believed in the principle behind this project. It is based on taking community responsibility for our impact on the environment. Building energy resilience into our community is one way to demonstrate that responsibility. Rather than have some other town be polluted from a fossil fuel plant or some river out of our sight be dammed, a resilient responsible community makes a contribution to the benefits of energy production while also bearing some of the costs. I also note that the project is one, albeit significant, part of a range of energy resilient projects from the applicant including home energy audits, energy expos, and energy workshops, and home insulation installation. I believe the overall effect of the project will be positive and I understand that the applicant is open to mitigation measures and conditions if required. As to the main effects identified: Bird strike I understand that there are concerns about bird strike from the turbines. I accept the evidence of the Dixon and Mitchell report (Appendix E) that the impact is likely to be low and that monitoring would help determine any necessary mitigation measures. I would note that

the estimate of 3 birds per year per turbine is low and is certainly significantly lower than the bird strike rate of the highway between Waitati and town. Visual Impact The application provides evidence that the visual impact will be low. Whether you like the look of wind turbines really is a question of personal taste. I do like the look of wind turbines and I would welcome a better view of them from my home. I also note that the wind turbines will be on farmland. Farmland is a place of industry – rural areas are busy and often quite noisy because they are places of work. I am not convinced that the noise of the turbines will be a nuisance in that environment. The placement of wind turbines on farmland seems an entirely appropriate use of that land, productive but with a low ecological impact. Indeed, a number of farming activities can occur on the same land at the same time, making the use of that land even more effective. Greenhouse gas emissions This project is making a contribution to the government's target of 90% renewable electricity supply by 2025. This is a positive step forwards for the future of clean, local, small-scale renewable energy technology, a great example of community resilience. The wind farm will help reduce the need for thermal generation for peaking load (peaking load is the “top up” electricity generation needed at peak times, such as winter evenings when everyone gets home and turns on their heaters and cooks dinner). This will lead to a reduction in the consumption and use of fossil fuels for thermal generation, because coal and gas peaking plants are often used for peak time electricity supply. Although this project is relatively modest at just 3 turbines, it will make a genuine contribution to the reduction of greenhouse gases. Community involvement and support I understand the applicant plans to return an annual dividend to Blueskin Energy Ltd's sole shareholder, the Blueskin Resilient Communities Trust (BRCT) who already provide a wide range of community support activities, described earlier. The development of this wind farm will enable BRCT to maintain and increase the social and environmental services it provides to the community which aligns closely with the strategic directions set out in Dunedin's Social Wellbeing Strategy. Conclusion I understand that not everyone in Blueskin Bay will support this application and that is of course one of the great values of our democracy. But I urge the Council to grant the resource consent for this application as the effects are no more than minor and even those can be mitigated to a reasonable degree. I understand the proposal is currently a non-complying activity but that the Proposed 2GP plan treats this sort of project more leniently and that that proposed plan is relevant in your considerations. That plan recognises the ecological, social, economic and climate value of community wind farms and I ask that you give it due weight in your considerations.

Desired decision Please grant the resource consent for this project.

Talei Anderson

From: office@waitati.school.nz
Sent: Wednesday, 2 December 2015 03:09 p.m.
To: planning@dcc.govt.nz
Subject: Resource consent application submission - 527288

Follow Up Flag: Follow up
Flag Status: Flagged

This resource consent application submission has been made via the Council website on **02 Dec 2015 3:09pm**. The details are listed below.

Personal information

Name Waitati School BOT
Address 1121 Mt Cargill Road 9085 Waitati
Contact phone (03)4822888
Fax (03)4822888
Email address office@waitati.school.nz

Submission details

Consent number LUC-2015-469
Position I support this application
Wish to speak? No
Present jointly to hearing? No

Parts of application that submission relates to

We are a committed Enviro-School, we engage with the pupils in our school to make connections and demonstrate responsible active care for our natural world. We believe the windmills will become a source of pride to the children growing up in Waitati. They will be able to tell the story of how they generate energy without making pollution and why this is important with regard climate change. They will identify the windfarm as symbol of our local community's commitment to good environmental practice. We look forward to the view from Waitati being enhanced by three windmills on the Kilmog. Much like the TV/Radio mast on Mt Cargill they will quickly become part of the landscape here. There are now several windmills around the Waitati district and they are becoming normal. However unlike the Mt Cargill TV/Radio mast we believe the windfarm will become a tourist attraction as it is in Brooklyn in Wellington. We look forward to the ongoing community dividend generated by the project and predicted to be around \$100000 per annum being used to support a wide variety of new projects and developments in the community. As a school we have thoroughly researched the potential to install solar panels on the school roof. Although it makes perfect sense and would save Waitati School up to \$8000 annually, we are not allowed to use either our operational grant or the capital funding provided by Ministry of Education. Furthermore schools typically struggle to raise money from public grants as funders see schools as the responsibility of the state. So a local fund like the proposed community dividend from the windfarm could quickly produce a

lasting benefit to many local families by freeing up \$8000 a year to spend on improving the educational opportunities of our children.

**Reasons for
submission**

This has been one of the most exhaustively discussed and consulted ideas over the last five or six years locally. We have had several class visits with staff and visitors from BRCT and they are part of our school community. Pupils and staff have enjoyed regular field trips to the wind monitoring equipment on Porteous Hill and we are sure the proposed windfarm will create more and more opportunities to learn about the physics or electricity generation and local wind patterns. The children at school also seem well aware of the proposed windfarm and as far as we can tell they all seem to support it.

**Desired
decision**

We wish to support the resource consent application of Blueskin Energy Limited to develop a windfarm on Porteous Hill.



Draft for Waitati School BoT submission to Blueskin Energy Limited resource consent application.

We wish to support the resource consent application of Blueskin Energy Limited to develop a windfarm on Porteous Hill.

We are a committed Enviro-School, we engage with the pupils in our school to make connections and demonstrate responsible active care for our natural world. We believe the windmills will become a source of pride to the children growing up in Waitati. They will be able to tell the story of how they generate energy without making pollution and why this is important with regard climate change. They will identify the windfarm as symbol of our local community's commitment to good environmental practice.

We look forward to the view from Waitati being enhanced by three windmills on the Kilmog. Much like the TV/Radio mast on Mt Cargill they will quickly become part of the landscape here. There are now several windmills around the Waitati district and they are becoming normal. However unlike the Mt Cargill TV/Radio mast we believe the windfarm will become a tourist attraction as it is in Brooklyn in Wellington.

We look forward to the ongoing community dividend generated by the project and predicted to be around \$100000 per annum being used to support a wide variety of new projects and developments in the community.

As a school we have thoroughly researched the potential to install solar panels on the school roof. Although it makes perfect sense and would save Waitati School up to \$8000 annually, we are not allowed to use either our operational grant or the capital funding provided by Ministry of Education. Furthermore schools typically struggle to raise money from public grants as funders see schools as the responsibility of the state. So a local fund like the proposed community dividend from the windfarm could quickly produce a lasting benefit to many local families by freeing up \$8000 a year to spend on improving the educational opportunities of our children.

This has been one of the most exhaustively discussed and consulted ideas over the last five or six years locally. We have had several class visits with staff and visitors from ERCT and they are part of our school community. Pupils and staff have enjoyed regular field trips to the wind monitoring equipment on Porteous Hill and we are sure the proposed windfarm will create more and more opportunities to learn about the physics or electricity generation and local wind patterns. The children at school also seem well aware of the proposed windfarm and as far as we can tell they all seem to support it.

Antony Deaker

Mt Cargill Road RD 2 Waitati. Phone / fax: 4822888. Email: office@waitati.school.nz

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 1/12/2015 8:57:11 a.m.
Subject: Resource consent application submission - 526951

This resource consent application submission has been made via the Council website on **01 Dec 2015 8:57am**. The details are listed below.

Personal information

Name Alfie West

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I support this application

Wish to speak? No

Present jointly to hearing? No

Parts of application that

submission relates to The application as a whole.

Reasons for submission As a resident of the Blueskin area, I wholeheartedly support this venture. I was cheered by the council's recent climate change resolutions -- it's great to see our city taking a lead in reducing greenhouse gas emissions. The proposed Blueskin wind farm will help demonstrate Dunedin City's commitment to move towards a renewable energy future. I'm one of those people who see windmills as things of beauty. I believe that the applicant has researched this project diligently and has fully considered the minimal environmental impacts involved. This innovative scheme will continue to provide benefits to the local community by supporting the good work being carried out by the Blueskin Resilient Communities Trust. Let's make this community-owned windfarm happen. Thank you.

Desired decision I urge the Council to grant this consent, with the conditions proposed by the applicant.

From: [REDACTED]
To: planning@dcc.govt.nz <planning@dcc.govt.nz>
Date: 24/11/2015 9:32:25 p.m.
Subject: Resource consent application submission - 526132

This resource consent application submission has been made via the Council website on **24 Nov 2015 9:32pm**. The details are listed below.

Personal information

Name Grant Thomas Boyle

Address [REDACTED]

Contact phone [REDACTED]

Fax

Email address [REDACTED]

Submission details

Consent number LUC-2015-469

Position I oppose this application

Wish to speak? No

Present jointly to hearing? Yes

Parts of application that

submission relates to 3.1 site earthworks 4 & 5 community consultation and support
8 Assessment of environmental effects

Reasons for submission A lack of consultation with the residents of Warrington, Seacliff, farms and areas that will be directly affected by the wind farm. I and my family have lived or own property in Warrington for ten years and have only seen what has been written in the blueskin news with no indication of the size of the project indicated or the fact that the power was been sold on the national grid so there is no benefit to the local community. There has been no direct effort to contact me or invite me to a meeting to gauge my opinion, the vast majority of people surveyed seen to live in Watai 10 km away from the wind farm. There is no study of the potential effects the site earth works and foundations will have on the stability of the land or the ground water. As a number of people who farm in the area have raised serious concerns over the suitability of building such large structures on this land. The visual effect has been seriously understated as Blueskin bay is an beautiful area that deserves to have it visual aspect protect as myself and my family and most of the residents in this area cherish the scenery and environment we live in. The proposal to study the bird strike rate after they build it makes no sense and there references to bird strike rates at other sites is very selective and only includes sites with low strike rates. No indication of of the light

pollution and environmental effect of having the towers lit up at night as they are under a major flight path. I can see no benefit in the extra power they produce as there is no economic requirement for more electrical production, after all they are closing down Huntley coal powered power station which will do more for NZ CO2 emissions than the proposed wind farm. I can see no benefit to the local community, the environment will be downgraded, the visual aspect of blueskin bay will be permanently degraded, local residents will have there lives and environment they cherish ruined to benefit the national grid and the non elected trustees of BRCT. There is no business plan, is it financially viable and is there a plan to decommission the site if it financially fails. Will it set a precedent to build other wind farms in the area, as once one is built it is a lot easier to put the next one up. We live in a beautiful area of Otago we don't need industrial size developments in the Blueskin Bay and Warrington areas it is not the place for them.

Desired decision The application to be declined as it is unsuitable project to be sited in the blueskin bay environment. A lack of public consultation and support especially with the residents of Warrington, Seacliff , farms and areas surrounding these 2 settlements. There is no requirement for extra electrical generation in the present NZ economy. The environmental impact especially relating to bird strike and effects on light pollution to bird life at night and the effects on close residents. The effect construction would have on local ground and water considering it will be sited in a high risk area are not shown in the application

lasting benefit to many local families by freeing up \$8000 a year to spend on improving the educational opportunities of our children.

**Reasons for
submission**

This has been one of the most exhaustively discussed and consulted ideas over the last five or six years locally. We have had several class visits with staff and visitors from BRCT and they are part of our school community. Pupils and staff have enjoyed regular field trips to the wind monitoring equipment on Porteous Hill and we are sure the proposed windfarm will create more and more opportunities to learn about the physics or electricity generation and local wind patterns. The children at school also seem well aware of the proposed windfarm and as far as we can tell they all seem to support it.

**Desired
decision**

We wish to support the resource consent application of Blueskin Energy Limited to develop a windfarm on Porteous Hill.