

Local Review Body

9 January 2013

Planning Application for Review

**Greenbelt Holdings Ltd
Erection of Two 24.6m Wind Turbines:
Land at Faulds Park, Gourock (12/0133/IC)**

Contents

- Planning Application, plans and photographs
- Site photographs
- Report of Handling dated 31 August 2012
- Scottish Government's online advice "Onshore Wind Turbines"
- Consultation Responses
- Representations
- Decision Notice dated 3 September 2012
- Notice of Review Form dated 14 September 2012 together with supporting documents comprising:-
 - Screening opinion
 - Location details
 - Site plan
 - Design and access statement
 - Local Review Body statement
 - Zone of Theoretical Visibility maps (NB included with plans and photographs submitted with planning application)
 - Photomontages (NB included with plans and photographs submitted with planning application)
 - Noise plan
 - Shadow flicker plan
 - Turbine elevations
 - Turbine specifications
 - Generalised noise predictions
- Further representation
- Email dated 16 October 2012 from TGC Renewables Ltd enclosing response to further representation
- Suggested conditions should planning permission be granted on review

Inverclyde council

6 Cathcart Square Greenock PA15 1LS

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Planning Department

Applications cannot be validated until all necessary documentation has been submitted and the required fee has been paid.

Thank you for completing this application form:

ONLINE REFERENCE 000039029-001

The online ref number is the unique reference for your online form only. The Planning Authority will allocate an Application Number when your form is validated. Please quote this reference if you need to contact the Planning Authority about this application.

Type of Application

What is this application for? Please select one of the following: *

We strongly recommend that you refer to the help text before you complete this section.

- Application for Planning Permission (including changes of use and surface mineral working)
- Application for Planning Permission in Principle
- Further Application, (including renewal of planning permission, modification, variation or removal of a planning condition etc)
- Application for Approval of Matters specified in conditions

Description of Proposal

Please describe the proposal including any change of use: * (Max 500 characters)

Erection of 2x 24.6m to hub, 34.2m to tip wind turbines plus associated works

Is this a temporary permission? * Yes No

If a change of use is to be included in the proposal has it already taken place?
(Answer 'No' if there is no change of use.) * Yes No

Have the works already been started or completed? *

No Yes - Started Yes - Completed

Applicant or Agent Details

Are you an applicant, or an agent? * (An agent is an architect, consultant or someone else acting on behalf of the applicant in connection with this application) Applicant Agent

Agent Details

Please enter Agent details

Company/Organisation: TGC Renewables

Ref. Number:

First Name: * Peter

Last Name: * Fusco

Telephone Number: * 01414470130

Extension Number:

Mobile Number:

Fax Number:

Email Address: * peter.fusco@tgcrenewables.com

You must enter a Building Name or Number, or both:*

Building Name:

Building Number: 100

Address 1 (Street): * Albert Drive

Address 2:

Town/City: * Glasgow

Country: * UK

Postcode: * G41 2SJ

Is the applicant an individual or an organisation/corporate entity? *

Individual Organisation/Corporate entity

Applicant Details

Please enter Applicant details

Title: Ms

Other Title:

First Name: Anne

Last Name: Shipton

Company/Organisation: * Greenbell Group Ltd

Telephone Number:

Extension Number:

Mobile Number:

Fax Number:

Email Address:

You must enter a Building Name or Number, or both:*

Building Name: McCafferty House

Building Number:

Address 1 (Street): * 99 Firhill Road

Address 2:

Town/City: * Glasgow

Country: * Scotland

Postcode: * G20 7BE

Site Address Details

Full postal address of the site (including postcode where available):

Address 1:	<input type="text" value="FAULDS PARK"/>	Address 5:	<input type="text"/>
Address 2:	<input type="text"/>	Town/City/Settlement:	<input type="text" value="GOURROCK"/>
Address 3:	<input type="text"/>	Post Code:	<input type="text" value="PA19 1BQ"/>
Address 4:	<input type="text"/>		

Please identify/describe the location of the site or sites.

PROPOSED TURFMINES TO THE POSSESSION AT THE END OF A STEEP EMBANKMENT IMMEDIATELY TO THE REAR OF FAULDS PARK INDUSTRIAL ESTATE.

Northings	<input type="text" value="675690"/>	Easting	<input type="text" value="221163"/>
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Pre-Application Discussion

Have you discussed your proposal with the planning authority? *

Yes No

Pre-Application Discussion Details

In what format was the feedback given? *

Meeting Telephone Letter Email

Please provide a description of the feedback you were given and the name of the officer who provided this feedback. If a processing agreement (note 1) is currently in place or if you are currently discussing a processing agreement with the planning authority, please provide details of this. (This will help the authority to deal with this application more efficiently.) * (Max 500 characters)

Confirmation received that proposed development is not considered to be an EIA development. Also further correspondence with the Planning Officer regarding the preparation of cumulative photomontages, these were prepared based on the information provided by the Planning Officer.

Title:	<input type="text" value="Mr"/>	Other title:	<input type="text"/>
First Name:	<input type="text" value="Guy"/>	Last Name:	<input type="text" value="Phillips"/>
Correspondence Reference Number:	<input type="text" value="12/0003/SCREEN"/>	Date (dd/mm/yyyy):	<input type="text" value="22/03/12"/>

Note 1. A processing agreement involves setting out the key stages involved in determining a planning application, identifying what information is required and from whom and setting timescales for the delivery of various stages of the process.

Site Area

Please state the site area:

Please state the measurement type used: Hectares (ha) Square Metres (sq.m)

Existing Use

Please describe the current or most recent use: (Max 500 characters)

Rough moorland at the top of a steep embankment

Access and Parking

Are you proposing a new or altered vehicle access to or from a public road? *

Yes No

If Yes please describe and show on your drawings the position of any existing, altered or new access points, highlighting the changes you propose to make. You should also show existing footpaths and note if there will be any impact on these.

Are you proposing any changes to public paths, public rights of way or affecting any public rights of access? *

Yes No

If Yes please show on your drawings the position of any affected areas highlighting the changes you propose to make, including arrangements for continuing or alternative public access.

How many vehicle parking spaces (garaging and open parking) currently exist on the application site? *

0

How many vehicle parking spaces (garaging and open parking) do you propose on the site (i.e. the total of existing and any new spaces or a reduced number of spaces)? *

0

Please show on your drawings the position of existing and proposed parking spaces and identify if these are for the use of particular types of vehicles (e.g. parking for disabled people, coaches, HGV vehicles, cycle spaces).

Water Supply and Drainage Arrangements

Will your proposal require new or altered water supply or drainage arrangements? *

Yes No

Do your proposals make provision for sustainable drainage of surface water? (e.g. SUDS arrangements) *

Yes No

Note: -

Please include details of SUDS arrangements on your plans

Selecting 'No' to the above question means that you could be in breach of Environmental legislation.

Are you proposing to connect to the public water supply network? *

- Yes
 No, using a private water supply
 No connection required

If No, using a private water supply, please show on plans the supply and all works needed to provide it (on or off site).

Assessment of Flood Risk

Is the site within an area of known risk of flooding? *

Yes No Don't Know

If the site is within an area of known risk of flooding you may need to submit a Flood Risk Assessment before your application can be determined. You may wish to contact your Planning Authority or SEPA for advice on what information may be required.

Do you think your proposal may increase the flood risk elsewhere? *

Yes No Don't Know

Trees

Are there any trees on or adjacent to the application site? *

Yes No

If Yes, please mark on your drawings any trees, known protected trees and their canopy spread close to the proposal site and indicate if any are to be cut back or felled.

Waste Storage and Collection

Do the plans incorporate areas to store and aid the collection of waste (including recycling)? *

Yes No

If Yes or No, please provide further details:(Max 500 characters)

Not relevant to the proposed development

Residential Units Including Conversion

Does your proposal include new or additional houses and/or flats? *

Yes No

All Types of Non Housing Development - Proposed New Floorspace

Does your proposal alter or create non-residential floorspace? *

Yes No

Schedule 3 Development

Does the proposal involve a form of development listed in Schedule 3 of the Town and Country Planning (Development Management Procedure (Scotland) Regulations 2008) *

Yes No Don't Know

If yes, your proposal will additionally have to be advertised in a newspaper circulating in the area of the development. Your planning authority will do this on your behalf but will charge you a fee. Please check the planning authority's website for advice on the additional fee and add this to your planning fee.

If you are unsure whether your proposal involves a form of development listed in Schedule 3, please check the Help Text and Guidance notes before contacting your planning authority.

Planning Service Employee/Elected Member Interest

Is the applicant, or the applicant's spouse/partner, either a member of staff within the planning service or an elected member of the planning authority? *

Yes No

Certificates and Notices

Certificate and Notice under Regulation 15 B – Town and Country Planning (General Development Management Procedure) (Scotland) Order 1992 (GDPO 1992) Regulations 2008

One Certificate must be completed and submitted along with this application form. This is most usually Certificate A, Form 1, Certificate B, Certificate C or Certificate E.

Are you/the applicant the sole owner of ALL the land? *

Yes No

Is any of the land part of an agricultural holding? *

Yes No

Certificate Required

The following Land Ownership Certificate is required to complete this section of the proposal:

Certificate A

Land Ownership Certificate

Certificate and Notice under Regulation 15 of the Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2008

Certificate A

I hereby certify that –

(1) - No person other than myself/the applicant was an owner (Any person who, in respect of any part of the land, is the owner or is the lessee under a lease thereof of which not less than 7 years remain unexpired.) of any part of the land to which the application relates at the beginning of the period of 21 days ending with the date of the accompanying application.

(2) - None of the land to which the application relates constitutes or forms part of an agricultural holding.

Signed: Peter Fusco

On behalf of: Greenbelt Group Ltd

Date: 20/04/2012

Please tick here to certify this Certificate. *

Checklist - Application for Planning Permission

Town and County Planning (Scotland) Act 1997

The Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2008

Please take a few moments to complete the following checklist in order to ensure that you have provided all the necessary information in support of your application. Failure to submit sufficient information with your application may result in your application being deemed invalid. The planning authority will not start processing your application until it is valid.

a) If this is a further application where there is a variation of conditions attached to a previous consent, have you provided a statement to that effect? *

Yes No Not applicable to this application

b) If this is an application for planning permission, planning permission in principle or a further application and the application is for development belonging to the categories of national or major developments, have you provided a Pre-Application Consultation Report? *

Yes No Not applicable to this application

Town and County Planning (Scotland) Act 1997

The Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2008

c) If this is an application for planning permission and the application relates to development belonging to the categories of national or major developments and you do not benefit from exemption under Regulation 13 of The Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2008, have you provided a Design and Access Statement? *

Yes No Not applicable to this application

d) If this is an application for planning permission and relates to development belonging to the category of local developments (subject to regulation 13. (2) and (3) of the Development Management Procedure (Scotland) Regulations 2008) have you provided a Design Statement? *

Yes No Not applicable to this application

e) If your application relates to installation of an antenna to be employed in an electronic communication network, have you provided an ICNIRP Declaration? *

Yes No Not applicable to this application

f) If this is an application for planning permission, planning permission in principle, an application for approval of matters specified in conditions or an application for mineral development, have you provided any other plans or drawings as necessary:

- Site Layout Plan or Block plan.
- Elevations.
- Floor plans.
- Cross sections.
- Roof plan.
- Master Plan/Framework Plan.
- Landscape plan.
- Photographs and/or photomontages.
- Other.

Provide copies of the following documents if applicable:

- | | |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| A copy of an Environmental Statement. * | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A |
| A Design Statement or Design and Access Statement. * | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A |
| A Flood Risk Assessment. * | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A |
| A Drainage Impact Assessment (including proposals for Sustainable Drainage Systems). * | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A |
| Drainage/SUDS layout. * | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A |
| A Transport Assessment or Travel Plan. * | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A |
| Contaminated Land Assessment. * | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A |
| Habitat Survey. * | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A |
| A Processing Agreement * | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A |

Other Statements (please specify). (Max 500 characters)

Declare - For Application to Planning Authority

I, the applicant/agent certify that this is an application to the planning authority as described in this form. The accompanying plans/drawings and additional information are provided as a part of this application .

Declaration Name: Peter Fusco

Declaration Date: 20/04/2012

Submission Date: 20/04/2012

Payment Details

Cheque: TGC Renewables Group Ltd, 001073

Created: 20/04/2012 15:42



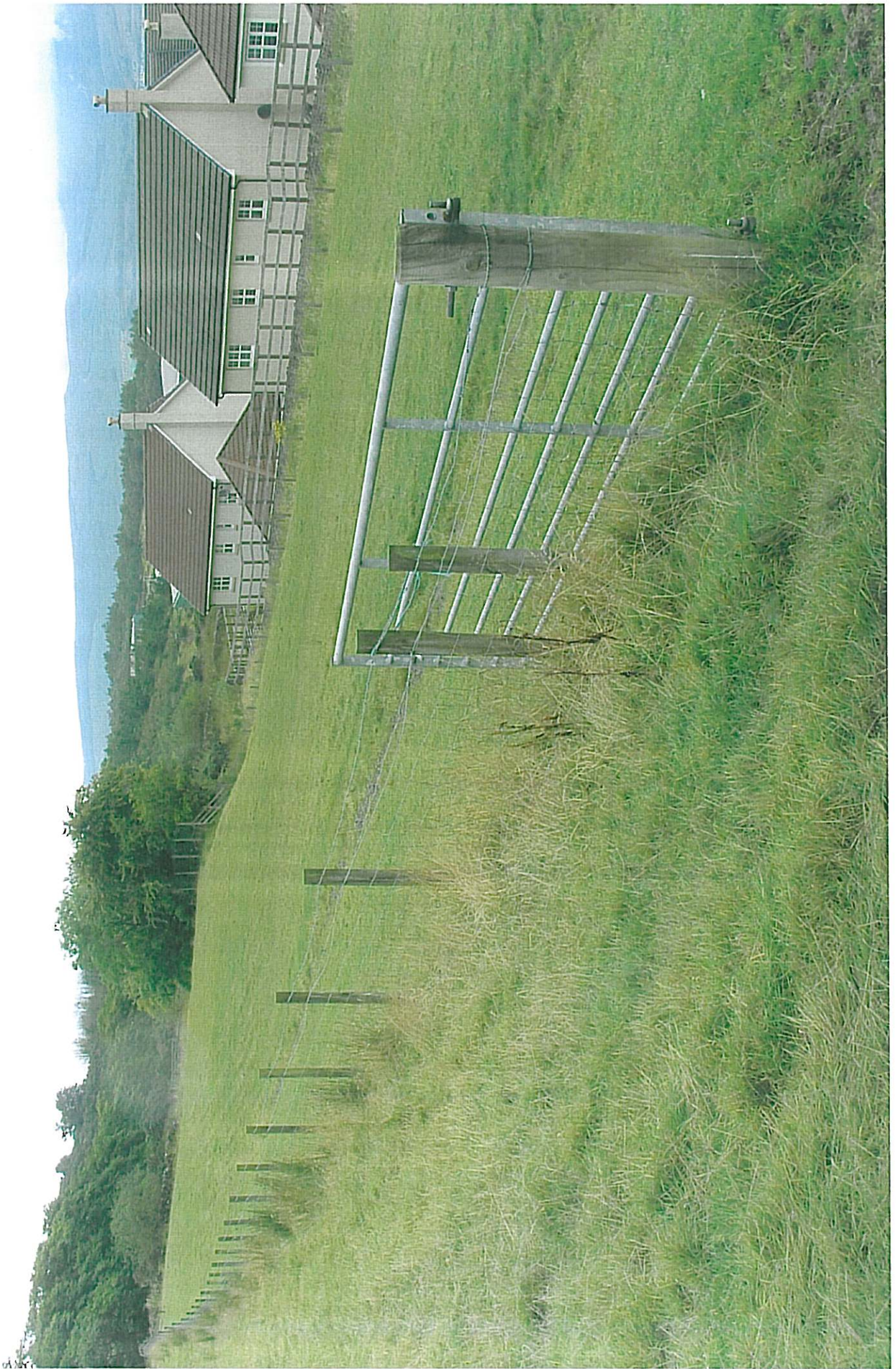


10/10/2024









REPORT OF HANDLING

Report By: Guy Phillips

Report No: 12/0133/IC

**Local Application
Development**

**Contact
Officer:** 01475 712422

Date: 31st August 2012

Subject: Erection of 2 No. 24.6 metre wind turbines at
Land At Faulds Park, Gourock

SITE DESCRIPTION

The site is at the top of a steep embankment on the south boundary of the Faulds Park Industrial Estate, Gourock. Approximately 340m to the east is the residential development at Finbracken Drive. To the south of Finbracken Drive the Levan Farm Phase 3 residential site has the benefit of planning permission in principle and an approximate capacity of 150 houses.

PROPOSAL

It is proposed to construct two wind turbines with a height to blade tip of 34.2m. The proposal also includes a 7.5 square metre equipment control housing and flood prevention measures, incorporating a drainage swale channel and two attenuation ponds. Access is from an existing farm track.

Accompanying the planning application are a series of wire frame diagrams and photomontages taken from key locations at Cloch Point, McInroy's Point, Faulds Park Road, Levan Farm at Finbracken Drive, the Levan Farm Phase 3 Site, Dunvegan Avenue, Hunters' Quay, Dunoon and Lunderston Bay. The photomontages and wire frame diagrams portray the relationship between the proposed turbines and three 27m high examples, granted planning permission at Underheugh approximately 850 m to the south west. Also submitted with the planning application are maps to demonstrate zones of theoretical visibility at 6km and 15km, a Design & Access Statement, a Noise Emission Report, a map to demonstrate the impact of shadow flicker, a specification of the turbines and a drainage impact assessment. Also submitted is a statement on the accuracy of photomontages submitted with the planning application.

LOCAL PLAN POLICIES

Local Plan Policy UT6 - Renewable Energy Infrastructure

In assessing proposals for renewable energy infrastructure, Inverclyde Council, as Planning Authority, will have regard to the impact on:

- (a) the natural environment and built heritage of the locality;
- (b) the landscape, particularly when viewed from major transport corridors;
- (c) residential amenity;
- (d) tourism and leisure resources, particularly if within the Clyde Muirshiel Regional Park; and

- (e) the operation of aircraft and telecommunications equipment.

Local Plan Policy UT6A - Wind Farms of 20MW and Above

Wind farms with an output of 20 MW and over will be supported where:

Wind farms with an output of 20MW and over will be supported where:

- a) the objectives of international natural heritage designation are not compromised or where the proposed development is likely to have an adverse effect:
- there is no alternative solution; and
 - there are imperative reasons of over-riding public interest, including those of a social or economic nature;
- b) the objectives of national natural heritage designation and the overall integrity of the area are not compromised or where any significant adverse effects on the qualities for which the area has been designated are clearly outweighed by social and economic benefits of national importance;

and where the proposed development:

- c) is sited within the landform to ensure it does not have a detrimental effect on the landscape and wider environment;
- d) does not have an unacceptable adverse impact on the positive strategic assets of Clyde Muirshiel Regional Park and the West Renfrew Hills Scenic Area, such as:
- i. landscape and visual amenity;
 - ii. tourism;
 - iii. recreation; and
 - iv. conservation;
- e) does not have an unacceptable adverse impact directly on the built heritage of the area or its setting;
- f) does not have an unacceptable adverse impact on biodiversity;
- g) does not have an unacceptable impact on the water environment, including its quality, quantity and ecological status;
- h) does not lead to unacceptable cumulative impacts on the landscape;
- i) does not have an unacceptable adverse effect on aviation interests;

and where:

- j) in consultation with the relevant bodies, the presence of notifiable installations and exclusion zones are taken into account when designing sites; and
- k) in consultation with the relevant bodies, the presence of broadcasting and telecommunications infrastructure are taken into account when designing sites.

Note (1) These criteria would also apply to smaller scale wind farms (<20MW) which can often be more easily accommodated in the landscape, therefore, some of the areas that are not suitable for strategic wind farms could be acceptable. It would still be necessary to protect the environmental and built heritage resources and the local community by ensuring they were designed and sited to incur minimum impact. Given the variety of combinations and sizes of

turbines that could be used to produce an output up to 20MW, it is likely that it will only be possible to determine what is acceptable when specific applications are assessed.

Local Plan Policy UT6B - Small Scale Wind Turbine development

In assessing proposals for small scale wind turbine developments, Inverclyde Council, as Planning Authority, will be supportive where the proposed development satisfies the criteria of Local Plan Policies UT6 and UT6A, where relevant, and will have regard to the impact on:

- a) neighbouring/adjoining properties and residential amenity generally;
- b) road safety;
- c) natural and built heritage resources in proximity to the site;
- d) wildlife resources and habitats;
- e) proximity to pylons and overhead power lines, and other service infrastructure; and
- f) the landscape, especially when viewed from public vantage points, including local roads, neighbouring settlements, and when set against the skyline.

Local Plan Policy B3 - Strategic Employment Locations

Inverclyde Council, as Planning Authority, will safeguard the following sites/locations within the 'Business and Industrial Areas' identified on the Proposals Map, and will support and encourage proposals for new development (Use Classes 4 & 5) to these areas, where applicable:

- i Faulds Park, Gourock West: development for high amenity business;
- ii Carlsburn (SIBL): development other than for Use Class 4 will only be approved in exceptional circumstances; and
- iii Pottery Street (North)/A8(T) Port Glasgow Road, Greenock (SIBL).

Development proposals will require to be assessed against the following criteria, and other relevant provisions of the Local Plan:

- (a) specific locational requirements;
- (b) suitable alternative locations;
- (c) the need for service provision;
- (d) economic and social benefit;
- (e) impact on the attractiveness of the remainder of the area to business investment, where appropriate; and
- (f) other relevant policies of the Local Plan.

Having regard to the designation of the environmental resource and built heritage, exceptions will only be made where:

- (a) Sites of Special Scientific Interest (SSSI) will not be compromised;
- (b) visual amenity and townscape will not be compromised;
- (c) no other site, identified in the Local Plan as suitable, is available;
- (d) the social and economic benefits of the scheme outweigh the total or partial loss of the environmental resource;
- (e) the developer has demonstrated that the impact of the development on the environment will be minimised; and
- (f) the loss can be compensated by habitat creation/site enhancement elsewhere, and where there are satisfactory arrangements to achieve this.

CONSULTATIONS.

MOD Safeguarding - No objections

NATS - CTC - No objections

BAA Aerodrome Safeguarding - No objections

Head Of Environmental And Commercial Services - No objections subject to confirmation of the size and route of vehicles transporting components, the number of delivery and maintenance trips and remediation works to roads and verges.

Head Of Safer And Inclusive Communities - No objections subject to conditions to restrict noise and control any potential contamination, including the spread of Japanese Knotweed. Advisory notes should be attached on site drainage, CDM Regulations, surface water/ ground water, flooding and seagulls.

PUBLICITY

The application was advertised in the Greenock Telegraph on 4th May 2012 as there are no premises on neighbouring land.

SITE NOTICES

The nature of the proposal did not require a site notice.

PUBLIC PARTICIPATION

Two written representations from one individual have been received. The objector is concerned that that the proposed wind turbines shall have an adverse impact upon the scenic beauty of the area, shall adversely affect the outlook from existing houses and those yet to be constructed at Levan Farm, shall create noise and shadow flicker nuisance, shall break the skyline (at conflict with the efforts taken to minimise the visual impact of the large Faulds Park factories) and shall have a negative impact upon house sales. The objector further questions the accuracy of the photomontages accompanying the planning application.

ASSESSMENT

The site is located within an industrial estate, identified as a strategic employment location by Policy B3 of the Local Plan. The location of the site at the top of an undevelopable embankment at the southern boundary of the industrial estate leads me to conclude that the proposal has no impact upon strategic employment. Consequently, as a renewable energy development it is considered appropriate to assess the proposal against national and local planning policy for such developments.

The general planning policy position, stemming from Scottish Planning Policy, is that planning authorities should support the development of a diverse range of renewable energy technologies and that development plans or supplementary guidance must clearly indicate factors that will be taken into account in decision making. The Government itself provides web based renewables advice and this is reflected in the Council's Interim Planning Policy Position Statement on Small Scale Wind Farms, approved by the Safe Sustainable Communities Committee in March 2011. This statement introduced a new Policy UT6B which identifies that the Council will be supportive of development where the criteria of policies UT6 (Renewable Energy Infrastructure) and UT6A (Wind Farms of 20MW and above) have been met and there has been regard to:

- a) the impact on neighbouring and nearby properties and residential amenity generally.
- b) road safety.

- c) natural and built heritage resources in proximity to the site.
- d) wildlife resources and habitats.
- e) proximity to pylons and overhead power lines and other service infrastructure.
- f) the landscape, especially when viewed from public vantage points, including local roads, neighbouring settlements, and when set against the skyline.

Policies UT6 and UT6A require assessment against the natural and built environment, landscape, and residential amenity, all of which are also addressed by assessment against Policy UT6B. I further note that the National Air Traffic Service, British Airports Authority and Ministry Of Defence have no objection.

- a) Impact on neighbouring and nearby properties and residential amenity generally

Policy UT6B requires development to have regard to impact on neighbours and general residential amenity. Potential impacts on nearby residential amenity arise from visual impact, noise and shadow flicker. It is inappropriate to consider impact on property value. The nearest housing to the site is at Finbracken Drive, approximately 340m to the east. The yet to be developed Levan Farm Phase 3 site is a similar distance away. Photomontages illustrate the two turbines breaking the skyline at viewpoints from the top of Finbracken Drive (within the existing Levan Farm Development) and from within the Levan Farm Phase 3 Site. The Design & Access Statement submitted considers the magnitude of change to these highly sensitive visual receptors to be moderate. Housing at Dunvegan Avenue, approximately 800m to the north east of the site is also recognised as a highly sensitive visual receptor. While the photomontage from this location also portrays the turbines breaking the skyline, the Design & Access Statement considers the magnitude of change to be slight. Scottish Government guidance for assessing visual impact indicates that scale is a relevant consideration, taking into account the significance of the landscape and the views, proximity, intervisibility and sensitivity of visual receptors. The two proposed wind turbines are moderate in height compared with those in commercial wind farms, however proximity to existing housing on the western extremity of Gourock and the Levan Farm Phase 3 site, I consider, determines that visual impact assumes a greater significance than would apply in a more remote location.

The Scottish Government's online advice "Onshore Wind Turbines" advises that where separation is provided between wind turbines and nearby dwellings of 10 rotor diameters shadow flicker should not be a problem. In this instance that figure is approximately 128m. Accordingly, the proposal accords with government advice regards separation for shadow flicker. There are no objections from the Head of Safer and Inclusive Communities regarding noise impact.

The submitted photomontages demonstrate that the turbines would be seen to break the skyline from Dunvegan Avenue (approximately 868m away). Visual impact diminishes with distance and the separation from Dunvegan Avenue area is such, that I consider visual impact there is not so significant as to justify refusal of planning permission. Phases 1 and 2 of the residential development at Levan Farm (the Finbracken Drive Area) are, however, nearer to the proposed turbines (approximately 340m). Visual impact there, however, is reduced by an intervening landscaped bund at the boundary with Faulds Park Road. Due to topography and mature planting, there are no views of the turbines from Faulds Park Road on the approach to the junction with Finbracken Drive (the entrance to the residential area). Prominent views of the turbines do however open up on Faulds Park Road, south of its junction with Finbracken Drive. Impact there, however, is upon workers and visitors to the factories within the industrial estate. Visual impact within an industrial context is different to impact from within a residential area. Turbines are industrial in character and the fact that they are seen to break the skyline from within the industrial estate is a less significant issue for workers and visitors (the visual receptors) than for residents within the Levan Farm area of Gourock. The greatest potential visual impact of the two turbines, I consider, is from the future housing at the Levan Farm Phase 3 site (approximately 340m to the east). The Levan Farm Phase 3 site has an outstanding panoramic view northwards to the Clyde and the Argyllshire Hills. The turbines are on the western extremity of that panorama but nevertheless, their close proximity to the housing site and much of the housing site being at a higher

contour level persuade me that there is a potential significant and adverse visual impact and that the turbines would be a dominant and unexpected visual interruption to residents.

b) Road safety

There are no objections from the Head of Environmental & Commercial Services on road safety grounds. He is further content with the measures proposed to prevent flooding.

c & d) natural and built heritage resources in proximity to the site and wildlife resources and habitats.

The site lies outwith the Burneven Hill SINC site. The applicant's Design & Access Statement advises that a survey of the site revealed no features of wildlife interest. I am satisfied that the steeply sloping hillside is of little nature conservation value. While the site is outwith the Clyde Muirshiel Regional Park it may be visible from within it. The transient nature of park users and the distance from the park satisfy me that the Park will not be adversely affected.

e) Proximity to pylons and overhead power lines and other service infrastructure.

The applicant's Design & Access Statement advises that the turbines comply with separation distances.

f) The landscape, especially when viewed from public vantage points, including local roads, neighbouring settlements, and when set against the skyline.

Consideration requires to be given to the visual impact over longer distances. In this regard, photomontages have been submitted indicating visual impact from Cloch Point on Cloch Road (approximately 0.65km distant), the McInroy's Point Ferry Terminal (approximately 1.255km distant), Hunter's Quay Ferry Terminal (approximately 3.9km distant), Dunoon (approximately 3.5km distant) and Lunderston Bay (approximately 1.2km distant). In all instances the turbines are portrayed in conjunction with the three turbines recently granted planning permission at Underheugh. Topography and trees intervene to determine that the turbines cannot be seen from the Lunderston Bay picnic area, which lies within Clyde Muirshiel Regional Park. The turbines are also screened from view from Cloch Point on Cloch Road. Visual impact from Hunter's Quay and Dunoon is diminished by the separating distance, the turbines not breaking the skyline and being seen within the setting of the three large factory units at Faulds Park.

Regarding the objector's concerns not covered by my assessment against the Local Plan, the applicant has confirmed that photomontages were generated by a specialised computer programme (Wind Farm R4) and are accurate. It is advised that the size of the turbines in the photomontages are accurate to within a negligible margin of error. Photomontages were prepared to determine impact upon key receptors, as identified in pre application discussions.

Overall, I consider that the proposal is unacceptable with reference to Inverclyde Local Plan Policy UT6 criteria (b) and (c) and Interim Policies UT6A (c) and UT6B (a) and (f).

RECOMMENDATION

That the application be refused.

DECISION

That the application be refused

Reasons

- I. A combination of height, scale and proximity to residential development at Levan Farm create a dominant and excessively prominent features in this part of Inverclyde, contrary to:-
 - a. the Council's interim policy on Small Wind Turbine Development UT6B, criteria (a) and (f).
 - b. the Council's interim policy on Wind Farms UT6A criterion (c); and
 - c. Policy UT6 of the Inverclyde Local Plan, criteria (a), (b) and (c).

Signed:

Case Officer: Guy Phillips

Stuart Jamieson
Head of Regeneration and Planning

Onshore wind turbines

Snapshot: Nationally there are now approximately 80 operational wind farms with turbines up to 140/150m high. Feed in tariffs continue to drive applications for groups of wind turbines and single wind turbines below 5MW. Onshore wind energy generation capacity on November 29, 2011 was 2784.67MW (Scottish Renewables website) and is expected to continue to grow. Planning authorities are more frequently having to consider turbines within lower-lying more populated areas, where design elements and cumulative impacts need to be managed. In a wider context, electricity grid reinforcements are supporting the growth in onshore wind (See [National Planning Framework 2](#)).

Suggested areas of focus for planning authorities:

- Provide greater clarity on where groups of wind turbines can be located by ensuring that a spatial framework for wind farms > 20MW has been set out in the development plan and addressing the potential below 20MW where appropriate
- Detail criteria to be applied in assessing wind turbine applications
- Establish protocol and key consultees for involvement in spatial planning, policy making, pre-application work and applications for wind turbines
- Identify proportionate levels of information to service pre-application discussions and to assess applications on wind turbines
- Secure support from local communities, wind power operators and other stakeholders on policies and procedures
- Ensure planning conditions and agreements for wind turbine approvals are reasonable and proportionate

Opportunities within Planning Processes for Planning Authorities:

Stage in Planning Process	Actions for Wind
Monitoring and Evidence Base and Main Issues Report	<ul style="list-style-type: none"> • Ensure map based records of operational and consented wind turbines in area are up to date [check out Scottish Natural Heritage (SNH) 6-monthly maps] • Using information from consultees, collate information on localised impacts of wind turbines, such as impacts on birds, communities, cumulative impacts • Consider whether existing spatial frameworks and policies are consistent with <u>Scottish Planning Policy</u> <ul style="list-style-type: none"> ○ Determine if they proactively respond to the Renewable Energy Action Plan and current national targets for electricity from renewable sources; ○ Factor in potential areas of greatest activity resulting from changes in Feed in Tariffs. • Involve key consultees for wind (including SNH, Scottish Environment Protection Agency (SEPA), The Royal Society for the Protection of Birds (RSPB), Ministry of Defence (MOD), Civil Aviation Authority (CAA), National En Route Ltd (NERL) and National Air Traffic Services (NATS) ideally at draft Main Issues Report stage • For Strategic Development Plan Authorities, consider if cumulative impacts of wind turbines across planning authority areas merit inclusion as a main issue / sub-topic of a main issue.

Spatial Planning	<ul style="list-style-type: none"> • Assess whether existing spatial plans provide sufficient clarity to <i>'support the development of wind farms in locations where the technology can operate efficiently and environmental and cumulative impacts can be satisfactorily addressed (SPP)'</i> • If not, follow guidance for preparing wind farms of over 20MW generating capacity, • Taking into account wind farm potential at different scales locally, consider whether <u>spatial guidance</u> for groups of wind turbines lower than 20MW would be appropriate • Ensure that full consultations have been carried out with key consultees to secure sufficient data on matters such as designated sites, ecology, aviation and defence • If a spatial framework for onshore wind farms of over 20MW generating capacity has not been developed, provide a timeline for its preparation or a reasoned justification why it is not intended to prepare a spatial framework • Ensure that the Strategic Environmental Assessment (SEA) Environmental Report assesses the individual and cumulative significant environmental effects arising from wind energy development areas
Drafting Development Plan Policy	<ul style="list-style-type: none"> • Ensure that wind policies provide clear guidance for applicants and: <ul style="list-style-type: none"> ○ cover design, including the number and height of turbines, location and supporting infrastructure ○ take into account the scale and character of the landscape ○ safeguard ecological, community, historic environment, aviation and defence interests ○ consider cumulative impacts and decommissioning • Ensure that policies for all new developments consider wind (and other renewables) as energy options where impacts can be managed • Ensure guidance is provided on considering the cumulative effect of wind turbines • Consult key consultees at an early stage on the drafting of wind energy policies • Ensure the public are offered an 'early and effective' opportunity to engage in policy development and their environmental effects as part of the SEA process.
Development Plans Action Programmes	<ul style="list-style-type: none"> • Consider selecting an action officer to take forward development plan objectives for wind power. Typically this might involve setting up a wind power working group involving key consultees and landowners, producing a project plan to decide on focus and priorities, preparing local design guidance, development briefs and considering local solutions to local problems.

<p>Securing Sufficient Information to Determine Planning Applications</p>	<ul style="list-style-type: none"> • Establish if supporting guidance adequately details typical and proportionate information needs for pre-application discussions: <ul style="list-style-type: none"> ○ Determine whether visual representation information is consistent with <u>SNH's national standard for windfarm representation</u>. ○ Ensure that any supplementary information used to inform the visual representation of wind farms is necessary in order to deal with local circumstances, is proportionate and does not conflict with SNH's national standard for windfarm visualisation • Ensure that design statements are submitted for national and major wind turbine proposals over 20MW • For wind turbines proposed on peatland, <u>guidance on carbon calculations</u> • Ensure that guidance highlights the potential need for seasonal bird surveys, which may significantly affect development project timetables
<p>Pre-Application Stage</p>	<ul style="list-style-type: none"> • Ensure that key consultees are given adequate opportunity to be involved in pre-application meetings / site visits • Ensure that early advice is given on whether schemes require an EIA
<p>Determining Planning Applications</p>	<ul style="list-style-type: none"> • Ensure that key consultees for wind are involved in meetings and site visits to help ensure that constraints are overcome where possible. • Technical information and guidance on typical issues associated with onshore wind turbines are provided below, which planning authorities should draw upon in determining applications and designing appropriate local solutions.

Technical information for Onshore Wind Turbines

Types of Turbines: There are commonly two types of wind turbine, vertical and horizontal axis machines. The horizontal axis, three bladed turbine is more common in Scotland.

Power of Turbines: The rated generating capacity of single onshore commercial turbines typically extends up to around 3MW, and 5MW models are under development.

Components of a Wind Turbine: The turbines usually have steel or concrete towers supporting the nacelle, which houses the mechanical machinery and a device known as "the yaw mechanism", which allows the machine to turn itself towards the prevailing wind. The majority of rotor blades are made of glass reinforced plastic or wood epoxy but can be of aluminium or steel.

Foundations: Turbine towers are fixed to a concrete foundation up to 15 metres in diameter, depending on the size of the turbine, whose surface will normally be flush with the surrounding ground. On land normally used for agricultural purposes, agricultural use can continue up to the edge of and over the foundations. With some ground conditions, such as peat, piled foundations have been used to minimise disturbance and the generation of waste material.

Separation Distances Between Turbines: The improved productivity of the current generation of wind turbines is partly as a result of advances in the micro-siting of turbines, along with higher hub heights and improved technology. Grouped turbines need to be positioned to allow a separation distance of around 3-4 rotor diameters between turbines. This is to limit energy loss through wind shadowing from upstream machines. Operators may have to balance the benefits of a compact site, which can minimise construction cost, and the gains from maximising energy capture from greater separation distances. The planning system should support the optimal arrangement where this does not lead to unacceptable visual impacts.

Control Unit: A group of wind turbines will require a central computerised monitoring system, which controls the operation of the turbines. This usually consists of an on-site building linked electronically to a headquarters and operatives off-site. The control unit is essential as turbines shut down when wind speeds are too great to avoid damage to equipment and when wind speeds are too weak to be commercially viable. For some larger sites, larger control facilities may be required to provide suitable facilities for on site operational staff.

Connection to the electricity distribution grid: Apart from turbines intended solely for private use, access to the electricity transmission and distribution system is required.

Power Lines: Power lines within the site connecting the individual turbines to the on-site substation will always be underground. Beyond that, careful consideration should be given to the relative merits of underground versus overhead lines from the substation to the electricity distribution system.

Access: Wind turbines will normally require adequate means of vehicular access, capable of taking articulated vehicles carrying machinery, both during constructional and operational phases.

Anemometers and Wind Vanes: Most sites require a slender mast with anemometers and wind vanes to provide control information for the site. This may be the same mast erected to provide pre-construction wind speed information. Masts may be free standing or require guying.

Wind Speed: The power produced by wind turbines depends on two key factors - the strength of the wind, and the area swept by the rotor. Assessing whether a particular site will harness sufficient wind power satisfactorily usually entails using historical meteorological data, with annual mean wind speed data available from the Meteorological Office, and obtaining information from anemometers on site for about 12 months. Advances in technology now allow turbines to operate efficiently at lower wind speeds than previously. The data secured also helps to identify the best positions for wind turbines within the site.

Equipment Safety: Companies supplying products and services to the wind energy industry operate to a series of international, European and British Standards. The build-up of ice on turbine blades is unlikely to present problems on the majority of sites. When icing occurs the turbines' own vibration sensors are likely to detect the imbalance and inhibit the operation of the machines. Site operators also tend to have rigorous and computer aided maintenance regimes and control rooms can detect icing of blades. Danger to human or animal life from falling parts or ice is rare. Similarly, lightning protection measures are incorporated in wind turbines to ensure that lightning is conducted harmlessly past the sensitive parts of the nacelle and down into the earth.

Typical Planning Considerations in Determining Planning Applications for Onshore Wind Turbines

Landscape Impact: Wind turbines can impact upon the landscape by virtue of their number, size or layout, how they impact on the skyline, their design and colour, any land form change, access tracks and ancillary components anemometers, substations and power lines. The ability of the landscape to absorb development often depends largely on features of landscape character such as landform, ridges, hills, valleys, and vegetation. This can also be influenced by careful siting and the skills of the designer. Different layouts of turbines may be more or less suited to particular landscape types and the physical form and /or colour of turbines may also be relevant. Selecting an appropriate route for access, considering landform change, surfacing and vegetation can also influence to what extent proposals are integrated into the landscape setting.

In considering wind farm visibility it should be noted that in some locations and clear weather, turbines may be visible over long distances, though this will depend on elevation, the angle of the sun and other factors. It is important to emphasise, however, that visibility and distance do not follow a linear relationship. Factors including the backcloth (or skyline) against which turbines are seen, turbine colour and typical weather conditions require careful consideration.

As more areas of search are taken up and as more sites are proposed within or near sensitive landscapes, landscape protection and designing appropriate mitigation through conditions and/or legal agreements, will become a more routine consideration alongside maximising the potential of wind energy. In relation to landscape impact, a cautious approach is necessary in relation to particular landscapes which are rare or valued, such as National Scenic Areas and National Parks.

Landscape Assessment: Analysis of landscape impact normally requires the preparation of a zone of theoretical visibility map, to show where the windfarm may be seen from, a viewpoint analysis based on key viewpoints throughout the surrounding area, computer modelling and photo or video montages.

SNH is the Scottish Government national agency and statutory advisor on landscape matters. Their guidance is expected to be followed in the first instance in respect of landscape character appraisal, landscape and visual impact analysis and wind farm design. SNH and its partners have carried out a comprehensive national programme of Landscape Character Assessment which will assist in identifying landscape characteristics that are particularly sensitive to wind farm development. There is also a range of guidance available from SNH which can help in the design, visualisation and assessment of impacts within the landscape (see below).

Any supplementary information used to deliver local solutions to local problems must not conflict with national standards and must be a proportionate and reasonable burden on the applicant.

Impacts on Wildlife and Habitat, Ecosystems and Biodiversity: Wind turbine developments have the capacity to have both positive and negative effects on the wildlife, habitats, ecosystems and biodiversity of an area. For example, the effects of climate change are known to have damaging effects on wildlife, habitats, ecosystems and biodiversity, and the production of renewable energy counters this. There are also many opportunities for wind turbine developments to introduce environmental improvement through land management, land restoration and habitat creation, as part of a development scheme.

At the same time, there is also the potential for negative environmental effects, with possible loss of or damage to valuable habitat resulting from construction of turbine bases, access tracks or other works. Such impacts can be significant particularly if they relate to habitats that are difficult to replicate. There is also the potential of collision risk, displacement or disturbance by forcing birds or bats to alter flight paths. Wind farms should not adversely affect the integrity of designated sites protected under EU and UK legislation (Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Sites of Special Scientific Interest (SSSIs)) or wider conservation interests outlined in the SPP.. Negative effects can also be at a distance from the turbines if works alter the hydrology of an area or if access roads create barriers to movement of protected species. Again, there is scope for mitigation in the location of wind turbines, construction techniques, design measures and management.

Assessing Impacts on Wildlife and Habitat, Ecosystems and Biodiversity: In carrying out an assessment of impacts on wildlife and habitat, risk needs to be quantified. One such approach has been developed to calculate the impact of wind turbine developments on the soil carbon stocks held in peats. Guidance is available. Additionally, although many bird and their habitats are largely unaffected by wind turbine developments, wind farm wild bird collision, displacement and disturbance risk needs to be quantified. Wild birds in flight would often be expected to take action to avoid obstacles but this will depend on species, numbers, and relevant seasonal / breeding patterns. Notable resources for planners are included below.

Buffer zones: Buffer zones should not be established around areas designated for their natural heritage importance and proposals should be considered on their merits.

Impact on Communities: There are a number of impacts on communities that require consideration as follows:-

- **Shadow Flicker:** Under certain combinations of geographical position, time of day and time of year, the sun may pass behind the rotor and cast a shadow over neighbouring properties. When the blades rotate, the shadow flicks on and off; the effect is known as "shadow flicker". It occurs only within buildings where the flicker appears through a narrow window opening. The seasonal duration of this effect can be calculated from the geometry of the machine and the latitude of the potential site.

Where this could be a problem, developers should provide calculations to quantify the effect. In most cases however, where separation is provided between wind turbines and nearby dwellings (as a general rule 10 rotor diameters), "shadow flicker" should not be a problem. However, there is scope to vary layout / reduce the height of turbines in extreme cases.

- **Noise:** Technically, there are two quite distinct types of noise sources within a wind turbine - the mechanical noise produced by the gearbox, generator and other parts of the drive train; and the aerodynamic noise produced by the passage of the blades through the air. There has been significant reduction in the mechanical noise generated by wind turbines through improved turbine design.

The Report, "The Assessment and Rating of Noise from Wind Farms" (Final Report, Sept 1996, DTI), (ETSU-R-97) describes a framework for the measurement of wind farm noise, which should be followed by applicants and consultees, and used by planning authorities to assess and rate noise from wind energy developments, until such time as an update is available. This gives indicative noise levels thought to offer a reasonable degree of protection to wind farm neighbours, without placing unreasonable burdens on wind farm developers, and suggests appropriate noise conditions.

On April 6, 2011, a further report produced by Hayes McKenzie for DECC entitled "An Analysis of How Noise Impacts are Considered in the Determination of Wind Farm Planning Applications" suggested that best practice guidance is required to confirm and, where necessary, clarify and add to the way ETSU-R-97 should be implemented in practice. (A previous report in 2006 by the same authors concluded that there is no evidence of health effects arising from infrasound or low frequency noise generated by the wind turbines that were tested).

"The Salford University report into Aerodynamic Modulation of Wind Turbine Noise (last modified September 27, 2011) summarised the conclusions of the Hayes MacKenzie report and investigated further complaints caused by amplitude modulation of aerodynamic noise (AM). Report findings were constrained by the low incidence of AM and the low numbers of people adversely affected in the UK.

Further research by AECOM entitled 'NANR 277 - Wind Farm Noise: Statutory Nuisance Complaints Methodology' is aimed at helping Local Authorities deal with wind farm noise complaints, using statutory nuisance powers.

PAN on Planning and Noise provides advice on the role of the planning system in helping to prevent and limit the adverse effects of noise. The associated Technical Advice Note provides guidance which may assist in the technical evaluation of noise assessment.

- **Electro-magnetic Interference to Communications Systems:** Wind turbines (in common with all electrical equipment) produce electro-magnetic radiation which can interfere with broadcast communications and signals. The Radiocommunications Agency (RA) register of all civil radio communications installations in the UK can identify any radio installations in the neighbourhood of a wind farm site, but will not identify their owners. Applicants should make direct contact with any authorities or bodies likely to have an interest, in particular, the local emergency services, local authority services departments, gas and electricity companies.
- **Ice Throw:** As an added precaution to equipment safety standards, warning signage may be a useful precaution.

Separation Distances: Paragraph 190 of the SPP refers to a guideline separation distance of up to 2km between areas of search for groups of wind turbines and the edge of towns, cities and villages, to reduce visual impact. However, this 2km separation distance is a guide not a rule and decisions on individual developments should take into account specific local circumstances and geography. There is no guide distance between established and proposed groups of wind turbines. Primarily this matter is a local authority development plan issue based on the policy set out in SPP paras 187-191. Further details on separation distances can be found on the Scottish Parliament website.

Aviation Matters: UK Airspace is important for both civilian and military aviation interests. It is essential that the safety of UK aerodromes, aircraft and airspace is not adversely affected by new wind power infrastructure. As such, planning authorities should take the following into account:-

- Wind turbines can have implications for the flight paths of aircraft due to the height of turbines and anemometers. In particular, planning authorities are requested to encourage potential developers to consult relevant aviation interests regarding the siting of anemometer masts. Due to their structure, anemometer masts are particularly difficult to see in the aviation environment and can cause safety concerns as a result.

- Planning authorities are requested to supply the CAA with information about approved new wind power developments involving obstructions as soon as permission has been granted, as the CAA is responsible for recording all air navigation obstructions in the UK for air safety.
- Depending on the wind turbine and anemometers' size, shape, construction materials and location, together with the amount of electromagnetic interference, there may be implications for airport radar and communications systems. Planning authorities should consult the MOD and NERL who have a statutory duty to safeguard certain communication, navigation and surveillance (CNS) sites (including radars) from interference to signals caused by wind turbines in the interests of national security, and the continued safe operation of passenger and military aviation.
- Planning authorities receiving applications affecting the areas identified in safeguarding maps, will be required to consult the relevant aerodrome operator or, for en route technical sites, NATS. Further guidance on military aviation matters and other defence matters are covered below, and planning authorities should also refer to the weblink providing guidance on dealing with aviation objections and using suspensive conditions.

Military Aviation and Other Defence Matters: Whilst civilian aviation is largely confined to designated corridors of controlled airspace using set approaches at airports, military aviation may be over extensive areas of the UK in airspace outside 'controlled airspace'. The approaches and flight patterns to military aerodromes are not necessarily routine and can be irregular owing to the performance characteristics of military aircraft.

A considerable amount of military flying for training purposes is conducted at low altitude - sometimes as low as 100 feet in the Tactical Training Areas (TTA). In addition, military helicopters may operate down to ground level. New energy infrastructure may cause obstructions to MOD low flying operations. Planning authorities should see [Low Flying Zones](#).

The MOD also operates military training areas, military danger zones (offshore Danger and Exercise areas), military explosives storage areas and Tactical Training Areas (TTA). There are extensive Danger and Exercise Areas across the UK Continental Shelf Area (UKCS) for military firing and highly surveyed routes to support Government shipping that are essential for national defence. Other operational defence assets may be affected by new development, e.g. the Seismological Monitoring Station at Eskdalemuir and maritime acoustic facilities. The MOD also operates Air Defence radars and Meteorological radars which have wide coverage over the UK (onshore and offshore). It is important that new energy infrastructure does not significantly impede or compromise the safe and effective use of any defence assets.

The MOD is a statutory consultee for some of the operations/facilities mentioned above. For wind energy, MOD should be consulted if a proposed wind turbine is 11metres to blade tip or taller, or has a rotor diameter of 2m or more. Outwith the lighting of structures (150m in height and above) in accordance with the Air Navigation Order, MOD may request lighting of turbines when it deems it necessary for military aviation purposes including low flying training. A [map](#) depicting low flying consultations zones and other spatial data referred to above is available on the [RESTATS](#) website.

The MOD has committed to work with developers to identify mitigation where possible. The following websites will be of use and should be accessed:

- MOD has some [useful constraints maps/data](#).
- A [summary of Defence Estates Safeguarding interests](#) can be found on the [MOD](#) website

Historic Environment Impacts: The historic environment is described in para 1.2 of Scotland's Historic Environment Policy (SHEP) and is composed of designated and undesignated assets. Archaeology and other heritage assets are a finite and non-renewable resource. Scottish Ministers policies for the protection for the historic environment are set out in paras 110 – 124 of Scottish Planning Policy (SPP) and Planning Advice Note 2/ 2011 on Planning and Archaeology sets out the roles of Historic Scotland and the Planning Authority.

Historic Scotland's guidance on setting explains how the impact of change can be assessed and mitigated. Windfarm developments have the potential for direct and/or indirect impacts by virtue of the location of turbines and ancillary development, or changes to ground water levels or surface water patterns, which may affect archaeological deposits. Developments can be designed to avoid or minimise such impacts.

Road Traffic Impacts: In siting wind turbines close to major roads, pre-application discussions are advisable with Transport Scotland's Trunk Roads Network Management (TRNM). This is particularly important for the movement of large components (abnormal load routing) during the construction period, periodic maintenance and for decommissioning. Although wind turbines erected in accordance with best engineering practice should be stable structures, it may be advisable to achieve a set back from roads and railways of at least the height of the turbine proposed, to assure safety. Driver distraction may in some circumstances, be a consideration.

Cumulative impacts: Assessing the cumulative impact of a number of wind turbines or a number of wind farms involves considering the combined effects of siting proposals in proximity to each other. In areas approaching their carrying capacity the assessment of cumulative effects is likely to become more pertinent in considering new wind turbines, either as stand alone groups or extensions to existing wind farms. In other cases, where proposals are being considered in more remote places, the thresholds of cumulative impact are likely to be lower, although there may be other planning considerations.

In assessing cumulative landscape and visual impacts, the scale and pattern of the turbines plus the tracks, power lines and ancillary development will be relevant considerations. It will also be necessary to consider the significance of the landscape and the views, proximity and inter-visibility and the sensitivity of visual receptors.

Relevant guidance on assessing cumulative impacts include "A Guide to Assessing the Cumulative Effects of Wind Energy Development" (W/14/00538/REP ETSU 2000) and SNH guidance 'Cumulative Effects of Windfarms' (April 2005).

The issue of cumulative impact on MOD operations and facilities also needs to be considered. Wind turbines cause clutter on radar displays which consequently impact on MOD operations and air safety. Proliferation of turbines will exacerbate the problem. If not managed, the cumulative impact could have extremely significant detrimental affects on MOD operations and air safety. Wind turbines can also have a cumulative effect upon the operation of facilities such as the seismological monitoring station at Eskdalemuir owing to the combined vibratory emissions of turbines in the vicinity of such installations. It should not be assumed that MOD can continue to meet its current operational requirements in cases where there is a further proliferation of turbines.

Good Practice During Construction: Planning authorities should generally encourage developers to appoint Ecological Clerks of Works to ensure that agreed designs and construction techniques are followed following planning approval.

Decommissioning: In many cases, wind turbines can be decommissioned and sites cleared and restored easily and rapidly. Turbine bases tend to be left 'in situ' to avoid damage taking place through removal. Planning authorities should ensure via conditions and/or legal agreement that site restoration takes place either on the expiry of the consent or in the event of the project ceasing to operate for a specified period. Prior to the expiry of consents, proposals may come forward to extend the life of the project by re-equipping or replacing the original turbines with new ones. While there are obvious advantages in utilising established sites, such cases will have to be determined on merit and in the light of current policy considerations.

Useful References:

Scottish Natural Heritage:

[Assessing the impact of small-scale wind energy proposals on the natural heritage](#) (2012)

[Guidance on Assessing Connectivity with Special Protection Areas \(SPAs\)](#) (2012)

[Siting and Design of Small Scale Wind Turbines of between 15 and 50 metres in height](#) (2012)

[Assessing the cumulative impact of onshore wind energy developments](#) (2012)

[Renewables Trends in Scotland 2010](#)

[Good practice during wind farm construction](#) (Oct 2010)

[Siting and designing windfarms in the landscape](#) (Version 1) (2009)

[Visual representation of wind farms. Good Practice Guidance](#) (February 2007)

[Visual assessment of windfarms best practice](#) (2002)

[Survey methods for assessing the impacts of onshore wind farms](#) (2005 – revised 2010)

[TIN051 – Bats and onshore windfarms: interim guidance](#) (2009)

[Natural heritage assessment of small scale wind energy projects which do not require formal Environmental Impact Assessment \(EIA\)](#) 2008

Other:

[Guidance on Dealing with Aviation Objections and Associated Negative Conditions in Wind Turbine Consents](#)

[Wind Energy developments and Natura 2000](#) (EU Guidance Document) (October 2010)

David Ashman

From: David Ashman on behalf of Devcont Planning
Sent: 18 June 2012 13:25
To: Laura Graham
Subject: FW: 12/0133/IC

Consultation Reply: BAA

From: Simon Vince [mailto:simon_vince@baa.com]
Sent: 18 June 2012 12:51
To: Devcont Planning
Subject: 12/0133/IC

FAO Mr Guy Phillips

We have now assessed the application against safeguarding criteria and can confirm that we have no safeguarding objections to the proposed development.

Regards

Simon Vince
Safeguarding Officer
Central Airside Operations

Heathrow 
Making every journey better.

Heathrow Airport Limited
The Compass Centre, Nelson Road
Hounslow, Middlesex, TW6 2GW

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David Ashman

From: David Ashman on behalf of Devcont Planning
Sent: 03 May 2012 08:58
To: Laura Graham
Subject: FW: Your Ref: 12/0133/IC (Our Ref: W(F)14336)

NATS consultation reply

From: ALLEN, Sarah J [<mailto:Sarah.ALLEN@nats.co.uk>] **On Behalf Of** NERL Safeguarding
Sent: 02 May 2012 14:59
To: Devcont Planning
Subject: Your Ref: 12/0133/IC (Our Ref: W(F)14336)

The proposed development has been examined from a technical safeguarding aspect and does not conflict with our safeguarding criteria. Accordingly, NATS (En Route) Public Limited Company ("NERL") has no safeguarding objection to the proposal.

However, please be aware that this response applies specifically to the above consultation and only reflects the position of NERL (that is responsible for the management of en route air traffic) based on the information supplied at the time of this application.

This letter does not provide any indication of the position of any other party, whether they be an airport, airspace user or otherwise. It remains your responsibility to ensure that all the appropriate consultees are properly consulted.

If any changes are proposed to the information supplied to NERL in regard to this application which become the basis of a revised, amended or further application for approval, then as a statutory consultee NERL requires that it be further consulted on any such changes prior to any planning permission or any consent being granted.

Yours faithfully,

Sarah Allen
Technical Administrator
On behalf of NERL Safeguarding Office

If you are not the intended recipient, please notify our Help Desk at Email Information.Solutions@nats.co.uk immediately. You should not copy or use this email or attachment(s) for any purpose nor disclose their contents to any other person.

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NATS means NATS (En Route) plc (company number: 4129273), NATS (Services) Ltd (company number 4129270), NATSNAV Ltd (company number: 4164590) or NATS Ltd (company number 3155567) or NATS Holdings Ltd (company number 4138218). All companies are registered in England and their registered office is at 4000 Parkway, Whiteley, Fareham, Hampshire, PO15 7FL.

TO: HEAD OF REGENERATION & PLANNING
 FROM: HEAD OF ENVIRONMENTAL &
 COMMERCIAL SERVICES

Your Ref: 12/0133/IC
 Our Ref: GL/14/04/12/0133/IC
 Contact: E PROVAN
 Tel: (01475) 714788

**INVERCLYDE COUNCIL
 ENVIRONMENTAL & COMMERCIAL SERVICES
 OBSERVATIONS ON PLANNING APPLICATION**

Planning Application No: 12/0133/IC Dated: 25/04/12 Received: 27/04/12
 Applicant: Ms Anne Shipton
 Proposed Development: Erection of 2 No. 24.6 metre wind turbines
 Location: Land at Faulds Park, Gourrock
 Type of Consent: Detailed Permission/~~In-Principle~~/Approval of Matters/~~Change of Use~~
 No. of drawings submitted: 5

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	Comments
1	If delivery vehicle used to transport turbine components is classed as an abnormal load:
1a	Size and weight of vehicle required to transport components to be advised
1b	Route within Inverclyde Council area for delivery and removal of components to be advised along with any locations where changes to infrastructure will be required to accommodate the vehicle
1c	Number and proposed dates of delivery trips to be notified to Inverclyde Council, Transport Scotland and Strathclyde Police
1d	Any remediation works to roads or verges to be advised and approved.
2	Size of maintenance vehicle and frequency of trips to be advised.
3	Assessment of the development's drainage impact on nearby watercourses to be provided as the access track, as shown, will interfere with an existing water course and culvert.

NOTES FOR INTIMATION TO APPLICANT

CONSTRUCTION CONSENT (S21)*	Not Required/Required for all road works
ROAD BOND (S17)*	Not Required/Required if building works are to be undertaken before roads are completed
ROAD OPENING PERMIT (S56)*	Not Required/Required for all works in the public road

*Relevant Section of the Roads (Scotland) Act 1984

Signed Date 3/5/12
 HEAD OF ENVIRONMENTAL &
 COMMERCIAL SERVICES



MINISTRY OF DEFENCE

Mr Guy Phillips
Inverclyde Council
Planning
Cathcart House
6 Cathcart Square
Greenock, PA15 1LS

Defence Infrastructure Organisation

Safeguarding - Wind Energy
Defence Infrastructure Organisation
Kingston Road
Sutton Coldfield
West Midlands
B75 7RL

E-mail: DIO-safeguarding-wind@mod.uk

17th May 2012

Your Reference: 12/0133/IC
Our Reference: DIO/SUT/43/10/1/16267

Dear Mr Phillips

DIO Reference Number: 16267

Site Name: Faulds Park

I am writing to tell you that the Ministry of Defence (MOD) has no concerns with the proposal as set out in your pro-forma dated 26th April 2012.

The application is for 2 turbines at 32.4 metres to blade tip. This has been assessed using the grid references below as submitted in your pro-forma.

Turbine	100km Square Letter	Easting	Northing
1	NS	21163	75690
2	NS	21223	75766

If the application is altered in any way we must be consulted again as even the slightest change could unacceptably affect us.

If you apply for planning permission you must ensure that the relevant planning authority consults this office to ensure that no concerns have arisen since the date of this letter.

If planning permission is granted you must tell us;

- the date construction starts and ends;
- the maximum height of construction equipment;
- the latitude and longitude of every turbine.

This information is vital as it will be plotted on flying charts to make sure that military aircraft avoid this area.

It should be noted that this response is based on current levels of wind farm development in the area. If additional wind farms are consented or built prior to this development being submitted for planning consent, our position may change.

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4P
12/0133/IC

Defence Infrastructure Organisation Safeguarding wishes to be consulted and notified of the progression of planning applications and submissions relating to this proposal to verify that it will not adversely affect defence interests.

I hope this adequately explains our position on the matter. If you require further information or would like to discuss this matter further please do not hesitate to contact the safeguarding wind energy team.

Further information about the effects of wind turbines on MOD interests can be obtained from the following websites:

MOD: <http://www.mod.uk/DefenceInternet/MicroSite/DIO/WhatWeDo/Operations/ModSafeguarding.htm>

Restats: <https://restats.decc.gov.uk/cms/aviation-safeguarding-maps/>

RenewableUK: <http://www.bwea.com/aviation/index.html>

Yours sincerely

Wind Energy Team
Defence Infrastructure Organisation

Memorandum Safer Communities Planning Application Consultation Response	
To: Planning Services For the Attention of Guy Phillips	
From: Safer and Inclusive Communities	Date of Issue to Planning: 13.06.12

Lead Officer: Janet Stitt	
Tel: 01475 714 270	Email: janet.stitt@inverclyde.gov.uk

Safer Communities Reference (optional):	
Planning Application Reference:	12/0133/IC
Planning Application Address:	Land at Faulds Park Gourock
Planning Application Proposal:	Erection of 2 wind turbines

Team	Officer	Date
Food & Health	Michael Lapsley	
Environment & Safety <i>Contaminated Land</i>	Sharon Lindsay Roslyn McIntosh	02.05.12 26.04.2012
Public Health & Housing	Janet Stitt / Jim Blair	26.04.12
Environment and Enforcement	Stewart Mackenzie	13.06.12

Amend table entries as appropriate and insert date when each officer review is completed.



**Healthy
Working
Lives**



Recommended Conditions:

It is recommended that the undernoted conditions be placed on any consent the council may grant:

Delete or amend as appropriate

Food & Health	
No Comments	
Environment & Safety	
No Comments	
Contaminated Land	
1.	That prior to the start of development, details of a survey for the presence of Japanese Knotweed shall be submitted to and approved in writing by the planning authority and that, for the avoidance of doubt; this shall contain a methodology and treatment statement where any is found. Development shall not proceed until treatment is completed as per the methodology and treatment statement. Any variation to the treatment methodologies will require subsequent approval by the planning authority prior to development starting on site.
Reason:	To help arrest the spread of Japanese Knotweed in the interests of environmental protection.
2.	That the presence of any previously unrecorded contamination or variation to reported ground conditions that becomes evident during site works shall be brought to the attention of the planning authority within one week. Consequential amendments to the Remediation Strategy shall not be implemented unless it has been submitted to and approved, in writing by the Planning Authority.
Reason:	To ensure that all contamination issues are recorded and dealt with appropriately.
3.	That no fill or landscaping material shall be imported onto the site until written details of the source and intended reuse of the imported materials has been submitted for approval, in writing by the Planning Authority. The report shall characterise the chemical quality (including soil-leachate and organic content etc), volume and source of the imported materials with corresponding cross-sections and plans indicating spatial distribution and depth/thickness of material placement within the development site. The material from the source agreed only shall be imported in strict accordance with these agreed details.
Reason:	To protect receptors from the harmful effects of imported contamination.

Public Health & Housing	
No Comments	
Environment and Enforcement	
No Comments	
1.	The level of noise emissions from the wind turbines when measured at any dwelling, lawfully existing at the date of permission shall not exceed: <ul style="list-style-type: none">a. between the hours of 23:00 and 07:00 the greater of 45dB L_A90 (10 min) or 5dB(A) above the Night Hours Background Noise level at that property; orb. between the hours of 07:00 and 23:00 the greater of 40dB L_A90 ((10 min) or 5 dB(A) above the quiet Waking Hours Day Time Background Noise Level at that proerty
Reason:	To protect the amenities of occupiers of premises from unreasonable noise and vibration levels.

Recommended Advisory Notes

It is strongly recommended that the undernoted Advisory Notes be placed on any consent the Council may grant:

- i. **Site Drainage:** Suitable and sufficient measures for the effective collection and disposal of surface water/ground water should be implemented during construction phase of the project as well as within the completed development to prevent flooding within this and nearby property.
- ii. The applicant should be fully aware of the **Construction (Design & Management) Regulations 2007 (CDM 2007)** and it's implications on client duties etc.
- iii. **Surface Water / Ground Water:** Any SUDS appraisal must to give appropriate weight to not only any potential risk of pollution to watercourses but to suitable and sufficient measures for the effective collection and disposal of surface water / ground water to prevent flooding.
- iv. Measures should be implemented during the construction phase of the project as well as the within the completed development to prevent flooding within the application site and in property / land nearby.
- v. **Design and Construction of Buildings – Seagulls:** It is very strongly recommended that appropriate measures be taken in the design of all buildings and their construction, to inhibit the roosting and nesting of seagulls. Such measures are intended to reduce nuisance to, and intimidation of, persons living, working and visiting the development.

M E M O R A N D U M

To:	David Ashman Development Management	Date:	26 June 2012
From:	Fergus Macleod Planning Policy and Property Manager	Our Ref:	C1.1/MP
☎	01475 712493	Your Ref:	I2/0133/IC
Subject:	Erection of 2 x 24.6m to hub, 34.2m to tip wind turbines plus associated works at Faulds Park, Gourock.		

National Planning Guidance

As indicated in the applicant's Design and Access Statement Scottish Planning Policy (SPP) 2010 encourages the promotion of this scale of renewable energy, stating that:

"...Development plans should support all scales of development associated with the generation of energy and heat from renewable sources, ensuring that an area's renewable energy potential is realised and optimised in a way that takes account of relevant economic, social, environmental and transport issues and maximises benefits. Development plans should support the wider application of medium and smaller scale renewable technologies..."

However, to give a full picture, SPP 2010 also states immediately prior to the section quoted by the applicant that:

"Planning authorities should support the development of a diverse range of renewable energy technologies, guide development to appropriate locations and provide clarity on the issues that will be taken into account when specific proposals are assessed."

Development Plan

The proposed development lies within the Faulds Park high amenity business site and should therefore be assessed against **Policy B3: Strategic Employment Locations** of the adopted Inverclyde Local Plan 2005 as well as the Interim SPG for Wind Farms 2010 **Policy UT6A: Wind Farms of 20MW and Above** (with particular reference to Note 1) and **Policy UT6B** of the Small Scale wind Energy Developments: Interim Planning Policy Position Statement which supplement **Policy UT6** of the adopted Local Plan.

Although the proposed location for the turbines is within the employment site they would be on the periphery of the site where they would not interfere with the functioning of the existing businesses.

As well as **Policy UT6**, criteria c) - i) of **Policy UT6A** are relevant to this application, as are criteria a) - f) of **Policy UT6B**.

Conclusion

There is support for this type of development at national level provided it is in an appropriate location where impact on the landscape and natural heritage is minimal or can be minimised through mitigation. The proposed location within the business site is acceptable provided the relevant criteria of Policies B3, UT6, UT6A and UT6B can be satisfied.

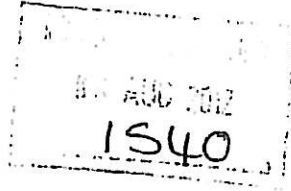
* It is noted that the actual height of the proposed wind turbines is 34.2m when measured in the normal manner to blade tip, rather than only to the hub which is 24.6m.

(Authorised by Fergus Macleod)

Tel:
Mobile:

Mr & Mrs R Gormley
Levan Farm
Tantallon Avenue
Gourock PA19 1HA
Scotland.

The Director of Planning
Inverclyde Council
Cathcart House
6 Cathcart Square
Greenock PA15 1LS



28th July 2012

Dear Sir,

Planning Application 12/0133/IC
TGC Renewables
Erection of Two Wind Turbines at Faulds Park Gourock

I refer to my letter of objection dated 24th May 2012 regarding the above application. In that letter I expressed my doubts as to the accuracy of the photographic representations that were included as part of the application, particularly those which purported to give a view of the height and scale of the proposed turbines from different locations within the local environs.

I enclose a copy of a recent article in the Sunday Times which I think supports the doubts that I expressed.

Yours faithfully,

R Gormley

Photo trickery shrinks wind farm mock-ups

James Gillespie

WIND FARM developers have been accused of deceiving local councils and the public by using computer-generated images in planning applications that make the turbines seem smaller.

The claim is contained in a new book, *Windfarm Visualisation: Perspective or Perception*, by the architect Alan Macdonald, whose company, Architech, specialises in computer-generated images.

A study by Stirling University found serious flaws in images presented in a visual impact assessment in the planning process.

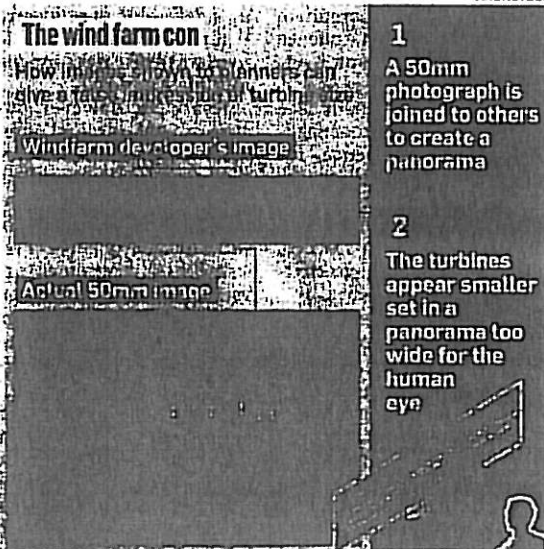
Macdonald said the accepted practice was for a photograph of the landscape

where the turbines are to be sited to be taken with a 50mm lens camera. This is "stitched together" with other 50mm shots to create a long, shallow panorama. The human eye does not take in the whole panorama, homing in on computer-generated images which give the impression of a small object in a large landscape.

"A printed 50mm photographic image will always under-represent our perception of the scale of a more distant object because we are looking at a flat image devoid of depth information," said Macdonald.

RenewableUK, the wind energy industry body, said: "It is in developers' interests to ensure their visualisations are accurate."

ARCHITECH



Tel:
Mobile:

Mr & Mrs R Gormley
Levan Farm
Tantallon Avenue
Gourock PA19 1HA
Scotland.

The Director of Planning
Inverclyde Council
Cathcart House
6 Cathcart Square
Greenock PA15 1LS

24th May 2012

28 MAY 2012
ldolt

Dear Sir,

Planning Application 12/0133/IC
TGC Renewables
Erection of Two Wind Turbines at Faulds Park Gourock

I refer to the above application for planning permission for erection of two wind turbines at Faulds Park Gourock and would like to tender my objection to the proposal as I do not believe such a development is appropriate in this location.

The grounds of my objection are:

1. Effect on the landscape and the scenic beauty of the area.

The water corridor of the river Clyde, a major tourist attraction and access route for visiting cruise ships is a beautiful gateway to Inverclyde. It is made all the more so by the attractive settings of the various towns and hillsides on both sides of the river. Those settings are defined by the hillsides which form the backdrop to Dunoon, the Holy Loch and Loch Long on the Argyll side and the attractive hills and moorland behind Gourock on this side of the river.

The proposed erection of the two wind turbines is an inappropriate and unnecessary blot on an attractive landscape setting. At 34m to the top of the blades they will be visual blights on the landscape from both onshore and offshore perspectives, dominate the skyline and indeed breach the skyline when viewed from many locations. I have always understood that Inverclyde Council held it to be a fundamental of any development along the Clyde corridor that it be an appropriate form of development, that it be designed so that it sits comfortably within the hillside and on no account breaches the skyline.

It appears to me that the proposed development meets none of these requirements, brings nothing to the area and is detrimental to the people of Gourock.

2. Proximity to existing and proposed housing.

The proposed development is too close to the existing housing at Levan Estate and to the proposed housing still to be developed at Levan and the former Gantock Hotel site all of which are earmarked for upper market housing.

The applicant has provided a number of photographs which purport to show the visibility of the turbines from various locations. Having looked at these I am doubtful that they present an accurate assessment of the visual impact that these structures will have on our area.

I refer you to view point 5 in the applicant's papers, (APPENDIX 1 and 2) a west facing view from the top of Finbracken Avenue. The view is impaired as it has been conveniently taken from behind a tree which clearly has been done to minimise the impact of the turbines.

Moving a few metres to the side one gets a much clearer view of the effect of the structures as indicated by photograph in (APPENDIX 3). The intrusion into the landscape is major and detrimental to surrounding properties.

I refer you to view point 10 in the applicant's papers, a view taken from the field to the south east of Levan Farm facing west. (APPENDIX 1 and 4)

Once again I would question the integrity of the photograph as it appears to have been taken from a rather steep hollow rather than from normal ground level which has the effect of placing rising ground in front of the camera and reducing the height of the turbines as viewed in the distance. See (APPENDIX 5) which shows location from where photograph taken. APPROX 3 m below ground level.

The shown height of the turbines also looks to be suspect when compared to other features such as electricity pylons. At 34m to the tip of the blades the turbines are over 3 times the height of the electricity pylons yet this certainly does not appear to be the case from the applicant's photographs?

To try to give an indication of how visible the turbines would be I have enclosed a couple of photographs taken from the vicinity of the turbines looking back towards Gourcock. These are referred to as view points (A) and (B) on (APPENDIX 3) and detailed as (APPENDICES 6 and 7).

As is clear in (APPENDICES 6 and 7) if the turbines can see the houses then the houses can see the turbines. You will observe that the turbines are clearly within sight of large areas of western Gourcock and in close proximity to existing and proposed housing at Levan. As Phase 3 of Levan Farm is developed (see APPENDIX 8) it will, due to topography, in fact end up looking out over the proposed turbines, bringing them more into view and more into conflict with noise and light pollution emanating from the turbines which would have a significant impact on the marketability of such houses not to mention the existing houses already developed at Levan.

3. Noise and Light Pollution from Turbines.

The drawings submitted by the applicant suggest that the proposed turbines are located approx 400metres from the boundary with Levan Farm and existing and proposed housing at this location.

Not only does this present a problem in terms of visual amenity and loss of economic value but it also presents a major problem in terms of noise and light pollution for existing and proposed residents at Levan not to mention those at the Cloch Caravan Park and those working in the adjoining factories at Faulds Park.

Noise from the turbines and the constant "SWISH" from the blades will travel large distances and be readily heard at Levan. This is particularly true given the prevailing West Wind which will carry noise directly in the direction of housing in the Levan estate with consequent loss of economic value and possible action against the developer and the council by all affected by the development of the turbines.

Light pollution is another major concern. The rotation of the blades will cause interference in terms of the light "flicker" imposed upon the houses as the blades interrupt sun light getting to the houses. This will be particularly true in winter when the sun is low and in evening as the sun goes down over Dunoon.

This and noise pollution can cause serious illness and distress to householders and should not be underestimated by the council.

4. Proximity to Faulds Park Road.

It is clear from the photographs submitted by the applicant that the turbines will dominate the Faulds Park site and be a major feature on the horizon from anywhere within the site including the main access road that is Faulds Park road. Please refer to (APPENDIX 9) attached although once again I have concern that this too does not represent the true extent of the intrusion into the landscape if one compares the height of the turbine (34m) located on the 85th and 95th metre contours with the height of the street light (8m) in the foreground located on the 60metre contour. The turbines are 4 times the height of the street light and are sitting on ground 25 and 30 metres higher than street level so I would expect the visual impact to be much greater than that shown by the applicant?

The same might be said for (APPENDIX 10) which shows the turbines towering above the factory and breaching the skyline when driving up Faulds Park road. The factory is sited on the 60m contour and at approx 8m to roof lies at approx 68m height.

The proposed turbines are on the 85 and 95 metre contours and at 34m will stand at 119m and 129m total height. That is 31m and 41m above the roof of the factory and again calls into question the integrity of the photograph?

When this site was developed as an EZ site huge amounts of monies were spent by Scottish Enterprise in ensuring that the development was sympathetic to the prominent and attractive landscape. All buildings were set low and heavily landscaped so that the buildings " merged " into the hillside when viewed not only locally but also from the river.

This is certainly not true of the proposed development which breaches the skyline, is grossly intrusive within the local environment, is prominent from the river and from Dunoon, is a major blight on existing and proposed residential developments and of no benefit to the people of Gourrock or Inverclyde.

5. Economic Impact.

The visual impact of the turbines together with the noise and light pollution that they generate will impact negatively on the residential amenity of the western end of Gourrock. It will put off prospective house buyers and affect values of existing properties in the area. It will therefore have a negative economic impact on the area as well as detract from the physical attraction and landscape setting of Gourrock. There is no benefit to Gourrock or Inverclyde in this application.

I would respectfully request that your council reject this application.

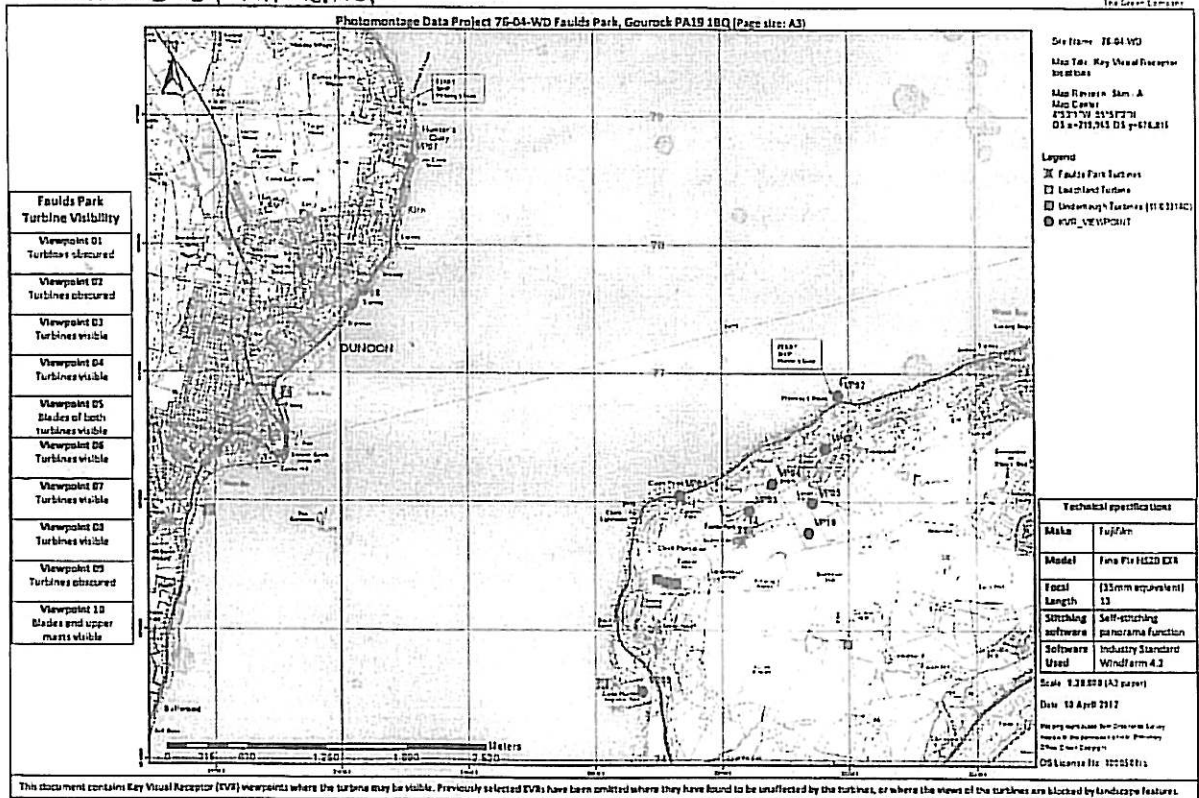
Yours faithfully,

R Gormley

Attached: Appendices 1 to 10

APPENDIX 1


PREPARED BY APPLICANT



APPENDIX 2



TAKEN BY APPLICANT

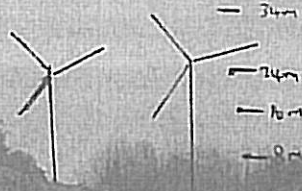
<p>Proposed View</p>	
<p>Description:</p>	<p>A west facing view taken from the houses west of Levan Farm. The blades of the two turbines can be seen, however turbine 1 has its blades partially obscured by vegetation. The Underhugh turbines are located behind the two proposed Faulds Park turbines; however they cannot be seen from the houses at Levan because the topography blocks them from view.</p>

TAKEN BY L. GORMLEY

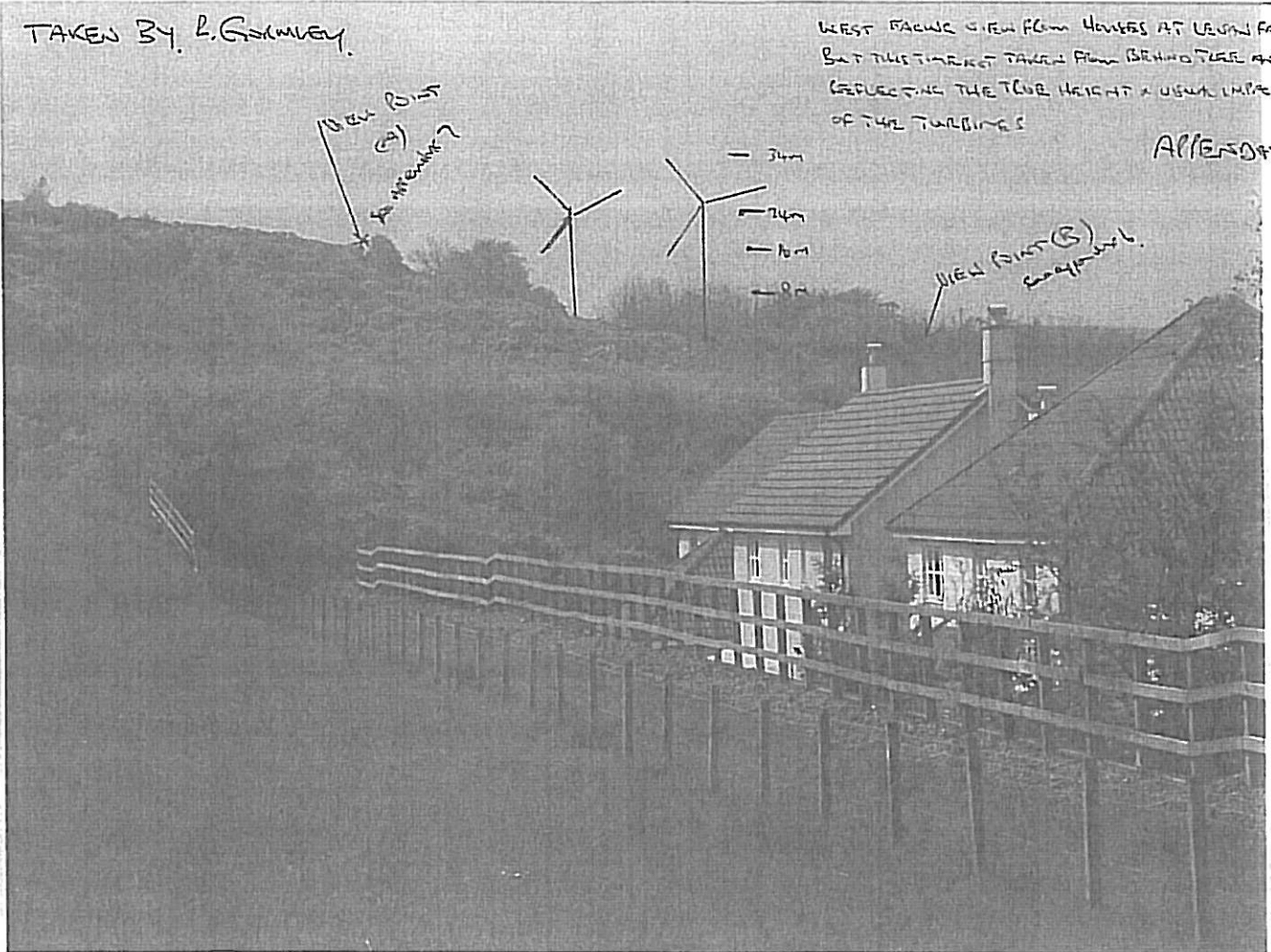
WEST FACED VIEW FROM HOUSES AT LEVIN FARM
BUT THE TARGET TAKEN FROM BEHIND TREE AND
REFLECTING THE TOWER HEIGHT & USUAL IMPACT
OF THE TURBINES

APPENDIX 3

VIEW POINT
(A)
to mountain?



VIEW POINT (B)
roughly



APPENDIX 4



TAKEN BY APPLICANT

<p>Proposed View</p>	<p>QUESTIONS MARK OVER SHOWS HEIGHTS OF TURBINES, THE ELECTRICITY PYLENS ARE ABOUT 10m IN HEIGHT. TURBINES ARE 34m TO TOP OF BLADE (1+ MORE THAN 2 TIMES HEIGHT OF PYLENS YET PHOTOGRAPH WOULD NOT SUGGEST THIS. ?)</p> <p>PHOTO TAKEN FROM BELOW GROUND LEVEL TO MINIMIZE HEIGHT OF TURBINES (SEE APPENDIX 5)</p>
<p>Description:</p>	<p>A view taken from the field to the south east of Levan farm, facing west. The blades and upper masts of the two Faulds park turbines can be seen above the hill. The bases and lower masts are obscured by the topography and vegetation. The Urdalehugh turbines are obscured by Tunnel 163, while the Letchland turbine cannot be seen as it is located off the left hand side of the photograph and obscured by Burneyen Gill.</p>

VIEW TAKEN FROM FIELD TO SOUTH
EAST OF LEAN BACK FACED LOT
BY ADJUSTING TOWER FROM BASEL.
GROUND LEVEL TO MINIMIZE
SHOW HEIGHT OF TURBINES

APPENDIX 5



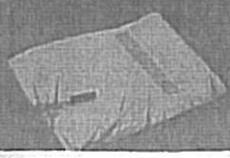
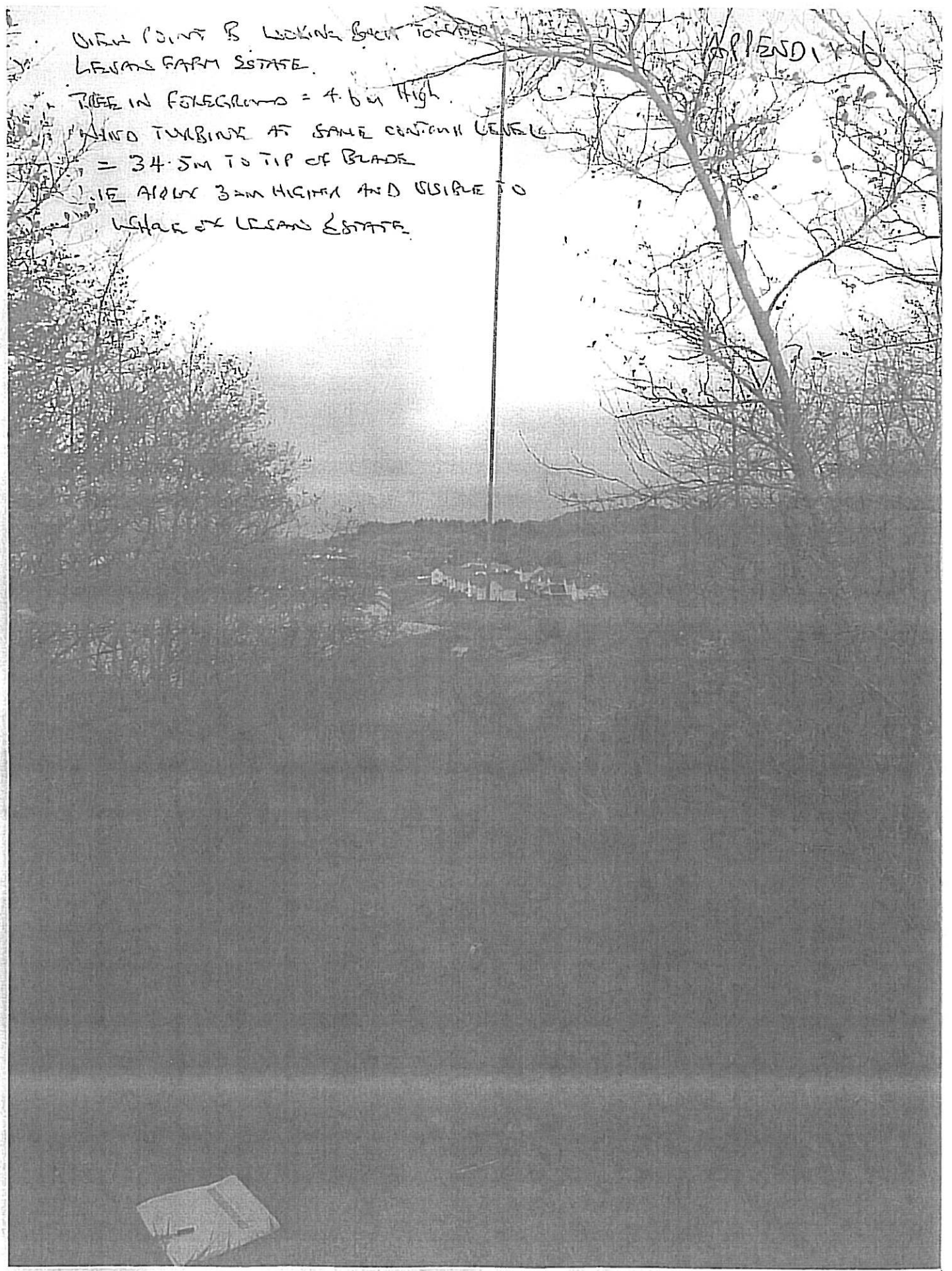
VIEW POINT B. LOOKING SOUTH TOWARDS
LEANS FARM ESTATE.

APPENDIX 10

TREE IN FOREGROUND = 4.6m HIGH.

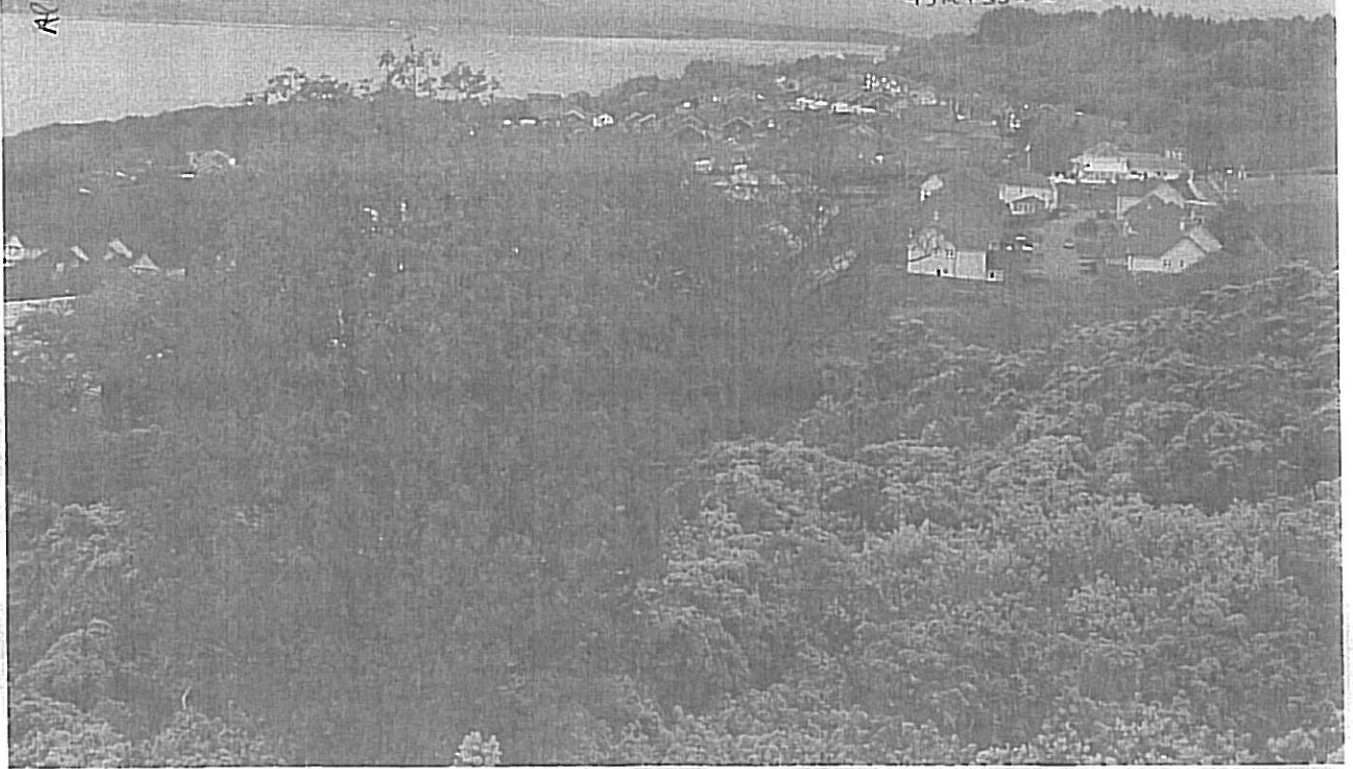
WIND TURBINE AT SAME CONTAIN LEVEL
= 34.5m TO TIP OF BLADE

THE TOWER 32m HEIGHT AND VISIBLE TO
WEST OF LEANS ESTATE.



APPENDIX 7

VIEW TO EAST FROM APPENDIX 7
VIEW POINT (A) AT 105M
CONTINUED
ALL HOUSES IN VIEW WILL BE
OVERLOOKED BY TURRETS WHICH
WILL BE HIGHER THAN THOSE
IN FOREGROUND AS THEY WILL BE
 $95m + 35m = 130m$ OVERALL EQUIVALENT.

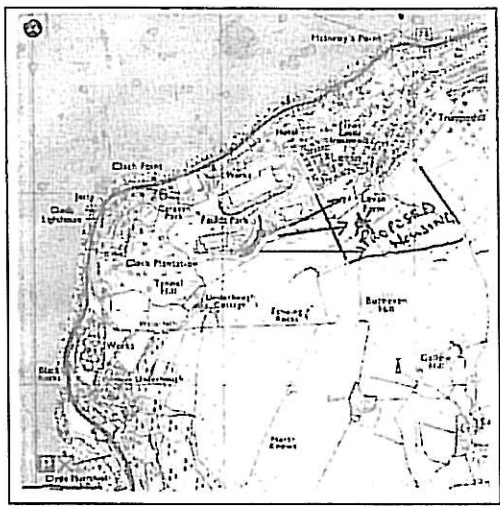


ALREADY B

* DRAWING WOULD APPEAR TO INDICATE
TURBINES AT 320/400 meters from
PROPOSED HOUSING.


NOT ONLY IS THIS A MATTER OF LIGHT ON
USUAL AMOUNT, BUT WILL CAUSE
MUTUAL PROBLEMS WITH
NOISE + LIGHT
POLLUTION.

NB. PREVAILING WEST WIND WILL
CARRY NOISE FOR MILES




KEY	
Turbine Position	○
Access Route	—

Turbine Location	
Turbine 1	231183.675190
Turbine 2	231183.675764

REV	MODIFICATIONS	DRAWN	DATE	CHKD	DATE
R1	Initial Release	EU	12/04/2013	TM	11/04/2013
 <p>TGC Renewables Ltd, TGC House, Duckmoor Road Industrial Estate, Duckmoor Road, Bristol, BS1 2BJ Tel: 0800 0787 243 Web: www.tgrenewables.com</p> <p>TGC Renewables Ltd Copyright. This drawing and the information it contains are the property of TGC Renewables Ltd. It is not to be copied, reproduced or divulged to a third party without permission.</p> <p>Mapping reproduced from Ordnance Survey maps with the permission of H.M. Stationery Office, Crown Copyright. Map License No: 100050110</p>					
ORIGINAL PAPER SIZE		A3	SCALE	1:1000	
LOCATION PLAN	DRAWN	75-04-WD	NAME	Faulds Park Ground, PA19 1BQ	

APPENDIX 9

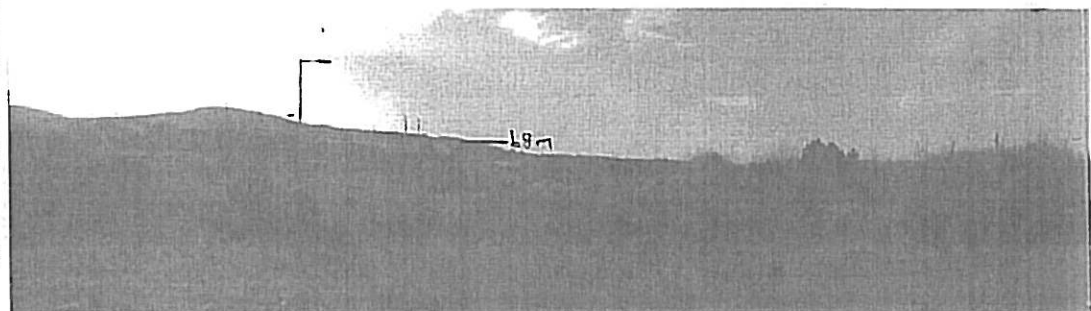


<p>Proposed View</p>	<p>*Please note this photo has been rotated to ensure that the horizon is accurately aligned</p>  <p>DOES THIS ACCURATELY REFLECT HEIGHT OF TURBINES WHEN COMPARED TO STREET LIGHT IN FOREGROUND (8m) AND TURBINES ARE (34M) IE T.O. AND SITTING 25m or 30m higher than street level?</p>
<p>Description:</p>	<p>A south facing view from Foulds Park. The two turbines can be seen in the centre of the photograph. The lower parts of the turbines are obscured by the vegetation. Neither the Underhough nor Letchland turbines can be seen from this location due to the intervening terrain.</p>

APPENDIX 12



Proposed View



FACTORY BUILT ON 60m contour, ALLOWING 8m TO ROOF LINE GIVES HEIGHT OF 68m
TURBINES BUILT ON 85m - = 85 + 24 + 10m = 119m Height to Tip of Blade.
95m - = 95 + 24 + 10m = 129m - - -

THIS WOULD PUT THE TURBINES AT 31m or 41m HEIGHT ABOVE FACTORY LOD.
THIS PHOTOGRAPH DOES NOT SEEM TO REFLECT THIS ON THE LEFT INTRUSION INTO THE SKYLINE.

Description: A SW facing view taken from the road leading to Faulds Park. The two Faulds Park turbines can be seen above the industrial building against the clear sky. The other proposed turbines are obscured.

DECISION NOTICE

Inverclyde
council

Refusal of Planning Permission

Issued under Delegated Powers

Regeneration and Planning
6 Cathcart Square
Greenock
PA15 1LS

Planning Ref: 12/0133/IC

Online Ref:000039029-001

TOWN AND COUNTRY PLANNING (SCOTLAND) ACT 1997
TOWN AND COUNTRY PLANNING (DEVELOPMENT MANAGEMENT PROCEDURE)
(SCOTLAND) REGULATIONS 2008

Ms Anne Shipton
Greenbelt Group Ltd
McCafferty House
99 Firhill Road
Glasgow
G20 7BE

TGC Renewables
Peter Fusco
100 Albert Drive
GLASGOW
G41 2SJ

With reference to your application dated 20th April 2012 for planning permission under the above mentioned Act and Regulation for the following development:-

Erection of 2 No. 24.6 metre wind turbines at

Land At Faulds Park, Gourrock

Category of Application Local Application Development

The INVERCLYDE COUNCIL in exercise of their powers under the abovementioned Act and Regulation hereby refuse planning permission for the said development.

The reasons for the Council's decision are:-

1. A combination of height, scale and proximity to residential development at Levan Farm create a dominant and excessively prominent features in this part of Inverclyde, contrary to:-
 - a. the Council's interim policy on Small Wind Turbine Development UT6B, criteria (a) and (f).
 - b. the Council's interim policy on Wind Farms UT6A criterion (c); and
 - c. Policy UT6 of the Inverclyde Local Plan, criteria (a), (b) and (c).

The reason why the Council made this decision is explained in the attached Report of Handling.

Dated this 3rd day of September 2012

Head of Regeneration and Planning



- 1 If the applicant is aggrieved by the decision of the Planning Authority to refuse permission for or approval required by condition in respect of the proposed development, or to grant permission or approval subject to conditions, he may seek a review of the decision within three months beginning with the date of this notice. The request for review shall be addressed to The Head of Legal and Administration, Inverclyde Council, Municipal Buildings, Greenock, PA15 1LY.

- 2 If permission to develop land is refused or granted subject to conditions, and the owner of the land claims that the land has become incapable of reasonably beneficial use in its existing state and cannot be rendered capable of reasonably beneficial use by the carrying out of any development which has been or would be permitted, he may serve on the planning authority a purchase notice requiring the purchase of his interest in the land in accordance with Part 5 of the Town and Country Planning (Scotland) Act 1997

Refused Plans:

Drawing No:	Version:	Dated:
100050119		12.04.2012
76-04-WD		13.04.2012
TGC/WIND/001	Rev A2	29.11.2011
TGC/WIND/004	Rev A1	29.11.2011
TGC/WIND/005	Rev A1	29.11.2011
1		01.08.2012
2		01.08.2012
3		01.08.2012
4		01.08.2012
5		01.08.2012
SITE PLAN		13.04.2012
SHADOW FLICKER		
NOISE MAP		
PHOTOMONTAGE		
15K HUB HEIGHT		
5K HUB HEIGHT		
5K BLADE TIP		
15K BLADE TIP		

Inverclyde council

6 Cathcart Square Greenock PA15 1LS

Tel: 01475 712 406

Fax: 01475 712 468

Email: planning.dlm@inverclyde.gov.uk

Planning Department

Applications cannot be validated until all necessary documentation has been submitted and the required fee has been paid.

Thank you for completing this application form:

ONLINE REFERENCE 000048359-001

The online ref number is the unique reference for your online form only. The Planning Authority will allocate an Application Number when your form is validated. Please quote this reference if you need to contact the Planning Authority about this application.

Applicant or Agent Details

Are you an applicant, or an agent? * (An agent is an architect, consultant or someone else acting on behalf of the applicant in connection with this application)

Applicant Agent

Agent Details

Please enter Agent details

Company/Organisation:

TGC Renewables

You must enter a Building Name or Number, or both:*

Ref. Number:

Building Name:

First Name: *

Peter

Building Number:

100

Last Name: *

Fusco

Address 1 (Street): *

Albert Drive

Telephone Number: *

01414470130

Address 2:

Extension Number:

Town/City: *

Glasgow

Mobile Number:

Country: *

UK

Fax Number:

Postcode: *

G41 2SJ

Email Address: *

peter.fusco@tgcrenewables.co
m

Is the applicant an individual or an organisation/corporate entity? *

Individual Organisation/Corporate entity

Applicant Details

Please enter Applicant details

Title:	<input type="text"/>
Other Title:	<input type="text"/>
First Name:	<input type="text"/>
Last Name:	<input type="text"/>
Company/Organisation: *	<input type="text" value="Greenbelt Holdings Ltd"/>
Telephone Number:	<input type="text"/>
Extension Number:	<input type="text"/>
Mobile Number:	<input type="text"/>
Fax Number:	<input type="text"/>
Email Address:	<input type="text"/>

You must enter a Building Name or Number, or both:*

Building Name:	<input type="text" value="McCafferty House"/>
Building Number:	<input type="text" value="99"/>
Address 1 (Street): *	<input type="text" value="Firhill Road"/>
Address 2:	<input type="text"/>
Town/City: *	<input type="text" value="Glasgow"/>
Country: *	<input type="text" value="Scotland"/>
Postcode: *	<input type="text" value="G20 7BE"/>

Site Address Details

Full postal address of the site (including postcode where available):

Address 1:	<input type="text"/>	Address 5:	<input type="text"/>
Address 2:	<input type="text"/>	Town/City/Settlement:	<input type="text"/>
Address 3:	<input type="text"/>	Post Code:	<input type="text"/>
Address 4:	<input type="text"/>		

Please identify/describe the location of the site or sites.

Northing

Easting

Description of the Proposal

Please provide a description of the proposal to which your review relates. The description should be the same as given in the application form, or as amended with the agreement of the planning authority: *
(Max 500 characters)

Type of Application

What type of application did you submit to the planning authority? *

- Application for planning permission (including householder application but excluding application to work minerals).
- Application for planning permission in principle.
- Further application.
- Application for approval of matters specified in conditions.

What does your review relate to? *

- Refusal Notice.
- Grant of permission with Conditions imposed.
- No decision reached within the prescribed period (two months after validation date) – deemed refusal.

Statement of reasons for seeking review

You must state in full, why you are seeking a review of the planning authority's decision (or failure to make a decision). Your statement must set out all matters you consider require to be taken into account in determining your review. If necessary this can be provided as a separate document in the 'Supporting Documents' section: * (Max 500 characters)

Note: you are unlikely to have a further opportunity to add to your statement of appeal at a later date, so it is essential that you produce all of the information you want the decision-maker to take into account.

You should not however raise any new matter which was not before the planning authority at the time it decided your application (or at the time of expiry of the period of determination), unless you can demonstrate that the new matter could not have been raised before that time or that it not being raised before that time is a consequence of exceptional circumstances.

Outlined in LRB statement

Have you raised any matters which were not before the appointed officer at the time the determination on your application was made? *

Yes No

Please provide a list of all supporting documents, materials and evidence which you wish to submit with your notice of review and intend to rely on in support of your review. You can attach these documents electronically later in the process: * (Max 500 characters)

Screening Opinion, Report of Handling, Decision Notice, Location Plan, Site Plan, Design & Access Statement, LRB Statement, ZTVs x4, Photomontages, Noise Plan, Shadowflicker Plan, Turbine Elevations, Turbine Specifications and Generalised Noise Predictions.

Application Details

Please provide details of the application and decision.

What is the application reference number? *

12/0133/IC

What date was the application submitted to the planning authority? *

20/04/12

Has a decision been made by the planning authority? *

Yes No

What date was the decision issued by the planning authority? *

03/09/12

Review Procedure

The Local Review Body will decide on the procedure to be used to determine your review and may at any time during the review process require that further information or representations be made to enable them to determine the review. Further information may be required by one or a combination of procedures, such as: written submissions; the holding of one or more hearing sessions and/or inspecting the land which is the subject of the review case.

Can this review continue to a conclusion, in your opinion, based on a review of the relevant information provided by yourself and other parties only, without any further procedures? For example, written submission, hearing session, site inspection. *

Yes No

In the event that the Local Review Body appointed to consider your application decides to inspect the site, in your opinion:

Can the site be clearly seen from a road or public land? * Yes No

Is it possible for the site to be accessed safely and without barriers to entry? * Yes No

If there are reasons why you think the Local Review Body would be unable to undertake an unaccompanied site inspection, please explain here. (Max 500 characters)

The position of the proposed turbines is on steeply sloping land which rises up from Faulds Park Road so the necessary precautions would need to be taken in respect of this.

Checklist - Application for Notice of Review

Please complete the following checklist to make sure you have provided all the necessary information in support of your appeal. Failure to submit all this information may result in your appeal being deemed invalid.

Have you provided the name and address of the applicant? * Yes No

Have you provided the date and reference number of the application which is the subject of this review? * Yes No

If you are the agent, acting on behalf of the applicant, have you provided details of your name and address and indicated whether any notice or correspondence required in connection with the review should be sent to you or the applicant? *

Yes No N/A

Have you provided a statement setting out your reasons for requiring a review and by what procedure (or combination of procedures) you wish the review to be conducted? * Yes No

Note: You must state, in full, why you are seeking a review on your application. Your statement must set out all matters you consider require to be taken into account in determining your review. You may not have a further opportunity to add to your statement of review at a later date. It is therefore essential that you submit with your notice of review, all necessary information and evidence that you rely on and wish the Local Review Body to consider as part of your review.

Please attach a copy of all documents, material and evidence which you intend to rely on (e.g. plans and drawings) which are now the subject of this review * Yes No

Note: Where the review relates to a further application e.g. renewal of planning permission or modification, variation or removal of a planning condition or where it relates to an application for approval of matters specified in conditions, it is advisable to provide the application reference number, approved plans and decision notice (if any) from the earlier consent.

Declare - Notice of Review

I/We the applicant/agent certify that this is an application for review on the grounds stated.

Declaration Name: Peter Fusco

Declaration Date: 14/09/2012

Submission Date: 14/09/2012

Our Ref: 12/0003/SCREEN
Your Ref:
Date: 22/3/11

Regeneration & Environment
Corporate Director: Aubrey Fawcett

Municipal Buildings
Clyde Square
Greenock
PA15 1LY

Tel: 01475 712764

Fax: 01475 712731

aubrey.fawcett@inverclyde.gov.uk

Peter Fusco
The Green Company
100 Albert Road
GLASGOW
G41 2SJ

Dear Mr Fusco,

The Town & Country Planning (Environmental Impact Assessment)(Scotland) Regulations 2011
Request For Screening under Regulation 6
Land At Faulds Park, Gourock

I refer to your Email of 2nd March and my subsequent telephone conversation with you and subsequent Email of 6th March. The information submitted consists of your covering Email, a specification for the proposed two, 34.2m high, wind turbines, together with an aerial photograph and 1:25000 plan (each plotting the position of the development). Also submitted are drawings of the foundation detail, elevation of the wind turbines and equipment cabin. As confirmed in my telephone conversation and Email of 6th March I consider that it would have been helpful for wire frame diagrams and photomontages to have been submitted to assist me in forming my screening opinion, with particular reference to the potential cumulative visual impact with the three turbines recently approved at the nearby Underheugh site. Timescales are such that I must now form my opinion in the absence of the requested information you agreed would be forthcoming.

Category 3(i) Schedule 2 to the above Regulations includes installations for the harnessing of wind power for energy production referring specifically to instances of the hub height of any wind turbine exceeding 15m. The project therefore falls into a qualifying category of development that may require to be the subject of an Environmental Assessment. Reference requires to be made to the selection criteria for screening Schedule 2 development under Schedule 3.

With respect to the characteristics of the development, I note that the two 34.2m high turbines are proposed are on rough moorland, at the top of a steep embankment, immediately to the rear of Faulds Park Industrial Estate, just outwith the Burneven Hill SINC site identified in the Local Plan Environmental Constraints Map. The site is also outwith the Clyde Muirshiel Regional Park. The existing residential development at Levan Farm and housing opportunity site ho57 (identified in the Local Plan map), lying to the east, each have the potential to be impacted by views of the turbines. These views may be cumulative with the three turbines approved at Underheugh although, I accept, that the main views out from the residential sites are to the Clyde and Argyllshire Hills, beyond. There may also be views of the turbines from Cloch Road and the more distant Lunderston Bay visitor centre and coastal footpath but in the absence of the requested information from you this cannot be confirmed. With certainty, the turbines shall be visible from the Firth of Clyde and also from Argyll & Bute, on the opposite side of the Clyde, although visual impact diminishes with distance.



Given the scale of the proposed turbines and their potential cumulative impact on a high number of visual receptors, I consider their visual impact to be potentially significant and adverse, although not so significant as to demand an Environmental Assessment.

Without prejudice to the determination of any planning application you may choose to submit, I would request that the turbines be reduced in height to that approved at the nearby Underheugh site. In the absence of the previously requested wire diagrams and photomontages, however, I am not in a position to advise whether or not I would be prepared to support a planning application for wind turbines of the proposal height at this potentially sensitive location. I should be pleased, therefore, to have further discussions with you once the previously requested information is available.

I trust that this information clarifies matters.

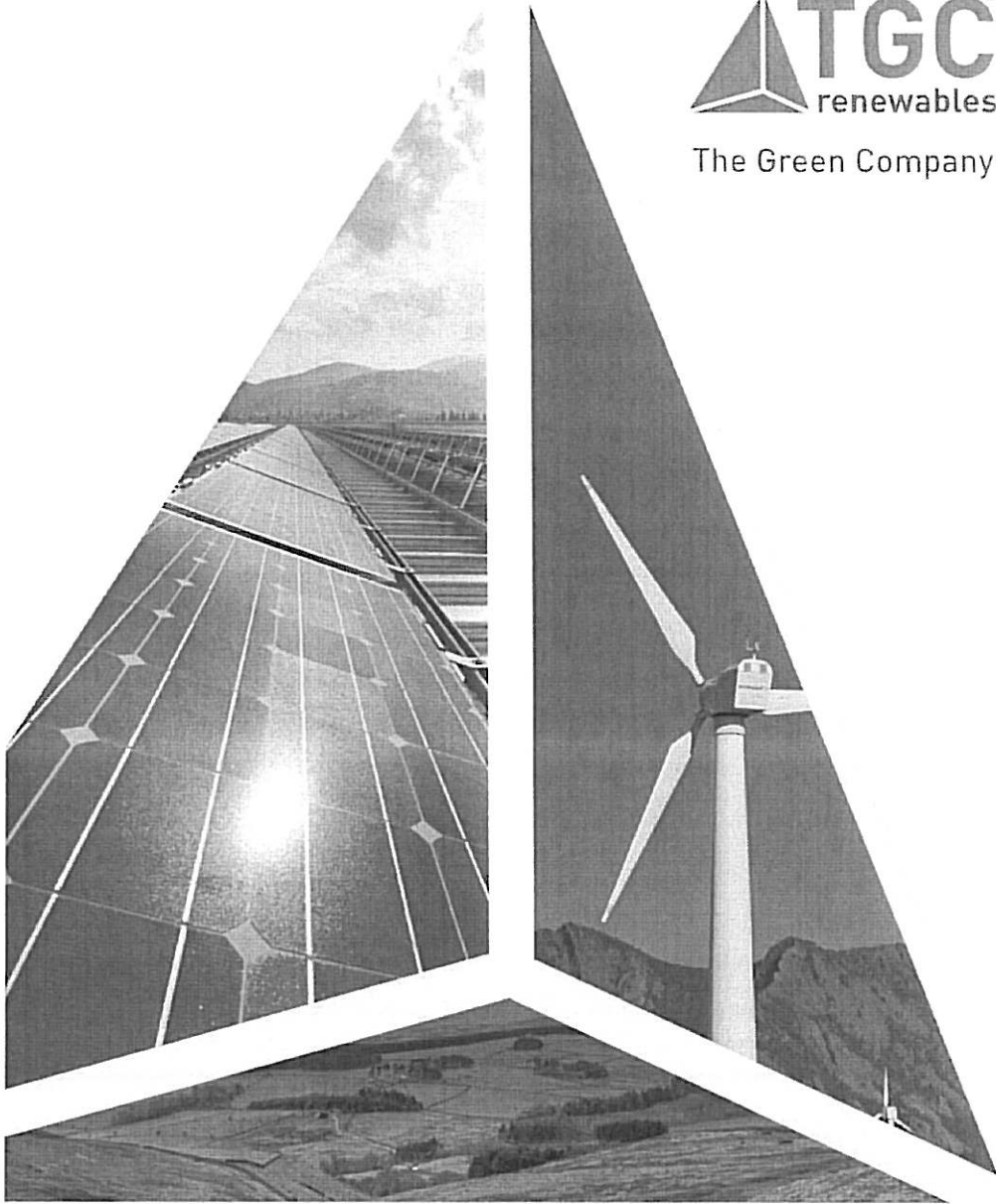
Yours Faithfully

Guy Phillips
Senior Town Planner

Enquiries to Mr Phillips 01475 712422



The Green Company



0800 0787 243
www.tgcrenewables.com

DESIGN & ACCESS STATEMENT

**ERECTION OF TWO 24.6M TO HUB, 34.2M TO TIP WIND
TURBINES AT FAULDS PARK, GOUROCK, PA19 1BQ**

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Appendices

Appendix 1: Wind turbine specification

Appendix 2: ZTV Diagrams

Appendix 3: Photomontages

Appendix 4: Noise Emission Report

Appendix 5: Noise Diagram

Appendix 6: Shadowflicker Diagram

1.0 Executive Summary

This Planning and Design Statement has been prepared to provide details of, and assess, the proposal for the erection of two 24.6m to hub, 34.2m to tip wind turbines on land at Faulds Park, Gourrock, PA19 1BQ. The statement sets out the details of the application and assesses the appropriateness of it in terms of planning policy; landscape and visual factors; environmental and heritage designations; noise; shadow flicker; ecology; transport and aviation and communications. Each of these is addressed in turn.

The proposal is in accordance with the relevant provisions of National Planning Policy and the Development Plan. This has been outlined in the context of up-to-date policy guidance as set out in Sections 5 and 6. The proposal is also demonstrated to be acceptable in terms of noise, shadow flicker, aviation matters, and ecology.

The assessment undertaken reviews the impact that the proposal will have upon the landscape; the topography; levels of screening; distances between the development and sensitive areas; and the number of high voltage power lines in the area to ensure that the impacts identified will not be significant. These impacts will not affect the character of the area or the residential amenity of properties within it. As such, it is submitted that the proposed development should be deemed acceptable in this regard.

Any impacts identified are far outweighed by the economic and environmental benefits the proposal would bring:

- **The proposed development will be used to produce a clean, renewable source of energy**
- **National Planning Policy encourages renewable energy developments wherever possible to help meet the targets set by the Government for finding alternative power sources**
- **The proposal meets the requirements of the Development Plan and material considerations**
- **The turbines will be used to produce a sustainable form of electricity. They will be connected to the National Grid**
- **The proposal will be environmentally and economically beneficial by providing renewable energy and will also provide a diversified income for the landowner**
- **The proposed development will have an Annual Energy Production (Yield) of 195,850kWh per turbine**

It is therefore kindly requested that the Council should approve this planning application.

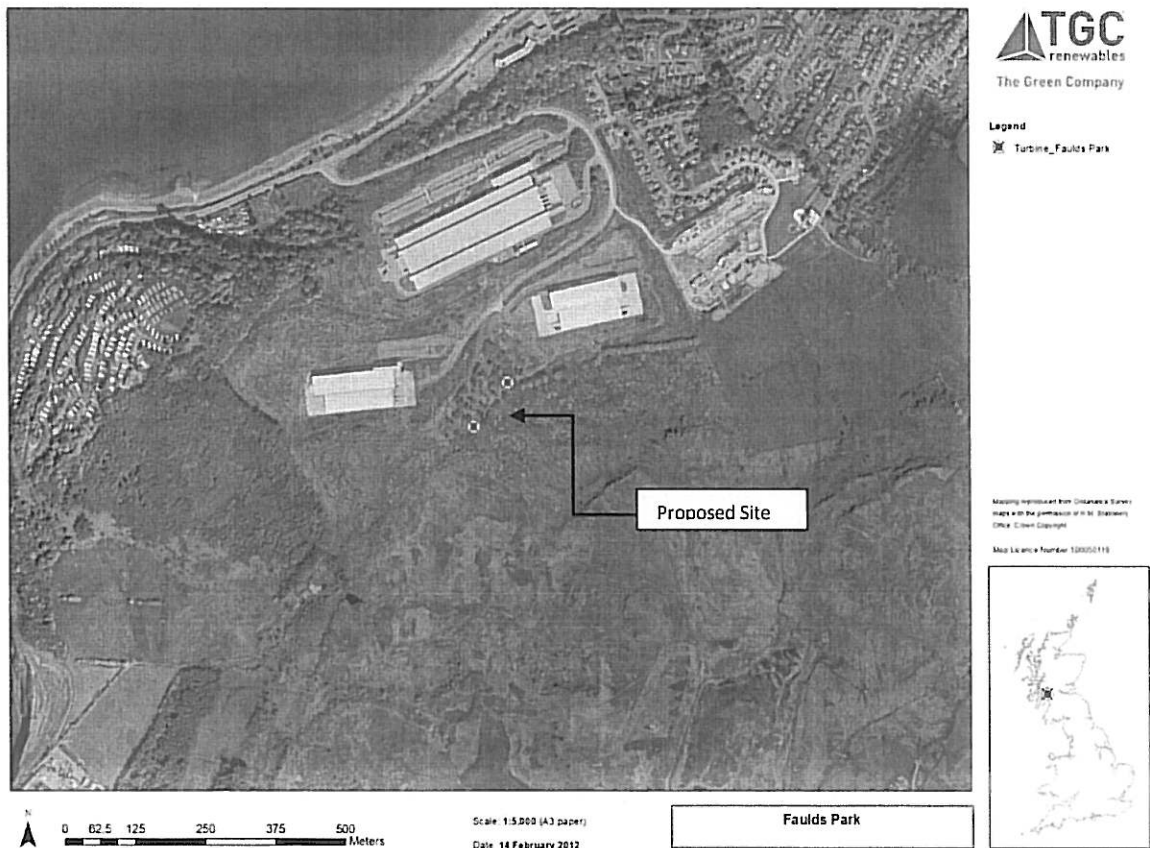
2.0 Introduction

The proposal is for the installation of two 50kW Endurance wind turbines on agricultural land located approximately 500m to the south west of the western boundary of Levan. The nearest residential property is approximately 400m to the east north east of the proposed turbine site. The turbines will be used to produce a clean, renewable and sustainable form of electricity. They will also provide the landowner with a diversified income which is important in the current economic climate.

It needs to be borne in mind that the proposed development is for the installation of a small-scale wind turbine scheme. Hence, access is deliberately restricted, where appropriate, for the security of the installation.

This Design and Access Statement is provided in conjunction with the site specific mapping, turbine drawings and supporting material that was submitted with this planning application. It reviews the proposed development against the key determining factors of the application. These are: planning policy; landscape and visual factors; environmental and heritage designations; noise; shadow flicker; ecology; transport and aviation and communications.

Figure 1.



3.0 Proposal: Design and Access

Proposed Turbine Specifications

The proposal is for the installation of two 50kW Endurance Wind Turbines. The turbines will have a hub height of 24.6m and a maximum blade tip height of 34.2m. They will be mounted on a free-standing monopole structure on a concrete base, with associated equipment house for the transformer (2.5m x 3m x 2.5m). It is proposed that there will be a stock proof fence surrounding the turbines and it is anticipated that this will be a post and rail fence.

The Endurance turbine proposed is in the 'small wind turbine category' and has a peak rated output of 50kW at 9.5m/s. The turbine is configured to give an optimal yield in moderate wind speed sites and as such it complements the wind conditions found in many rural areas of mainland Britain. The turbines will be connected to the grid via the nearby 11kV 3 phase line. It is envisaged 100% of the generated power will be exported to the national grid network.

A copy of the wind turbine specification is attached with the planning application (Appendix 1)

Towers: Constructed from galvanised steel in a tubular monopole form. The tubular form compliments modern structures, while minimising the visual impact and wind loading of the structure.

Rotor: The turbine is a 3 blade, horizontal axis, downwind configured turbine. The turbine has a variable rotor speed up to a maximum of 43rpm. The turbine has a design lifetime 30 years, based on the manufacture's specification.

Colour: An analysis of different colours of turbines has been carried out to specifically look at the visual appearance of grey, galvanised, white, green, brown and black. It has been concluded that an 'off white' appearance looks the least obtrusive when set in several backgrounds such as a rural, agricultural, farm or domestic setting. This colour helps the turbine blades and support structure blend more easily in to the background skyline, and as such is proposed for this location.

N.B. the turbines which TGC Renewables use are shipped branded with TGC's logo as well as an Endurance logo on the sides of the nacelle.

Transport and Access

Access for the deployment of the proposal will be from the existing farm access. It is proposed to have a 15m by 15m type 1 hard standing area next to the turbines. A hard standing track (4 metres wide made with type 1) will be required for the transportation of the turbines and this is demonstrated on the plans submitted with the planning application.

The turbine components will be delivered to site on standard road going HGV vehicles. The turbine components are shipped in a standard 40 foot shipping container and once off loaded on site are erected into position by a 'City Crane', or similar, with the assistance of a telehandler/forklift truck. A temporary material staging area will be utilised adjacent to the farm access track, to allow the offloading of the components from the HGV and pre-assembly prior to the turbine's erection.



Excavations for the foundation and cable trenches will be carried out by mini-digger. All excavations, cable laying, builders work, etc, will be carried out in accordance with relevant health and safety requirements. Care will be taken to ensure that tree roots are not interfered with. If tree roots are encountered then hand dig techniques will be used to ensure they are not damaged and that the viability of the hedgerow and trees are protected. As part of the pre-application survey, no hedges or trees were identified as being impacted by the proposed works. All extracted materials from the associated excavations are intended to remain on-site for redistribution by the landowner on adjacent land or will be used as 'backfill' material.

TGC Renewables Ltd and the electrical component suppliers provide detailed instructions for the safe sequencing and carrying out of the installation and commissioning works. Prior approval will be obtained from the existing energy supplier to make the final grid connections.

Decommissioning

The design of the turbines is such that when they come to the end of their useful life, which is expected to be in around 30 years, they can be dismantled with ease and the restoration of the site can be carried out without delay.

If so required, the applicant has no objection to a planning condition being imposed requiring the removal of the turbines at the end of their operational life and reinstatement of the land to its original agricultural condition.



4.0 Pre-application Discussions

Inverclyde Council

TGC requested an EIA screening opinion from Inverclyde Council on 1st March 2012. The Council responded on 22/03/11 (reference: 12/0003/SCREEN) stating that the proposal is not considered to be a development which warrants the submission of an Environmental Statement.

The Council's screening response also noted the potential cumulative impact of the proposed development; per the request of the Planning Officer cumulative photomontages were submitted to address this prior to the submission of the planning application.

Ministry of Defence (MOD)

Due to their physical size, in particular their height, wind farms can have an effect on the aviation domain. Additionally, rotating wind turbine blades may have an impact on certain aviation operations, particularly those involving radar. The aviation community has procedures in place which are designed to assess the potential effect of developments such as wind farms on its activities, and, where necessary, to identify mitigating measures.

As the application is for two 24.6m to hub turbines, the height is well below the lowest point at which any MoD flights are permitted to fly, under the low fly regulations and as such the proposal should not represent any concerns to them.

The turbine hub and blade configuration sits within the low level ground clutter and therefore should not represent any radar hazard to the CAA or NATS.

During the pre-application consultation process TGC notified the MoD of the proposed development, also on 1st March 2012. A formal response has not yet been received. However, it is anticipated that due to the scale and location of the proposed turbine there will be no issues with MOD operations.

With regards to wireless communication infrastructure, no backhaul microwave links were identified as having a path route towards the turbine and therefore this is not felt to be a consideration in this application.

Gourock Community Council

Gourock Community Council was notified of the proposed development on 1st March 2012, a response to this has not been received.

5.0 Policy Context

It is important that this application is viewed by the planning authority in the appropriate context. Renewable energy is one of the key global topics, where there is a consensus at a world, European, and national level that efforts to reduce our reliance upon fossil fuels are of critical importance.

The Energy Minister Fergus Ewing has stated:

"Our new target of generating 100 per cent of Scotland's electricity needs from renewables by 2020 is one of the most demanding anywhere in the world. It is necessary if we are to become the green energy powerhouse of Europe. I also think it's achievable. A strong and vibrant offshore wind sector is at the heart of our vision to create new, low carbon jobs and industries."

As a result, it is important that planning authorities acknowledge the national and international position in determining planning applications associated with the deployment of renewables. The planning system is one of the key delivery points in relation to the goal of sustainable development, and should not be relying solely on often outdated policies to determine applications which have been demonstrated to bring positive outcomes as regards a reduction in carbon emissions and our reliance on fossil fuels.

Key points from key documents

- The Scottish Government **Renewables Action Plan** sets out the framework for action in the specific area of renewable energy. The latest update of this (*Update 4*) has a strong emphasis on optimising the adoption and use of appropriate microgeneration technologies in Scotland across the public and private sectors.
- The **2020 Routemap for Renewable Energy in Scotland** builds on the above publication by identifying the actions required to help Scotland meet the major challenges ahead to achieve the Government's renewable energy targets. The deployment of small-scale wind turbine schemes such as that subject of this proposal are an important consideration as regards the realisation of these targets.

A development's potential to produce renewable energy should be considered as a significant material consideration in determining any application.

Cost per household of wind vs imported gas

In March 2012 Ofgem released the Renewables Obligation (RO) Annual Report for 2010/11, which is the main support mechanism for encouraging the growth of renewable energy in the UK. This includes onshore wind. Ofgem's report shows that the RO added just £15.15 to the annual energy bill of the United Kingdom's 26.3 million households – with just £4.68 of that supporting onshore wind. By comparison, the rising cost of imported gas added around £120 to energy bills last year. This increase in the cost of gas added more than 10% to energy bills, while support for onshore wind added less than 0.05%.

6.0 Policy Assessment

With acknowledgement to the policy context set out above, we will now assess the proposal against the relevant policies from National Planning Policy and from the Development Plan.

6.1 National Planning Policy

National Planning Framework 2

NPF2 highlights onshore wind along with hydro-power as the renewable technologies most likely to make the largest contributions initially to the realisation of the Scottish Government's renewable energy targets.

Scottish Planning Policy

The Scottish Planning Policy document includes a section on renewable energy (addressing onshore wind power specifically) and the Government's commitment to achieving their set targets. Paragraph 182 states:

"The commitment to increase the amount of electricity generated from renewable sources is a vital part of the response to climate change. Renewable energy generation will contribute to more secure and diverse energy supplies and support sustainable economic growth. The current target is for 50% of Scotland's electricity to be generated from renewable sources by 2020 and 11% of heat demand to be met from renewable sources. These targets are not a cap. Hydroelectric and onshore wind power are currently the main sources of renewable energy supplies..."

Paragraph 184 specifically addresses the role of the Development Plan in supporting renewable energy schemes, as stated:

"...Development plans should support all scales of development associated with the generation of energy and heat from renewable sources, ensuring that an area's renewable energy potential is realised and optimised in a way that takes account of relevant economic, social, environmental and transport issues and maximises benefits. Development plans should support the wider application of medium and smaller scale renewable technologies..."

The relevant context of the Scottish Planning Policy is supportive of the type of development subject of this planning application.

Scottish Government Specific Advice Sheet on Onshore Wind Turbines

PAN 45 Renewable Energy Technologies and Annex 2 Spatial Frameworks and Supplementary Planning Guidance for Wind Farms has been replaced with web based renewables advice. The advice note on Onshore Wind Turbines is relevant for this proposed development.

The advice paper has suggested areas of focus for planning authorities one of which is to:

"Provide greater clarity on where groups of wind turbines can be located by ensuring that a spatial framework for wind farms greater than 20MW has been set out in the development plan and addressing the potential below 20MW where appropriate."



The guidance note has a section on “Typical Planning Considerations in Determining Planning Applications for Onshore Wind Turbines” which are:

- Landscape Impact
- Landscape Assessment
- Impacts on Wildlife and Habitat, Ecosystems and Biodiversity
- Impact on Communities
 - Shadow Flicker
 - Noise
 - Electro-magnetic Interference to Communications Systems
 - Ice Throw
- Separation Distances
- Aviation Matters
- Road Traffic Impacts
- Cumulative Impacts
- Good Practice During Construction
- Decommissioning

TGC Renewables has considered all of the above points in its assessment of the proposal. This is detailed below:

- Landscape Impact – this is considered in section 7 of this report. We are aware that the turbines will be visible from some viewpoints; however, the consideration was made when assessing the location that the turbines would not impact detrimentally on the wider landscape. A photomontage report and ZTV (Zone of Theoretical Visibility) maps have been prepared which demonstrate the visibility of the proposed turbine.
- Landscape Assessment – this is considered in section 7 of this report.
- Impacts on Wildlife and Habitat, Ecosystems and Biodiversity – this is considered in section 8 of this report.
- Impact on Communities
 - Shadow Flicker – this is dealt with in section 10 of this report.
 - Noise – this is dealt with in section 9 of this report.



- Electro-magnetic Interference to Communications Systems – this is dealt with in section 4 of this report.
- Ice Throw – it is very unlikely there will be a build up of ice but the turbines are sited in a location which mitigates this risk.
- Separation Distances – the turbines comply with the separation distances required.
- Aviation Matters – this is dealt with in section 4 of this report.
- Road Traffic Impacts – it is not considered that there will be any detrimental impact on the existing road network. There may be a slight increase in traffic during the deployment phase but following this the site will only be visited for maintenance purposes on an approximately three-monthly basis.
- Cumulative Impacts – this is addressed by the cumulative photomontages which have been prepared.
- Good Practice During Construction - TGC work closely with statutory and industry regulations to ensure best practice at all stages of site development. Certifications and qualifications of site staff are available on request. All contractors are appointed on the basis of their accreditation from industry bodies and also work to TGC's standards.
- Decommissioning – Once the turbines have reached the end of their life, which is expected to be around 30 years, the site will be cleared and restored to its original condition as soon as possible. The applicant is willing to accept a condition on the consent relating to decommissioning.

Scottish Natural Heritage – Natural Heritage Assessment of Small Scale Wind Energy Projects which do not require formal Environmental Impact Assessment (EIA) March 2008

The above guidance is relevant to the proposed development. SNH have outlined what level of information they require for turbines which do not require an EIA:

- Conducting a basic landscape appraisal – this should include a Zone of Theoretical Visibility map covering an area of up to 15km (radius) from the turbine and wireline drawings and/or photomontages from a limited number of key viewpoints. TGC have prepared a Zone of Theoretical Visibility map and photomontages from Key Visual Receptors surrounding the site, which have been submitted with the planning application;
- Conducting a basic assessment of the impact on birds – TGC have taken this into consideration when preparing the planning application and section 8 of this report looks at this. Due to the height of the proposed turbines which are only 24.6m to hub it is not considered that these would cause a detrimental impact to birds; and
- Conducting a basic assessment of the potential impacts on habitats and protected species – the site is within zone 1 which is a low sensitivity area and the turbines are less than 50m high. There are no nature designations within close vicinity of the proposed development site. There is more information on this in section 8 of this report.

6.2 Development Plan

The Development Plan for this site is made up of the Glasgow and the Clyde Valley Joint Structure Plan and the Inverclyde Local Plan. Both of these documents are now well out of date and, as mentioned in Section 5; do not reflect national and international guidance on renewable energy.

The scale of the proposal means that policies within the Structure Plan (existing and proposed Plan), are not particularly relevant to the proposal, albeit the Structure Plan does highlight support for appropriate renewable energy developments. The Local Plan provides more site-specific policies.

Inverclyde Local Plan

Policy UT6 Renewable Energy Infrastructure - the Council's policy on this matter names five key factors that the proposal should not have a significantly adverse impact upon. These are quoted in italics, with TGC Renewables' response below each:

(a) the natural environment and built heritage of the locality;

The impact of the proposal on the natural environment was highlighted as being of critical importance in the EIA Screening Opinion provided by the Council. The impact of the proposal upon the Burneven Hill SINC is assessed below, finding the nature and scale of the proposal to be small enough to not cause a significant impact.

The application site is very poor agricultural land, rough moorland at the top of a steep embankment; therefore its use is very much limited. The development proposed provides an opportunity to generate much-needed income.

(b) the landscape, particularly when viewed from major transport corridors;

The landscape impact of the proposal is considered in Section 7 of this Statement. It finds that the impacts of the proposed development on the landscape are not overly significant due to the limited scale of the development, both in height and scale, and the distances involved to key visual receptors.

It is concluded that the limited impacts of the proposed development are outweighed by its benefits.

(c) residential amenity;

The proposed turbine site lies approximately 400 metres away from the nearest residential property. This distance and the small scale nature of the proposal ensure that residential amenity shall not be adversely affected.

(d) tourism and leisure resources, particularly if within the Clyde Muirshiel Regional Park; and

The turbines proposed are outwith the boundaries of the Regional Park as confirmed by the Council's screening opinion. The distance of the turbines from the Regional Park and their small scale nature ensure that it will not experience an unacceptable adverse impact.

(e) the operation of aircraft and telecommunications equipment.

As the MoD have not been responding to pre-application consultation requests due to work capacity issues, we have been unsuccessful in obtaining confirmation that the proposal will not



impact upon aircraft. These matters will be considered in the planning application consultation process.

Pending consultation with the MoD, we believe that the application is compliant with Policy UT6.

Policy DS10 Countryside - the application site sits within the countryside. As such Policy DS10 is applicable. We believe that the proposal is compliant with the aims of this policy for the following reasons:

- An elevated position within the countryside is the only suitable location for this development;
- The limited scale and nature of the proposal ensures that there will not be an unacceptable adverse impact upon the landscape;
- It helps to meet National Planning Policy, which encourages renewable energy developments wherever possible to help meet the targets set by the Government for finding alternative power sources;
- The turbine will be used to produce a sustainable form of electricity. The turbine will be connected to the National Grid;
- The proposal will create an environmental and economic benefit by providing renewable energy; and
- The proposal will also provide a diversified income for the landowner.

Site of Importance for Nature Conservation (the Burneven Hill SINC) - the proposed turbine is not within a Site of Importance for Nature Conservation (the Burneven Hill SINC). This SINC is one of the largest and most significant SINC's in the Council area with a number of valuable habitats supporting a wide variety of significant species. Due to the close proximity of the SINC to the proposed turbine site, **Policy HR1 - Designated Environmental Resources and Built Heritage** is relevant to the proposal.

Policy HR1, in seeking to protect the natural resource, lists exceptions where development will be acceptable. These are quoted in italics, with TGC's response below:

(a) Sites of Special Scientific Interest (SSSI) will not be compromised;
Not applicable.

(b) visual amenity and townscape will not be compromised;
The visual impact of the proposal is assessed in Section 7 of this Statement, finding the impacts to be acceptable.

(c) no other site, identified in the Local Plan as suitable, is available;
Not applicable.

(d) the social and economic benefits of the scheme outweigh the total or partial loss of the environmental resource;

The impacts of the proposal in terms of other natural resources are discussed in this Statement, demonstrating how such a proposal is unlikely to have significant adverse impacts. Any impacts experienced are outweighed by the environmental benefits brought about by the proposal.



(e) the developer has demonstrated that the impact of the development on the environment will be minimised; and

The nature of the proposal and the submitted information demonstrate how the proposal will have a minimal impact on the environment.

(f) the loss can be compensated by habitat creation/site enhancement elsewhere, and where there are satisfactory arrangements to achieve this.

Not necessary.

With regards to species, the erection of two small scale turbines near to the SINC is unlikely to have a significant effect.

6.3 Material Considerations

Supplementary Planning Guidance: Small Scale Wind Energy Developments

Policy UT6B from the SPG provides guidance for assessing small scale wind turbine developments. It indicates that the Council will be supportive where the proposed development satisfies other criteria, in addition to the Policies mentioned above. These are:

a) *neighbouring/adjoining properties and residential amenity generally;*

In response, this Statement and appendices has demonstrated that the proposal will not cause any issues for neighbouring residents in terms of noise or shadowflicker. The limited scale of the proposal and distances involved ensures that residential amenity will not be affected.

b) *road safety;*

The proposal requires very few vehicle trips due to the limited scale of the development. All vehicles are standard road going vehicles. Furthermore, the proposed development is far enough away from the main road network to ensure that road safety will not be compromised by it.

c) *natural and built heritage resources in proximity to the site;*

As discussed the proposal is outwith Burneven SINC. It has a very small footprint, so ecological matters will not be affected in this regard. In terms of visual impact, there are no protected historical sites in close proximity of the site, and the proposal in general is far enough away from sensitive receptors so as to not have an overly significant impact.

d) *wildlife resources and habitats;*

This matter is explored in Section 8, finding the proposal to be acceptable.

e) *proximity to pylons and overhead power lines, and other service infrastructure; and*

The proposal is relatively close to the location where a mobile phone mast was previously located (at an elevated position on Burneven SINC). This was recently removed. The proposal will represent a single installation of vertical infrastructure on the steep embankment at a less elevated position than the former mobile phone mast.

f) *the landscape, especially when viewed from public vantage points, including local roads, neighbouring settlements, and when set against the skyline.*



As set out in (e) above, the previous installation ensures that the proposed development will not significantly alter the character of the proposed turbine location.

Policy Conclusion

It has been assessed that the proposed wind turbines comply with both the relevant policies and material considerations. The proposal will implement a development that adheres to the sustainable principles advocated in policy and will implement a development which will produce clean renewable energy. This type of development is also fully supported by the Government in the aspiration to reduce our reliance upon the use of fossil fuels.

The key issues highlighted by the various documents are assessed in this Statement. It is concluded that the landscape has the capacity to accommodate this type of development, and the proposal is acceptable in all other regards.

It is therefore respectfully requested that Inverclyde Council supports the application and approves the implementation of the turbines.

7.0 Landscape Assessment

The proposal is for two 24.6m to hub wind turbines. The land on which they are proposed to be located is agricultural in nature, although this of poor quality. The turbines will help to enhance the use and productivity of the area by providing a clean, sustainable, renewable energy source to the grid.

The design of the turbines (monopole structure) has been selected in order to minimise the visual impact of the installation.

The Zone of Theoretical Visibility diagrams (Appendix 2) shows where the wind turbines will be visible from within the locale. It must be noted that the ZTV takes account of landform information only and no account is taken of existing vegetation or other building development. In reality these elements will provide considerable screening of the proposed wind turbine development. Additionally, the analysis has been taken using the highest blade height of the turbines, at 34.2m. The visual impact of the blade tip is significantly less than that of the turbine hub, which is located at 24.6m above ground level and therefore it is felt that the ZTV should be considered to represent the 'worst case' scenario.

While the ZTV shows that the turbines are visible from certain areas it is considered that in many cases existing development and vegetation in the area will partially screen the development.

The next stage is to identify the key visual receptors (KVRs) for viewing the turbines. These then form the basis of the photomontages (Appendix 3) which show the turbines within the landscape setting from the KVRs. The photomontages prepared demonstrate that the turbines will not have an adverse impact upon the existing character of the landscape. The KVRs are selected based on a number of factors, such as landscape, residential properties, environmental designations, listed buildings, and access issues. These factors are explored below.

Landscape Character

The proposed turbine development site is located approximately 550m inland from the Firth of Clyde at this locality, therefore lying adjacent to the Inner Firth of Clyde. The proposed turbine development site is a steep embankment from where the land steadily rises to Burneven Hill. The land type is rough moorland.

Cloch Road lies approximately 550m to the north west of the site and the nearest residential properties are 400m to the east north east at Levan. The proposed turbine development site lies immediately to the rear of Faulds Park Industrial Estate.

The photomontages prepared (Appendix 3) help to assess the impact that the proposed development will have on the existing landscape character.

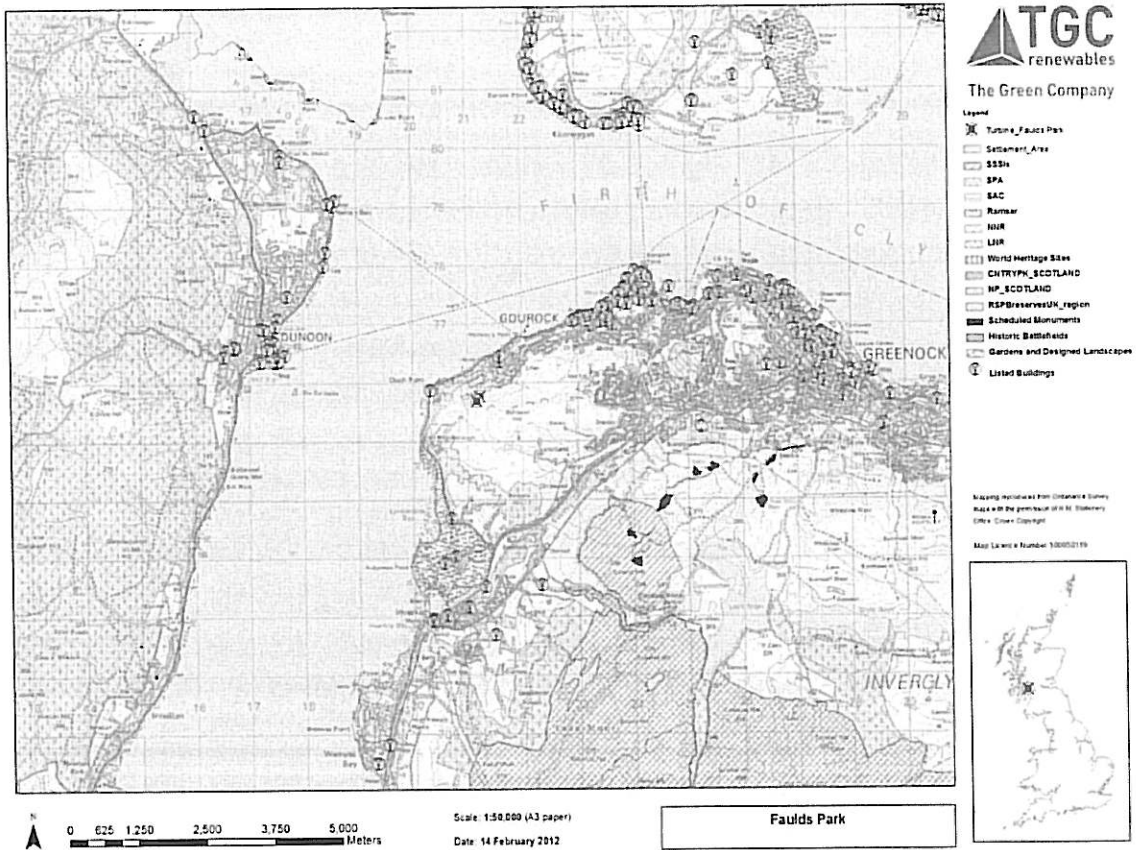
Designations

In Inverclyde Local Plan the proposed turbine development site is located on the boundary of an area of land designated as Business and Industry. The majority of turbine sites are located on land designated as 'countryside' which is generally more restrictive of this type of development.

As noted the site lies outwith Burneven Hill SINC and Clyde Muirshiel Regional Park. Given the scale of the proposed development it is not anticipated that the turbines will have a negative impact on these designated areas.

Castle Levan Grade B listed building is located approximately 900m to the north east of the proposed turbine development site. Due to the scale of the proposed development and its distance from this it is not anticipated that it will have any adverse impact on this monument.

Figure 2.



Visual Appraisal

On the basis of the above factors, the key visual receptors have been identified. These are found on the front page of the Photomontage document (Appendix 3). The photomontage document shows photographs from the KVRs looking towards the application site without the turbines, then with them. This allows for an assessment of the impact of the proposed installation to be undertaken.

Primarily the distance to the installation from the visual receptor point forms the initial part of this appraisal. It can be said in general that the greater the distance, the lesser the impact.

The sensitivity of the receptor is then assessed to identify its susceptibility to the visual impact by considering the nature of the receptor. The nature of the receptor forms an essential component



of this appraisal, with sites such as historic or environmental designations, attractive views, or tourism destinations having greater susceptibility.

The impacts of the installation are then assessed through a study of the receptor and its interaction with the site of the proposed installation, which will predict the magnitude of change should the development be permitted. A predicted impact can then be concluded from the magnitude of change caused by the visual impact in relation to the sensitivity of the receptor.

Some of the key views are assessed as follows. Please note that these have been selected through pre-application discussions with the Council:

VP01 Cloch Point (located approximately 600m to the north west of the site)

Sensitivity – as a key vantage point in this particular area of the Firth of Clyde this viewpoint is considered to have a high sensitivity.

Impact – from this viewpoint the blades of one of the turbines is obscured by vegetation whilst the other turbine is completely obscured by Tannel Hill. The wire frame view shows the relative locations of the consented Underheugh turbines (planning permission reference: 11/0331/IC) and another TGC proposed development at Leitchland. The turbines of both are obscured by the topography.

Sensitivity to change – high

Magnitude of change – negligible

Resultant predicted impact – minor

VP06 Levan (located approximately 800m to the north east of the site)

Sensitivity – as an established residential area this is considered to have a high sensitivity.

Impact – the Faulds Park turbines can be seen faintly on the horizon with their distance from this viewpoint much reducing their impact. The Underheugh and Leitchland turbines are not visible from this viewpoint.

Sensitivity to change – high

Magnitude of change – slight

Resultant predicted impact – moderate

VP08 Dunoon (located approximately 3.6km to the north west of the site)

Sensitivity – as a key viewpoint on the other side of the Firth of Clyde this is considered to have a high sensitivity.



Impact – the Faulds Park turbines are visible from this viewpoint, however, it is noticeable that neither turbine breaks the skyline. The turbines of the consented Underheugh development are also visible from this viewpoint as are the blade tips of the Leitchland turbines. Overall it is submitted that cumulatively the turbines of all three wind turbine projects do not have a significantly adverse impact on the landscape from this important viewpoint.

Sensitivity to change – high

Magnitude of change – moderate

Resultant predicted impact – moderate

VP09 Lunderston Bay (located approximately 1.4km to the south west of the site)

Sensitivity – as a popular beach and picnic area it is considered that this viewpoint has a high sensitivity.

Impact – the Faulds Park turbines are completely obscured by Tannel Hill from this viewpoint, however, the blades of two of the three consented Underheugh turbines are visible from this key viewpoint. As shown by the wire frame view, the Leitchland turbines are not visible from this viewpoint.

Sensitivity to change – high

Magnitude of change – negligible

Resultant predicted impact – minor

VP10 South East of Levan Farm (located approximately 400m to the north east of the site)

Sensitivity – as a site designated for housing in the Local Plan this viewpoint is considered to have a high sensitivity.

Impact – the blades and upper masts of the Faulds Park turbines are visible from this viewpoint, however, their visible impact is somewhat diminished by vegetation and the topography which obscures the bases and lower masts of each turbine. Furthermore the prevalence of utility poles provides for an established vertical emphasis which also further diminishes the impact of the proposed Faulds Park turbines. The Underheugh turbines are obscured by Tannel Hill from this viewpoint and the Leitchland turbines are not visible.

Sensitivity to change - high

Magnitude of change – moderate

Resultant predicted impact – moderate

Landscape Impact Conclusion



The proposed wind turbines are not considered to significantly detract from the existing character of the area. Aside from the site being close to Burneven SINC, there are no identified designations or habitats within the site. There are also no other specific ecological designations (SAC, SSSI, SPA) within a kilometre of the site, which is considered to be a sufficient distance to ensure that an impact will not be felt. The closest listed building to the proposed turbine development site is approximately 900m to the north east and the closest residential property is approximately 400m to the north east thus ensuring that the proposal will not affect their amenity in any way.

It is acknowledged that the turbines will be visible from a number of the key visual receptors in the area, but these are not considered to create an impact that affects residential amenity or the character of the landscape in a significantly negative way.

The photomontages demonstrate how the turbines are not overly obtrusive from any location, and can be largely contained within the landscape.

It should be further noted that the existing use will remain in practice and it is felt that the economic and environmental benefits of the proposed development will far outweigh any potential impacts.

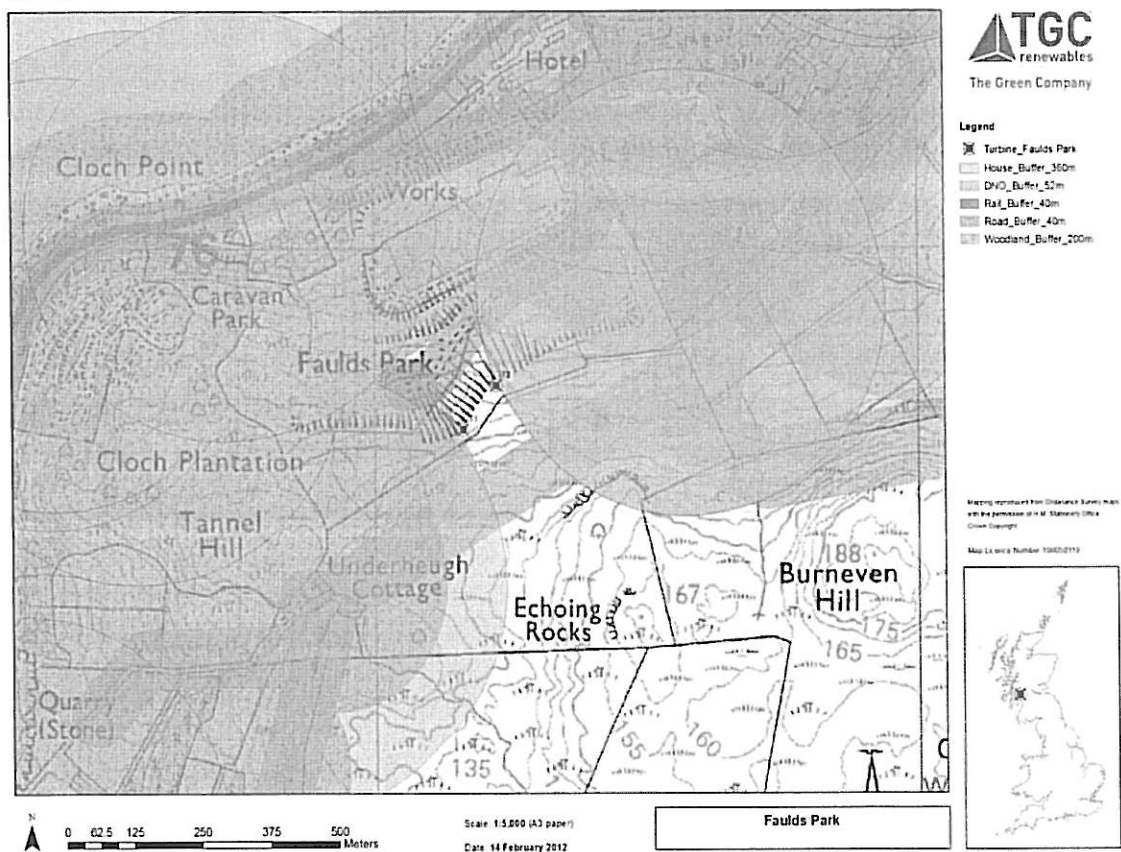
8.0 Ecology and Nature

From the initial site survey no features of wildlife interest have been identified within the site of the proposed turbines. As has been discussed the site is located outwith Burneven SINC, this has been confirmed by the Council's screening response. It is submitted that the small scale of the turbines proposed will not result in an adverse effect on Burneven SINC.

The British Wind Energy Association Website (<http://www.bwea.com>) States "Experience and careful monitoring by independent experts shows that birds are unlikely to be damaged by the moving blades of micro wind generators."

The proposed turbines are not within 50m of trees or hedges, as can be seen from the Buffer Plan, below. This accords with the relevant guidelines.

Figure 3.



Taking the above into account, it is submitted that the proposed construction and operation of the wind turbines can be carried out without having any adverse impact on existing ecological or hydrological features or assets of value and as such the proposal does not conflict with local or national planning policy concerning this matter.

9.0 Noise

A site visit was made to identify the most suitable design and location for the turbine. During this visit a note was taken of background noises such as rustling of trees, road traffic and planes flying overhead.

The site chosen is approximately 400m from the nearest residential neighbours. The selected position provides adequate exposure to the prevailing wind and minimises the risk of turbulence. The site has been appropriately specified, designed and located to allow sufficient distance between the wind generators and any existing noise-sensitive development so that noise from the wind generators will not be a nuisance or a material consideration in deciding the planning application.

In practice turbine noise is often masked by background noise such as wind, leaves rustling, traffic noise etc. Noise impact is somewhat dependent on a number of factors including the operational noise level of the equipment in a range of wind conditions. Noise/vibrations generally increase with increasing blade speeds and turbulent conditions but the Endurance E3120 has a blade rotation speed of 43rpm – irrespective of wind speed. This means that it is a much quieter machine than other similar sized turbines which can have a 32 variable rotor speed of up to 300rpm.

ETSU-R-97 is a Noise Assessment and Rating advice note for Wind Turbine Developments. This Guidance Note recommends that in most the fixed noise limit for night time of 43dB (A) is acceptable. This limit is derived from 35dB (A) sleep disturbance criteria referred to in Planning Advice Note 1/11 Planning and Noise. An allowance of 10dB (A) is made for attenuation through an open window (free-field to internal) and 2dB subtracted to account for the use of LA90 10min rather than LAeq 10 min. They also recommend noise emission of the turbine in relation to a neighbour's outdoor sitting area in the open countryside should be no higher than 43 -45 dB (A) at any noise sensitive properties.

It must be noted that ETSU-R-97 advocates that considerations should be given to increasing the permissible margin above background where the occupier of the site has some financial involvement in the wind turbines meaning that it can be acceptable to have higher noise readings where the applicant's property is the primary affected residence.

A Noise emission report for the Endurance turbine (Appendix 4) has been supplied as an additional item of supporting data to this application. The report records noise measurements for the turbine in order to determine the sound level of the turbine.

A noise diagram (Appendix 5) has been prepared and submitted with the planning application as supporting information. The noise diagram demonstrates there will be no detrimental noise impact on residential properties.

In conclusion the noise levels of the turbines is low and under most operating conditions it is likely that turbine noise would be completely masked by the background noise from the wind blowing through the trees and buildings. Therefore there would be no noise disturbance to the neighbouring properties.

10.0 Shadow Flicker

Shadow flicker can cause a problem to nearby properties early in the morning or late in evening. It is caused by the rotating blades interrupting the light from the sun when the turbine is between the property and the sun. This occurs early in the morning to the west of the turbine and late in the evening to the east of turbine. The effect is likely to be worse on sunny days in winter than in summer, as in summer the sun is much higher for longer and therefore the shadow is more local to the actual turbine.

It is generally accepted that some degree of shadow flicker is acceptable, but that limits should be imposed to restrict the number of hours per year for which any one property is affected. There are no specific rules on this, but a 30 hour per year maximum has been suggested as reasonable in Germany and this seems to be generally accepted.

Expected shadow flicker is difficult to predict however some general rules and guidance can be applied. Assuming a 24.6m tower and 19.2m diameter blades at the latitude of London, the following guidelines may be used to ensure a low risk of adverse effects.

Care should be taken to ensure that any property within 192m at a direction from 120 degrees west to 120 degrees east of the turbine location does not have a light sensitive outlook towards the turbine. E.g. a west facing conservatory or patio where the occupant might be expected to sit out on a sunny evening.

Properties greater than 192m away are unlikely to be seriously affected, since the duration of any shadow flicker will be reduced, and its severity will be lower since the shadows from the blades will become more diffuse.

In this case the separation distances between the turbine and all neighbouring residential properties are well in excess of the recommendations above. The Shadow Flicker Diagram (Appendix 6) demonstrates that there is no impact on residential properties in the wider area.



11.0 Conclusion

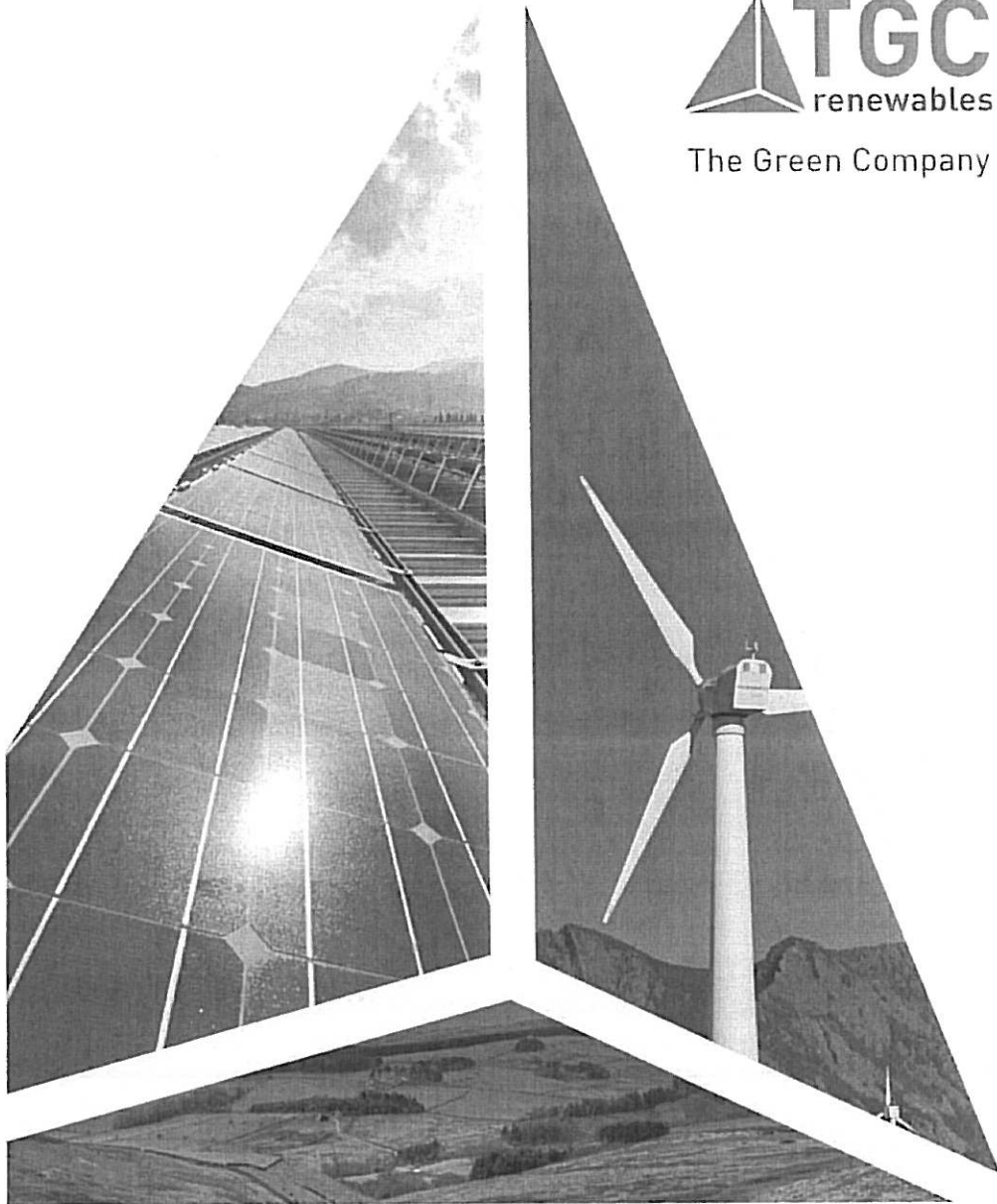
It is considered the proposal is in accordance with National Planning Policy and the Development Plan.

The proposed turbines are relatively small in size when viewed in context with the surrounding area and the photomontages demonstrate this. It is therefore considered that this is an appropriate location for the turbines, and any minor impacts the proposed development may have are greatly outweighed by the economic and environmental benefits that they would bring.

Should the Planning Authority be of the opinion to refuse the application based on any concerns raised during the application process, then before a refusal was issued, we would wish to have the opportunity to provide further information, to modify the application, or if necessary have the option to withdraw the application whilst the additional information is collated if it cannot be obtained within the timescales allowed for the application process.



The Green Company



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LOCAL REVIEW BODY STATEMENT

**PROPOSED INSTALLATION OF TWO 50kW WIND TURBINES,
24.6M TO HUB, 34.2M TO TIP AT FAULDS PARK, GOUROCK**

(APPLICATION REFERENCE: 12/0133/IC)



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List of Documents:

Document 1 – Application Validation Letter

Document 2 – Report of Handling

Document 3 – Decision Notice

Document 4 – Council’s Screening Opinion

1.0 Introduction - Appeal Summary

TGC Renewables Ltd wish to appeal to the Local Review Body against Inverclyde Council's decision to refuse planning permission for application 12/0133/IC for the erection of two 50kW wind turbines on land at Faulds Park, Gourrock, PA19 1BQ.

The application was submitted on 20th April 2012 and validated on 25th April 2012 (Document 1), with the Council setting a target determination date of 15th June 2012. Following an extensive determination period, the application was refused planning permission through the Scheme of Delegation List on 31st August 2012 (Document 2).

As noted in the Decision Notice (Document 3), the Council's reason for refusal for planning permission is as follows:

"A combination of height, scale and proximity to residential development at Levan Farm create a dominant and excessively prominent features in this part of Inverclyde, contrary to:-

- a. the Council's interim policy on Small Wind Turbine Development UT6B, criteria (a) and (f).*
- b. the Council's interim policy on Wind Farms UT6A criterion (c); and*
- c. Policy UT6 of the Inverclyde Local Plan, criteria (a), (b) and (c)."*

TGC on behalf of the applicant wish to appeal the decision of Inverclyde Council to refuse this application and respectfully requests that Local Review Body overturns the decision and grants planning permission for the development of two wind turbines at the site at Faulds Park. The proposed development is a good example of a relatively small scale wind turbine development which respects the character of the landscape in which it is proposed to be located, and can make a contribution towards Inverclyde as well as Government renewable energy targets.

This Appeal Statement reviews the reason for refusal, which of course focuses on the perceived landscape impact of the proposed wind turbine development.

N.B. towards the end of the determination process TGC were requested to submit a Drainage Impact Assessment and associated Design Drawings for a decision to be made, it was stressed that this was a key requirement for a decision to be reached.

TGC outsourced this at significant cost in the understanding that this was indeed very pertinent to the eventual decision. The results of the DIA were positive for the proposal and this was of course relayed to the Council.

When TGC were notified of the decision and received the Report of Handling it became very clear that it was extremely unnecessary for the Council to request a DIA, at TGC's expense, for a decision to be reached. This has absolutely no relationship to the perceived visual impact of the proposed development on the Levan Farm Phase 3 residential site.

2.0 Background to Application

A screening opinion request concerning the proposed development was sent to Inverclyde Council on 1st March 2012. The Council responded on 22nd March 2011 (Ref: 12/0003/SCREEN) stating that:

"With respect to the characteristics of the development, I note that the two 34.2m high turbines proposed are on rough moorland, at the top of a steep embankment, immediately to the rear of Faulds Park Industrial Estate, just outwith the Burneven Hill SINC....The site is also outwith the Clyde Muirshiel Regional Park. The existing residential development at Levan Farm and housing opportunity site ho57 (identified in the Local Plan map), lying to the east, each have the potential to be impacted by views of the turbines. These views may be cumulative with the three turbines approved at Underheugh although, I accept, that the main views out from the residential sites are to the Clyde and Argyllshire Hills, beyond. There may also be views of the turbines from Cloch Road and the more distant Lunderston Bay visitor centre and coastal footpath...With certainty, the turbines shall be visible from the Firth of Clyde and also from Argyll & Bute, on the opposite side of the Clyde, although visual impact diminishes with distance.

Given the scale of the proposed turbines and their potential cumulative impact on a high number of visual receptors, I consider their visual impact to be potentially significant and adverse, although not so significant as to demand an Environmental Assessment."

From discussions with the case officer cumulative photomontages were prepared to address the visual impact of the proposed development; these considered the receptors listed above. The perceived visual impact of the proposed installation is addressed in section 3.3 of the Statement

The submitted planning application took on board the advice within the Council's screening opinion (Document 4).

3.0 Grounds of Appeal

3.1 Introduction

TGC will go through the Grounds of Appeal by reviewing the reason for refusal of planning permission.

3.2 Reason for Refusal

As stated in the first section of this Local Review Body Statement, one reason for refusal was given by the Council. To reiterate this was:

"A combination of height, scale and proximity to residential development at Levan Farm create a dominant and excessively prominent features in this part of Inverclyde, contrary to:-

- a. the Council's interim policy on Small Wind Turbine Development UT6B, criteria (a) and (f).*
- b. the Council's interim policy on Wind Farms UT6A criterion (c); and*
- c. Policy UT6 of the Inverclyde Local Plan, criteria (a), (b) and (c)."*

The appellant does not consider that the proposed turbine development would have a significantly harmful impact on the landscape, particularly in relation to the Levan Farm Phase 3 residential site. Following is an assessment of the perceived landscape impact of the proposed turbine development.

3.3 Landscape Impact Assessment of Proposal

The reason for refusal centres on the perceived visual impact of the proposed development on the Levan Farm Phase 3 residential site which has the benefit of planning permission in principle for an approximate capacity of 150 houses.

The site of the proposed turbines is approximately 500m from the western boundary of the proposed Levan Farm residential site meaning that it more than complies with the relevant residential amenity buffers of noise and shadowflicker, which are 310m and 192m respectively. Therefore, the turbines shall not have any noise or shadowflicker impact should the Levan Farm residential site go beyond planning permission in principle and houses are to be built on the site.

During pre-application discussions with the case officer, photomontages were requested to give a representation of the visual impact of the proposed turbines in relation to the Levan Farm housing area. Viewpoint 6 from the photomontages is a viewpoint towards the site from the established residential area to the north of the proposed residential site at Levan Farm. As can be seen from this, the turbines can be seen faintly against the horizon due to the distance between the viewpoint and the site of the proposed turbines, a distance of approximately 900m. Cumulative impact with the consented Underheugh turbines is not a concern as they are not visible from this viewpoint. Viewpoint 5 from the photomontages represents a viewpoint from the periphery of housing at Levan Farm on the north eastern boundary of the proposed housing site. As can be seen from this, the blades of the proposed turbines are visible; however, there are no concerns as



regards cumulative impact with the consented Underheugh turbines from this viewpoint as they are blocked from view by topography.

The case officer questioned the validity of viewpoint 5 so as a result a further photomontage was prepared to address the visual impact of the proposed turbines on the proposed Levan Farm residential area. It was claimed that the bush has been selected on viewpoint 5 to screen the turbines; we believe this comment to be disingenuous. Should the image have been taken any further to the north, the proposed turbines would be blocked from view by the housing which can be seen on the photomontage. Therefore, the validity of viewpoint 5 cannot be questioned. To reiterate, only the blades of the turbines can be seen from this photomontage. The extra photomontage which was produced, viewpoint 10, of course addresses the visual impact on the proposed residential area – designated as ho57 in the Local Plan.

As can be seen from viewpoint 10 (which of course concerns the proposed residential area at Levan Farm), the blades and upper masts are visible above the hill and thick vegetation. From this photomontage it is very clear that an established vertical emphasis has been created by the numerous utility poles, eleven are visible. There is no mention of this in the case officer's Report of Handling. The reason for refusal concerns the visual impact of the proposed turbines, it is quite clear that they do not appear to be any larger than the existing utility poles when viewed from the proposed Levan Farm residential site. Furthermore, the supporting column of the turbines proposed is an off-white colour as is the colour of the turbine blades. An analysis of different colours of turbine has been carried out to specifically look at the visual appearance of grey, galvanised, white, green, brown and black. It has been concluded that an 'off white' appearance looks the least obtrusive when set in several backgrounds such as a rural, agricultural, farm or domestic setting. This colour helps the turbine blades and support structure blend more easily into the background skyline, which is obvious from the viewpoint 10 photomontage, and as such is proposed for this location. The dark colour of the utility poles means that they are much more visible when viewed from the proposed Levan Farm housing site.

It is acknowledged that the proposed turbines will be visible from a number of the key visual receptors in the area, but these are not considered to create an impact that affects residential amenity or the character of the landscape in a significantly negative way.

There are no designated sites of importance at the location of the proposed turbines, and it is not considered that the proposal will have a significant impact on the existing landscape character of the area. Based on the above landscape and visual impact assessment of the proposal to erect two 24.5m to hub wind turbines at the site at Faulds Park, we do not believe that Inverclyde Council can justify a reason for refusal based on the perceived landscape impact of the proposed development on the proposed Levan Farm housing site.

In terms of consultations, the aviation authorities MoD Safeguarding, National Air Traffic Services, CTC and BAA Aerodrome Safeguarding did not object to the proposal. Furthermore, the Council's Head of Environmental and Commercial Services and the Head of Safer and Inclusive Communities did not object to the proposal. In terms of representations, only two written representations from one individual were received.

For the reasons highlighted above, TGC Renewables on behalf of the applicant respectfully requests that the Local Review Body overturns the decision of Inverclyde Council and grants planning permission for the development of two wind turbines at the site at Faulds Park.

4.0 National Planning Policy

4.1 National Planning Framework 2

NPF2 highlights onshore wind along with hydro-power as the renewable technologies most likely to make the largest contributions initially to the realisation of the Scottish Government's renewable energy targets.

4.2 Scottish Planning Policy

The Scottish Planning Policy document includes a section on renewable energy (addressing onshore wind power specifically) and the Government's commitment to achieving their set targets. Paragraph 182 states:

"The commitment to increase the amount of electricity generated from renewable sources is a vital part of the response to climate change. Renewable energy generation will contribute to more secure and diverse energy supplies and support sustainable economic growth. The current target is for 50% of Scotland's electricity to be generated from renewable sources by 2020 and 11% of heat demand to be met from renewable sources. These targets are not a cap. Hydroelectric and onshore wind power are currently the main sources of renewable energy supplies..."

Paragraph 184 specifically addresses the role of the Development Plan in supporting renewable energy schemes, as stated:

"...Development plans should support all scales of development associated with the generation of energy and heat from renewable sources, ensuring that an area's renewable energy potential is realised and optimised in a way that takes account of relevant economic, social, environmental and transport issues and maximises benefits. Development plans should support the wider application of medium and smaller scale renewable technologies..."

The relevant context of the Scottish Planning Policy is supportive of the type of development subject of this planning application.

4.3 Scottish Government Specific Advice Sheet on Onshore Wind Turbines

PAN 45 Renewable Energy Technologies and Annex 2 Spatial Frameworks and Supplementary Planning Guidance for Wind Farms has been replaced with web based renewables advice. The advice note on Onshore Wind Turbines is relevant for this proposed development.

The advice paper has suggested areas of focus for planning authorities one of which is to:

"Provide greater clarity on where groups of wind turbines can be located by ensuring that a spatial framework for wind farms greater than 20MW has been set out in the development plan and addressing the potential below 20MW where appropriate."

The guidance note has a section on "Typical Planning Considerations in Determining Planning Applications for Onshore Wind Turbines" which are:

- Landscape Impact
- Landscape Assessment
- Impacts on Wildlife and Habitat, Ecosystems and Biodiversity
- Impact on Communities
 - Shadow Flicker
 - Noise
 - Electro-magnetic Interference to Communications Systems
 - Ice Throw
- Separation Distances
- Aviation Matters
- Road Traffic Impacts
- Cumulative Impacts
- Good Practice During Construction
- Decommissioning

TGC Renewables has considered all of the above points in its assessment of the proposal. This is detailed below:

- Landscape Impact – this is considered in section 3.3 of this Statement and in section 7.0 of the Design & Access Statement submitted with the planning application. We are aware that the turbines will be visible from some viewpoints; however, the consideration was made when assessing the location that the turbines would not impact detrimentally on the wider landscape. Photomontages and ZTVs have of course been prepared which demonstrate the visibility of the proposed wind turbine scheme.
- Landscape Assessment – again this is considered in section 3.3 of this Statement and in section 7.0 of the Design & Access Statement submitted with the planning application.
- Impacts on Wildlife and Habitat, Ecosystems and Biodiversity – this is considered in section 8.0 of the Design & Access Statement.
- Impact on Communities
 - Shadow Flicker – this is dealt with in section 10.0 of the Design & Access Statement.
 - Noise – this is dealt with in section 9.0 of the Design & Access Statement.



- Electro-magnetic Interference to Communications Systems – this is dealt with in section 4.0 of the Design & Access Statement.
- Ice Throw – it is very unlikely there will be a build-up of ice but the turbines are sited in a location which mitigates this risk.
- Separation Distances – the turbines comply with the separation distances required.
- Aviation Matters – this is also dealt with in section 4.0 of the Design & Access Statement.
- Road Traffic Impacts – it is not considered that there will be any detrimental impact on the existing road network. There may be a slight increase in traffic during the deployment phase but following this the site will only be visited for maintenance purposes on an approximately three-monthly basis.
- Cumulative Impacts – this has been addressed by the cumulative photomontages submitted with the planning application per the request of the Council.
- Good Practice During Construction - TGC work closely with statutory and industry regulations to ensure best practice at all stages of site development. Certifications and qualifications of site staff are available on request. All contractors are appointed on the basis of their accreditation from industry bodies and also work to TGC's standards.
- Decommissioning – Once the turbines have reached the end of their life, which is expected to be around 30 years, the site will be cleared and restored to its original condition as soon as possible. The applicant is willing to accept a condition on the consent relating to decommissioning.

4.4 Scottish Natural Heritage – Natural Heritage Assessment of Small Scale Wind Energy Projects which do not require formal Environmental Impact Assessment (EIA) March 2008

The above guidance is relevant to the proposed development. SNH have outlined what level of information they require for turbines which do not require an EIA:

- Conducting a basic landscape appraisal – this should include a Zone of Theoretical Visibility map covering an area of up to 15km (radius) from the turbine and wireline drawings and/or photomontages from a limited number of key viewpoints. TGC have of course prepared a ZTVs and photomontages from Key Visual Receptors surrounding the site, which were submitted with the planning application;
- Conducting a basic assessment of the impact on birds – TGC have taken this into consideration when preparing the planning application. Due to the height of the proposed turbines which are only 24.6m to hub it is not considered that these would cause a detrimental impact to birds; and
- Conducting a basic assessment of the potential impacts on habitats and protected species – the site is within zone 1 which is a low sensitivity area and the turbines are less than 50m



high. There are no nature designations within close vicinity of the proposed development site.



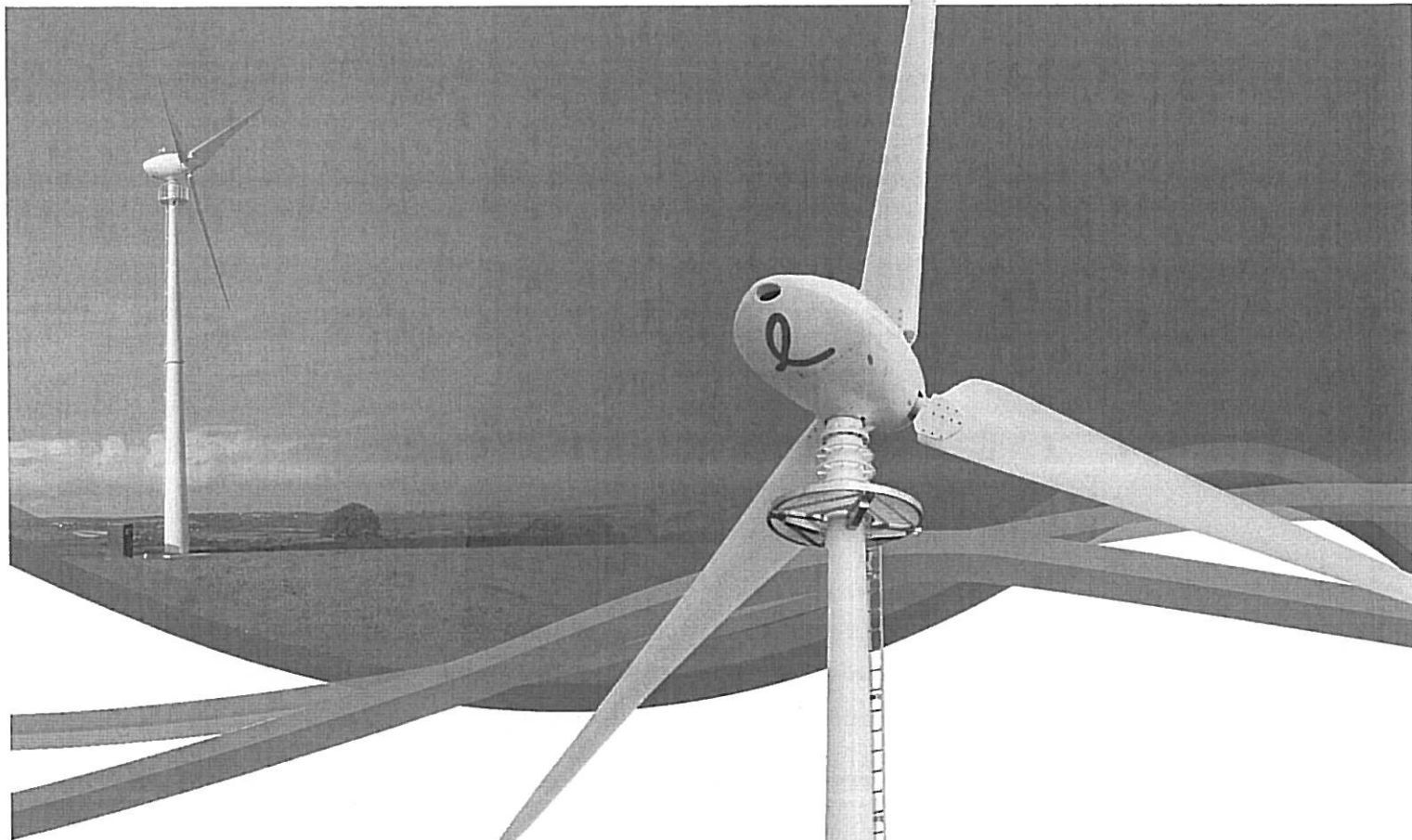
5.0 Conclusion

The proposal meets the requirements of the Development Plan and National Planning Policy and it is respectfully requested that the Local Review Body should overturn the decision of Inverclyde Council to refuse planning permission for the proposed development. The proposal is an example of a development which will help to meet Inverclyde Council as well as National targets as regards the generation of renewable energy.

The proposed turbines are not overbearing in scale and are neutral in colour which ensures that they will not pose a detrimental impact within the landscape setting. They are proposed in an area which is capable of accommodating two wind turbines of the scale proposed.

Endurance[®]

wind power
we power the future



E-3120 50kW Wind Turbine

The Endurance E-3120 wind turbine is designed to produce renewable energy efficiently, reliably, safely, and quietly. This turbine is ideal for larger farms, schools, hospitals, and commercial/industrial sites, and will produce 100,000 - 250,000 kWh per year in appropriate winds.

green energy that works



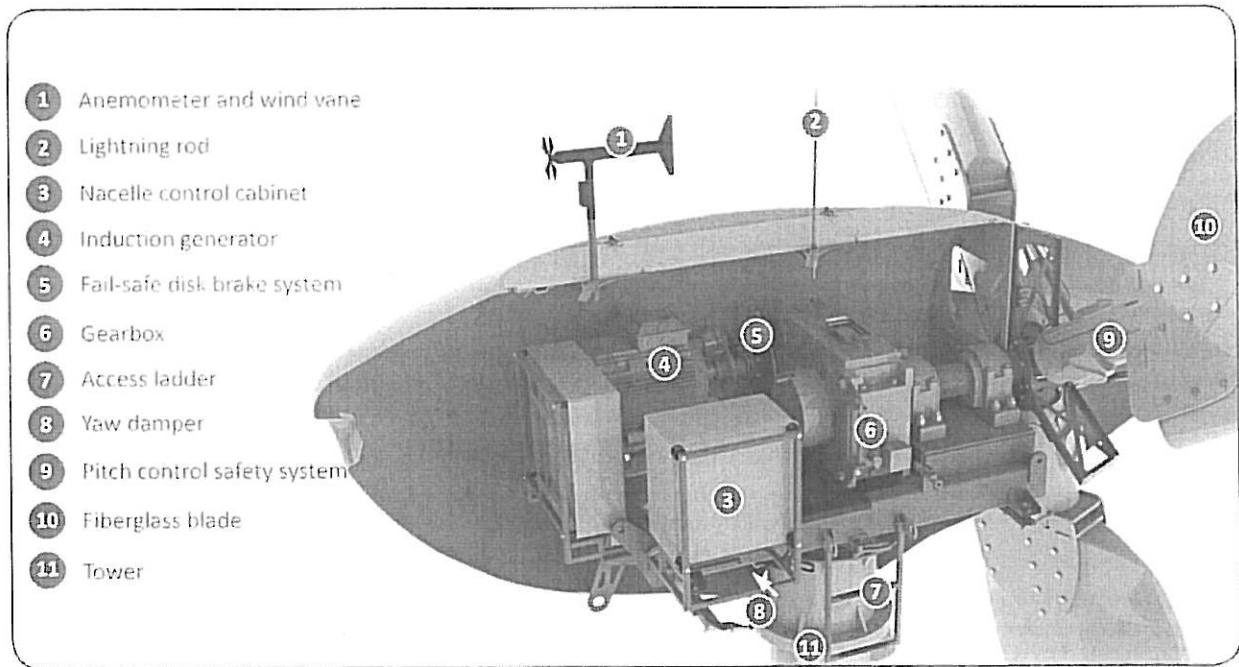
www.endurancewindpower.co.uk

E-3120 Benefits

- Contributes to the national renewable energy and carbon emission reduction targets
- Promotes community sustainability values
- Eligible for renewable energy credits
- Provide an additional revenue stream with the government's Feed-In-Tariff program
- Provides energy independence



E-3120 50kW Wind Turbine



1 Anemometer and wind vane

Measures wind speed and direction to control starting, stopping, and orientation of the turbine to maximize power production.

2 Lightning rod

Guides lightning to the ground, protecting the turbine.

3 Nacelle control cabinet

Houses the tower-top electronics in a weather-protected environment for maximum reliability. The main turbine control panel is located at the base of the tower for easy access.

4 Induction generator

Delivers grid-compatible power and eliminates the need for an inverter or other power electronics. This improves efficiency and reliability, and reduces up-front costs.

5 Fail-safe disk brake system

Safely stops the wind turbine using twin brake calipers in situations such as extreme wind or grid failure.

6 Gearbox

Drives the generator at full speed while the rotor turns slowly. The gearbox uses rugged, conventional design for long life and high reliability.

7 Access ladder

Allows easy and safe access to the nacelle for maintenance. Safety is a top design priority.

8 Yaw damper

While the turbine is aerodynamically oriented by the wind, the yaw damper smooths the movement to ease tower and rotor loads.

9 Pitch control safety system

Provides backup protection against rotor over speed. If the rotor turns too fast for any reason, the blades are pitched by a spring mechanism to control the speed.

10 Fiberglass blade

Designed to quietly and efficiently produce energy, particularly in light winds.

11 Tower

Attractive monopole towers are available in 24 and 36.5m (80 and 120 ft) to comply with height restrictions or reach the best winds at your site.

Cornerstones of Endurance Design

Production Efficiency

Most distributed wind customers did not select their site for wind resources, but look to generate power from the wind available to them. Endurance wind turbines are designed specifically for less-than-perfect wind conditions.

218,000 KWH
@7M/S **E-3120 50kW**
ANNUAL ENERGY PRODUCTION

Swept Area

The blades capture the energy of the wind. The larger the rotor diameter, the more wind energy the turbine captures. The Endurance E-3120 has a 19m (63 ft) rotor diameter- one of the largest rotor diameters per rated kW in its class- to capture the most wind energy.

Motoring

Motoring starts the blades spinning so the turbine operates in lighter wind conditions than if it relied solely on the wind to start.

Generator Type

The induction generator produces electricity that can be transferred to the power grid without inverters. This provides lower equipment and maintenance costs and increases overall power production.

Reliability

All Endurance turbines have been extensively tested to ensure customers receive dependable energy production. They are built with proven commercial components for durability and easy support in the future.

Five Year Warranty

Endurance offers one of the best warranties in the wind industry, covering all defective components and labor for five years.

Safe Operation

When the turbine control system detects any fault, such as high wind or a grid power loss, the dual caliper disc brake system activates, safely stopping the turbine until the condition is cleared.

Passive Stall Rotor Design

The fixed-speed rotor aerodynamically stalls the blades as the first layer of protection for the turbine during high winds.

Control and Remote Interface Software

Each Endurance wind turbine is operated safely by an onboard computer system with advance control logic. This system also records data including energy production, average power, wind speed and event history. Turbine controls and data are also remotely available from a web browser.

Quiet Operation

Quiet operation is essential for a wind turbine in a community environment. Endurance turbines use slowly turning blades and high-quality manufactured components to make them the quietest turbines in their class.

Clean Aesthetics

A wind turbine makes a powerful statement about your commitment to the environment and clean energy. Endurance wind turbines have clean lines and make an attractive addition to any landscape.

Turbine

Configuration	3 blades, horizontal axis, downwind
Rated power @ 9.5 m/s	50kW
Applications	Direct grid-tie
Rotor speed	43 rpm
Cut-in wind speed	3.5 m/s (7.8 mph)
Cut-out wind speed	25 m/s (56 mph)
Survival wind speed	52 m/s (116 mph)
Overall weight	3 990 kg (8 800 lbs)

Rotor

Rotor diameter	19.2 m (63.0 ft)
Swept area	290 m ² (3120 ft ²)
Blade length	9.00 m (29.5 ft)
Blade material	Fiberglass/Polyester
Power regulation	Stall control (constant speed)

Generator

Type	Induction generator
Configurations	3φ, 400 VAC @ 50 Hz

Brake & Safety Systems

Main brake system	Rapid fail-safe dual mechanical brakes
Secondary safety	Pitch control system (for over-speed regulation) using passive, spring-loaded mechanism

Automatic shut down triggered by :	<ul style="list-style-type: none"> - High wind speed - Grid failure - Over-speed - All other fault conditions
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Controls

Control System	Programmable logic controller (PLC)
User interface	Wireless or wired network software interface for remote monitoring and control

Warranty

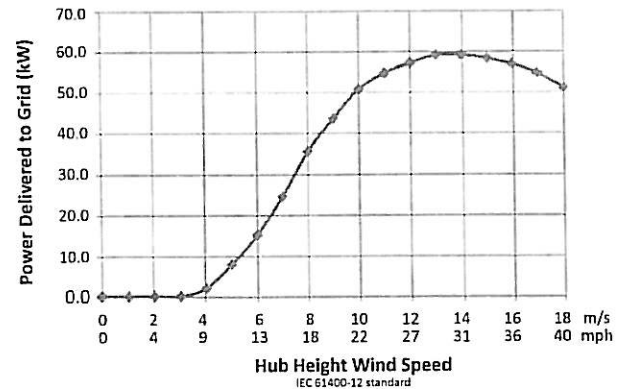
Turbine & controls	5 years parts and labour
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Towers

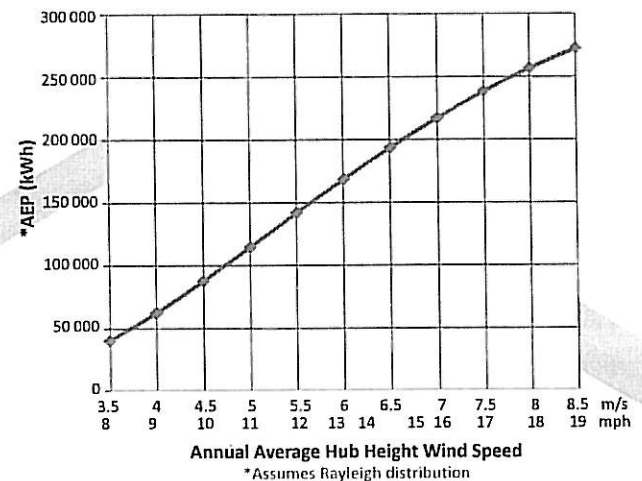
Types	Free-standing monopole: 24m (80ft), 36.5 m (120 ft)
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Maintenance access	Safe climbing system Working space inside the nacelle Tower-top work platform
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Power Curve



Annual Energy Production (AEP)



Annual Average Hub Height Wind Speed (m/s)	Annual Energy Production (kWh)
3.5	40 100
4.0	62 500
4.5	88 000
5.0	114 900
5.5	142 200
6.0	168 900
6.5	194 300
7.0	217 700
7.5	238 800
8.0	257 200
8.5	273 000

Wind Speed Conversion Table

m/s	4	5	6	7	8	9	10	11	12	14
km/h	14	18	22	25	29	32	36	40	43	50
mph	9	11	13	16	18	20	22	25	27	31

www.endurancewindpower.co.uk
info@endurancewindpower.com



Endurance Wind Power uses 100% renewable energy at its head office and manufacturing plant

**ENDURANCE E3120 WIND TURBINE
GENERALISED NOISE PREDICTIONS**

Hayes McKenzie Partnership Ltd

Seth Roberts, 10th July 2012

Reference: HM2438_4_SJR



Summary

1. The Hayes McKenzie Partnership Ltd. has been asked by The Green Company Ltd. to carry out generalised noise predictions for the Endurance E3120 wind turbine in order to assess it's suitability for possible installation sites.
2. This note presents the noise prediction methodology and results. The predictions are generalised to provide indicative separation distances for single turbine schemes only and do not take account of site specific conditions or multiple turbines. Where there are any other turbines (either already built or granted planning consent) within a 5 km radius of the site, it is recommended that a site specific noise assessment should be carried out.

Methodology

3. The wind turbine noise predictions were carried out based on the latest best practice advice; *Prediction and Assessment of Wind Turbine Noise* published in the Institute of Acoustics, Acoustics Bulletin magazine, using measured noise data, a ground factor of $G=0.5$ and a 3.1 dB allowance for measurement uncertainty.
4. The source noise data, supplied by the manufacturer and octave band data is shown at Table 1 and Table 2 below.

Table 1 – Endurance E3120 50kW Wind Turbine Apparent Sound Power Level Data

Wind Speed at 10m Height (m/s)	Sound Power Level(dB L_{WAeq})	Sound Power Level(dB L_{WAeq}) +3.1dB for measurement uncertainty
3	87.1	90.2
4	87.3	90.4
5	87.6	90.7
6	88.1	91.2
7	89.0	92.1
8	90.6	93.7
9	92.4	95.5
10	94.3	97.4
11	95.4	98.5
12	94.9	98.0

Table 2 – Endurance E3120 50kW Wind Turbine Octave Band Noise Data at 8 m/s

Octave Band Centre Frequency (Hz)	Overall	63	125	250	500	1k	2k	4k	8k
Octave Band Sound Power Level (dB(A))	91.8	70.3	78.7	83.7	82.6	83.9	86.8	84.5	71.5

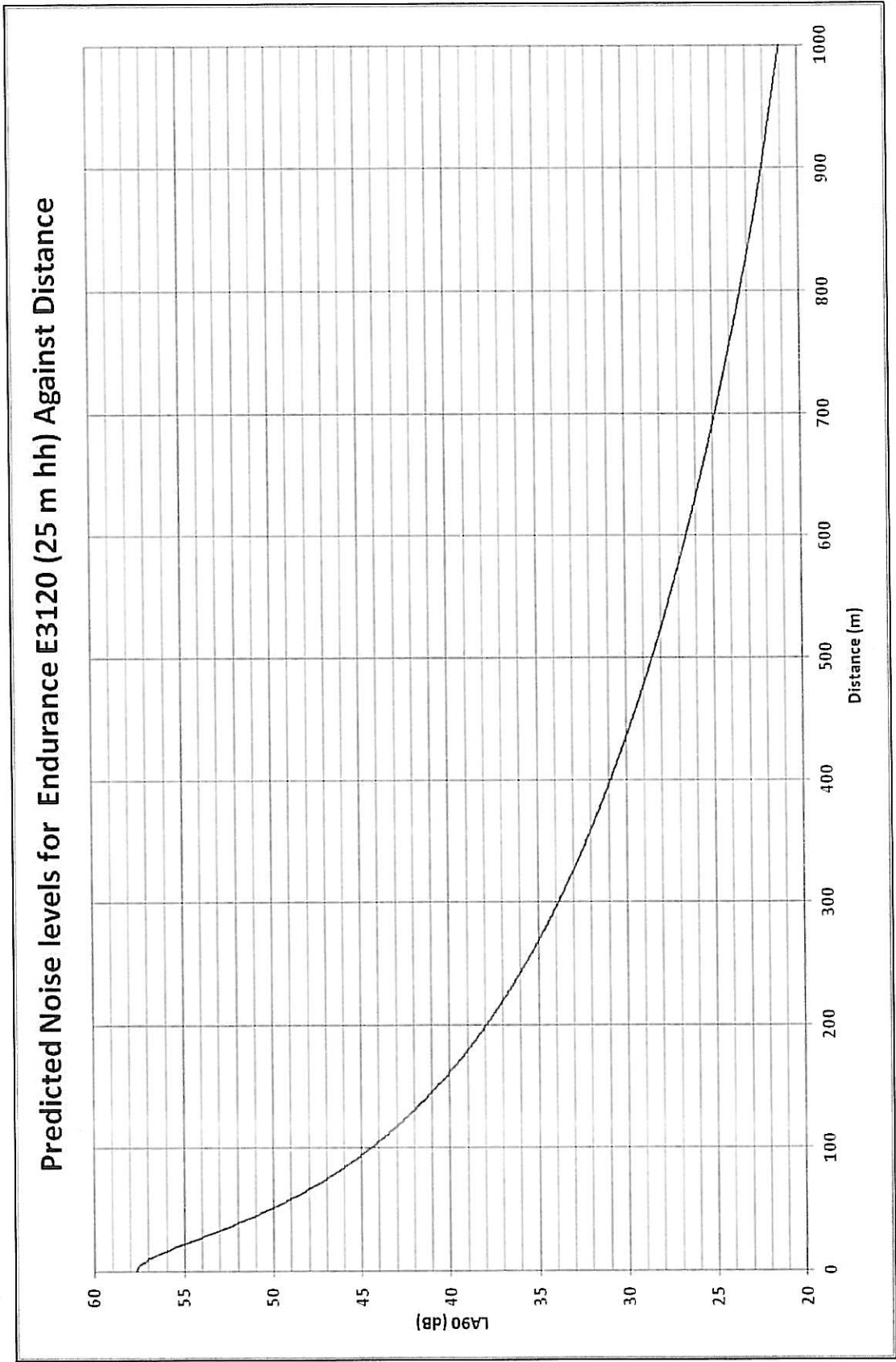
Results

5. The results of the predictions, which assume downwind propagation and hub heights of both 25 m and 37 m, are shown in the form of graphs of noise against distance at Figure 1, for a wind speed of 10m/s. Note that for wind speeds lower than 10m/s, and for wind directions other than downwind noise propagation, wind turbine noise levels will be lower.

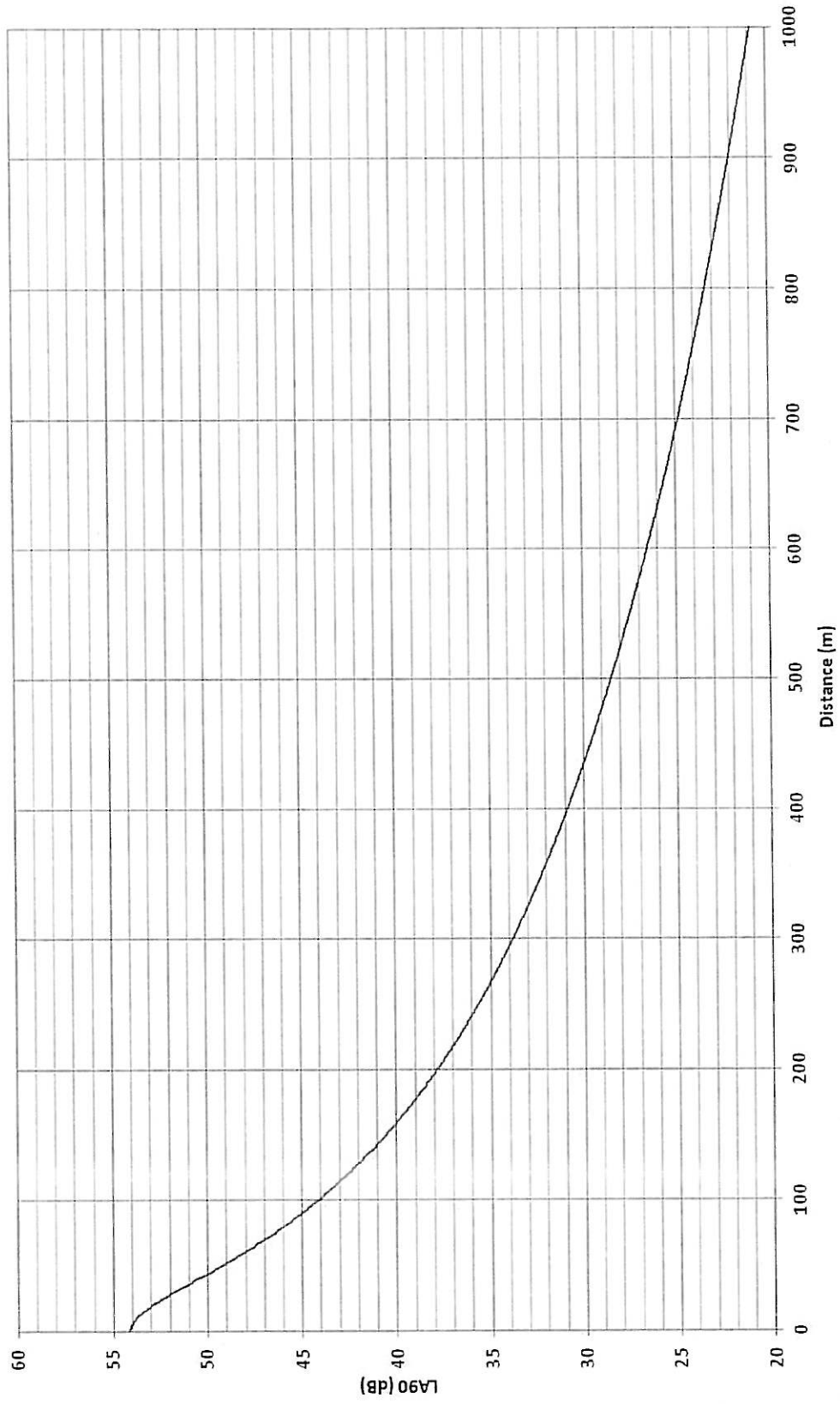
Assessment

6. The results of the predictions show that the 35dB L_{A90} simplified noise limit described in ETSU-R-97, *The Assessment and Rating of Noise from Wind Farms*, is met at a plan distance of 267 and 269 metres for the 25m and 37 m hub height versions of the turbine respectively.
7. Other separation distances of significance are the distances beyond which the predicted noise level is below 30 dBL_{A90} , 40 dBL_{A90} , 43 dBL_{A90} and 45 dB L_{A90} . These distances are approximately 450m, 170m, 125m and 100m respectively.
8. These results assume that there is no tonal content in the output from the turbines requiring a correction or penalty when assessed according to ETSU-R-97 and are valid for typical downwind propagation conditions. It is recommended that some margin of uncertainty is allowed for in selecting a final position for turbine location relative to residential properties.

Figure 1 – Predicted Noise levels for an Endurance E3120 Wind Turbine at 10m/s



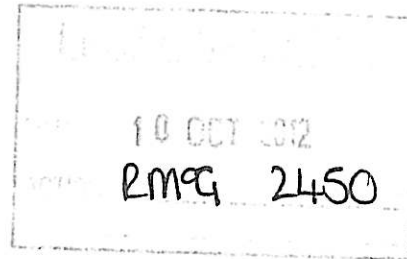
Predicted Noise levels for Endurance E3120 (37 m hh) Against Distance



Tel:
Mobile:†

Mr & Mrs R Gormley
Levan Farm
Tantallon Avenue
Gourock PA19 1HA
Scotland.

Rona McGhee
Regeneration & Environment
Inverclyde Council
Cathcart House
6 Cathcart Square
Greenock PA15 1LS



9th October 2012

Dear Miss McGhee,

Planning Application 12/0133/IC
TGC Renewables
Erection of Two Wind Turbines at Faulds Park Gourock
Review of decision to Refuse Planning Permission.

Thank you for your letter dated 1 October 2012 regarding the above.

We are pleased to note that the council planning authority saw fit to refuse the above application which does nothing for the re-generation of the local area.

Indeed it is prejudicial to it's re-generation as it would form a blot on a landscape of outstanding scenic beauty- do we really want to see a corridor of wind turbines as we sail up and down the Clyde- and be detrimental to the proposed development of executive housing at Phase 3 Levan Farm, which in contrast, does have a significant positive impact on the growth and re-generation of the area as it brings jobs, new residents and business drivers to live and spend in the local economy.

We maintain our objection to this proposal and trust that Inverclyde Council's Local Review Body will uphold the planner's original decision to refuse consent.

Yours sincerely,

R Gormley

Rona McGhee

From: Peter Fusco [peter.fusco@tgcrenewables.com]
Sent: 16 October 2012 11:32
To: Rona McGhee
Subject: RE: Review of Decision to Refuse Planning Permission - Erection of 2 24.6m Wind Turbines, Land at Faulds Park, Gourock (Ref: 12/0133/IC)
Attachments: Response to Mr Gormley's letter of representation.docx

Hello Rona,

Please find my response attached.

I look forward to receiving a date for the LRB meeting.

Many thanks

Peter Fusco
Wind Energy Planner



The Green Company

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Switch: +44 117 3270 140

www.tgcrenewables.com

TGC Renewables Ltd is a UK registered company no. 07499954

Why Choose TGC Renewables?

- + **Shortlisted as Wind Energy Provider of the year** - Renewable Energy Infrastructure Awards 2011
- + **Independent solar and wind energy project developer and installer** - Practical advice through feasibility and project delivery.
- + **Established since 2006 in renewables in UK and across Europe** - The first company to be accredited under the UK DTI's wind turbine MCS scheme.
- + **Financially stable and secure** - Supported by a large family company with 125 year trading history.
- + **Inhouse capabilities and knowledge** across all parts of the supply chain - planning, electrical, engineering and financial expertise.
- + **Solid Reputation** - We sit on industry technical standards committees and speak at leading events.
- + **Respected experts** - featured in the media including the BBC, Bloomberg, Farmers Weekly, Infrastructure Journal.

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From: Rona McGhee [mailto:Rona.McGhee@inverclyde.gov.uk]

Sent: 16 October 2012 09:28

To: peter.fusco@tgcrenewables.com

Subject: Review of Decision to Refuse Planning Permission - Erection of 2 24.6m Wind Turbines, Land at Faulds Park, Gourock (Ref: 12/0133/IC)

Dear Mr Fusco

I refer to my email of 1 October 2012 in connection with the above and write to advise that the attached further representations have been received from Mr & Mrs R Gormley. You are now entitled to make any comments on these representations which should be submitted to me within 14 days of the date of this email.

I would also confirm that the further representations and any comments you make within this timescale will be added to the documentation which is available for inspection at the office of the Council's Regeneration & Planning Service, Cathcart House, 6 Cathcart Square, Greenock during normal office hours.

I will advise you in due course of the arrangements for the meeting of the Local Review Body.

Regards,
Rona

cc Greenbelt Group Ltd, McCafferty House, 99 Firhill Road, Glasgow G20 7BE

Rona McGhee
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Inverclyde Council

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Review of Decision to Refuse Planning Permission - Erection of 2 24.6m Wind Turbines, Land at Faulds Park, Gourock (Ref: 12/0133/IC). Response to Mr & Mrs R. Gormley's letter of representation, dated 9th October 2012

The proposed development shall make valuable use of an undevelopable embankment to the southern boundary of the Faulds Park Industrial Estate. The turbines will be used to produce a sustainable form of electricity and they will be connected to the National Grid. The proposed development will be environmentally and economically beneficial. Scotland's Finance Minister recently described Inverclyde to be 'very strongly positioned' to be a hub for west coast renewable energy development, a point also highlighted by Iain McKenzie MP. The Faulds Park proposal provides a clear example of a site which has no other beneficial use that can be utilised to produce clean, renewable electricity.

Mr and Mrs Gormley's letter of representation very much centres on the perceived visual impact of the proposed development on the proposed Levan Farm housing development. It would be disingenuous for TGC to state that the turbines would not be noticeable on the landscape and would not have a certain degree of visual impact, all turbines do. However, it is submitted that the visual impact is not of an overly-significant nature and in itself does not warrant a reason for refusal.

As can be seen from viewpoint 10 of the photomontages submitted with the planning application (this viewpoint concerns the proposed residential area at Levan Farm), the blades and upper masts of the turbines are visible above the hill and thick vegetation. From this photomontage it is very clear that an established vertical emphasis has been created by the numerous utility poles in this area, eleven are visible. The reason for refusal concerns the visual impact of the proposed turbines, it is quite clear that they do not appear to be any larger than the existing utility poles when viewed from the proposed Levan Farm residential site. Furthermore, the supporting column of the turbines proposed is an off-white colour as is the colour of the turbine blades. An analysis of different colours of turbine has been carried out to specifically look at the visual appearance of grey, galvanised, white, green, brown and black. It has been concluded that an 'off white' appearance looks the least obtrusive when set in several backgrounds such as a rural, agricultural, farm or domestic setting. This colour helps the turbine blades and support structure blend more easily into the background skyline, which is obvious from the viewpoint 10 photomontage, and as such is proposed for this location. The dark colour of the utility poles means that they are much more visible when viewed from the proposed Levan Farm housing site.

From looking at viewpoints 5 and 6 from the photomontages, one can very clearly recognise the very limited visual impact of the proposed turbines on the established residential area at Levan.

Mr and Mrs Gormley provided the only objection to the planning application and the only letter of representation to the Local Review Body Appeal. There were no consultee objections at either the planning application or LRB stages.

ERECTION OF TWO 24.6m WIND TURBINES:

LAND AT FAULDS PARK, GOUROCK (12/0133/IC)

Suggested conditions should planning permission be granted on review

Conditions:-

1. The permission hereby granted shall endure for a period of 25 years from the commencement of development. At the end of the 25 year period, unless with the express approval in writing of the Planning Authority, the wind turbines, structures and ancillary equipment shall be dismantled and removed from the site, and the ground fully reinstated to its former condition to a depth of no less than one metre below ground surface level or such other means of restoration shall be carried out as may be agreed in writing by the Planning Authority.
2. In the event that the turbines fails to produce any electricity supplied to the grid for a continuous period of twelve months then they shall be deemed to have ceased to be required and, unless agreed in writing with the Planning Authority, the wind turbines and the ancillary equipment directly associated with that wind turbines shall be dismantled and removed from the site, and the ground fully reinstated to the written satisfaction of the Planning Authority, to the specification set out in condition 1.
3. The wind turbines shall be finished in a non-reflective semi-matt finish and should not display any advertising unless otherwise agreed in writing with the Planning Authority. Confirmation of the details of the finish and colour of all externally visible components shall be submitted to and agreed in writing by the Planning Authority prior to the commencement of development.
4. That prior to the start of development, details of a survey for the presence of Japanese Knotweed shall be submitted to and approved in writing by the Planning Authority and that, for the avoidance of doubt, this shall contain a methodology and treatment statement where any is found. Development shall not proceed until treatment is completed as per the methodology and treatment statement. Any variation to the treatment methodologies will require subsequent approval by the Planning Authority prior to development starting on site.
5. That the presence of any previously unrecorded contamination or variation to reported ground conditions that becomes evident during site works shall be brought to the attention of the Planning Authority within one week. Consequential amendments to the Remediation Strategy shall not be implemented unless it has been submitted to and approved, in writing by the Planning Authority.
6. That no fill or landscaping material shall be imported onto the site until written details of the source and intended reuse of the imported materials has been submitted for approval, in writing by the Planning Authority. The report shall characterise the chemical quality (including soil-leachate and organic content etc), volume and source of the imported materials with corresponding cross-sections and plans indicating spatial distribution and depth/thickness of material placement within the development site. The material from the source agreed only shall be imported in strict accordance with these agreed details.

7. The level of noise emissions from the wind turbines when measured at any dwelling, lawfully existing at the date of permission shall not exceed:

- (a) between the hours of 23:00 and 07:00 the greater of 45dB LA90 (10 min) or 5dB(A) above the Night Hours Background Noise level at that property; or
- (b) between the hours of 07:00 and 23:00 the greater of 40dB LA90 ((10 min) or 5 dB(A) above the quiet Waking Hours Day Time Background noise Level at that property.

8. No development shall commence until details of the size and route of vehicles transporting components, the number of delivery and maintenance trips and remediation works to roads and verges have been submitted to and approved in writing by the Planning Authority.

Reasons:-

1. In recognition of the expected lifespan of the wind farm and in the interests of safety and visual amenity once the plant is redundant.
2. To avoid the adverse visual impact arising from a stationary or partly dismantled wind turbine.
3. In the interests of visual amenity and landscape protection.
4. To help arrest the spread of Japanese Knotweed in the interests of environmental protection.
5. To ensure that all contamination issues are recorded and dealt with appropriately.
6. To protect receptors from the harmful effects of imported contamination.
7. To protect the amenities of occupiers of premises from unreasonable noise and vibration levels.
8. In the interests of road safety on Faulds Park Road and the road network within Inverclyde.