North Ayrshire Council
Comhairle Siorrachd Àir a Tuath

# Local Review Body

A Pre-Examination Meeting of the Local Review Body of North Ayrshire Council will be held via Microsoft Teams on **Monday, 05 October 2020** at **14:00** to consider the undernoted business.

**Arrangements in Terms of COVID-19**
In light of the current COVID-19 pandemic, this meeting will be held remotely in accordance with the provisions of the Local Government (Scotland) Act 2003. A recording of the meeting will be available to view at https://north-ayrshire.public-i.tv/core/portal/home

**1 Declarations of Interest**
Members are requested to give notice of any declarations of interest in respect of items of business on the Agenda.

**2 Notice of Review: 19/00882/PP – Sorbie Farm, Ardrossan, Ayrshire KA22 7NP**
Submit report by the Head of Service (Democratic Services) on a Notice of Review submitted by the applicant in respect of a planning application refused by officers under delegated powers (copy enclosed).

**3 Urgent Items**
Any other items which the Chair considers to be urgent.

## Local Review Body Sederunt

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|---|---|
| Tom Marshall (Chair)<br>Timothy Billings (Vice-Chair)<br>Robert Barr<br>Ian Clarkson<br>Robert Foster<br>Christina Larsen<br>Shaun Macaulay<br>Ellen McMaster<br>Ronnie McNicol<br>Donald Reid | Chair:<br><br><br><br><br>Apologies:<br><br><br><br><br>Attending: |

# NORTH AYRSHIRE COUNCIL

**5 October 2020**

**Local Review Body**

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|---|---|
| **Title:** | **Pre-Examination Meeting - Notice of Review: 19/00882/PP – Sorbie Farm, Ardrossan, Ayrshire KA22 7NP** |
| **Purpose:** | To agree the process for determination of a Notice of Review by the Applicant in respect of a planning application refused by officers under delegated powers. |
| **Recommendation:** | That the Local Review Body agree the process for the determination of the Notice of Review. |

## 1. Executive Summary

1.1 The Town and Country Planning (Scotland) Act 1997, as amended by the Planning (Scotland) Act 2006, provides for certain categories of planning application for "local" developments to be determined by appointed officers under delegated powers. Where such an application is refused, granted subject to conditions or not determined within the prescribed period of 2 months, the applicant may submit a Notice of Review to require the Planning Authority to review the case. Notices of Review in relation to refusals must be submitted within 3 months of the date of the Decision Notice.

## 2. Background

2.1 A Notice of Review was submitted in respect of Planning Application 19/00882/PP Section 42 application to vary condition 2 of planning permission 18/01061/PP to enable an increase of the consented wind turbine tip height from 104.3m to 125m at Sorbie Farm, Ardrossan.

2.2 The application was refused by officers for the reasons detailed in the Decision Notice.

2.3 The following related documents are set out in the appendices to the report: -

Appendix 1 - Notice of Review documentation;
Appendix 2 - Report of Handling;
Appendix 3 - Location Plan;
Appendix 4 - Planning Decision Notice; and
Appendix 5 - Further representations from interested parties.

2.4 The Local Review Body at a meeting on 2nd September 2020 agreed to continue the case to a pre-examination meeting to consider the process by which the case should be determined.

## 3. Proposals

3.1 The Local Review Body is invited to note the documents referred to in paragraph 2.3 set out as appendices to the report and to thereafter consider the process by which the case should be determined. It should be noted that the remit of the meeting is limited to a decision on the process to be followed for determination and that the meeting will not determine the merits of the case.

3.2 The applicants have requested that a hearing be convened to assist with determination of the case. Their previous request for a site visit has been withdrawn in view of the coronavirus pandemic.

The Local Review Body will wish to consider:

- Whether any further information is required to assist with the determination of the application;
- Whether a site visit is required (notwithstanding that the applicants have withdrawn their request);
- Whether written submissions are required and if so to decide on:
    - The topics upon which further written submissions are required;
    - The parties from whom further written submissions are sought.
- Whether a hearing is required as requested by the applicants and if so to decide on:
    - The topics for the hearing;
    - The parties required to address the hearing.

3.3 The Local Review Body should adjourn the Pre-Examination meeting and instruct officers to make appropriate arrangements, based on the outcome of their deliberations on the determination process, to enable the case to be determined in accordance with the Town and Country Planning (Schemes of Delegation and Local Review Procedure) (Scotland) Regulations 2013.

## 4. Implications/Socio-economic Duty

**Financial**

4.1 None arising from the recommendation of this report.

**Human Resources**

4.2 None arising from the recommendation of this report.

**Legal**

4.3 The Notice of Review requires to be considered in terms of the Town and Country Planning (Scotland) Act 1997, as amended by the Planning (Scotland) Act 2006, and the Town and Country Planning (Schemes of Delegation and Local Review Procedure) (Scotland) Regulations 2013.

**Equality/Socio-economic**

4.4 None arising from the recommendation of this report.

**Environmental and Sustainability**

4.5 None arising from the recommendation of this report.

**Key Priorities**

4.6 None arising from the recommendation of this report.

**Community Benefits**

4.7 None arising from the recommendation of this report.

## 5. Consultation

5.1 Interested parties (both objectors to the planning application and statutory consultees) were invited to submit representations in terms of the Notice of Review and these are attached at Appendix 5 to the report.

5.2 The applicant has had an opportunity to respond to the further representations.

Craig Hatton
Chief Executive

For further information please contact **Hayley Clancy, Committee Services Officer,** on **01294 324136**.

**Background Papers**
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**Environmental and Sustainability**

4.5 None arising from the recommendation of this report.

**Key Priorities**

4.6 None arising from the recommendation of this report.

**Community Benefits**

4.7 None arising from the recommendation of this report.

## 5. Consultation

5.1 Interested parties (both objectors to the planning application and statutory consultees) were invited to submit representations in terms of the Notice of Review and these are attached at Appendix 5 to the report.

5.2 The applicant has had an opportunity to respond to the further representations.

Craig Hatton
Chief Executive

For further information please contact **Hayley Clancy, Committee Services Officer,** on **01294 324136**.

**Background Papers**
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# NOTICE OF REVIEW

UNDER SECTION 43A(8) OF THE TOWN AND COUNTRY PLANNING (SCOTLAND) ACT 1997 (AS AMENDED) IN RESPECT OF DECISIONS ON LOCAL DEVELOPMENTS

THE TOWN AND COUNTRY PLANNING (SCHEMES OF DELEGATION AND LOCAL REVIEW PROCEDURE) (SCOTLAND) REGULATIONS 2008

THE TOWN AND COUNTRY PLANNING (APPEALS) (SCOTLAND) REGULATIONS 2008

**IMPORTANT: Please read and follow the guidance notes provided when completing this form. Failure to supply all the relevant information could invalidate your notice of review.**

**Use BLOCK CAPITALS if completing in manuscript**

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**Applicant(s)**

Name

Address

Postcode

Contact Telephone 1
Contact Telephone 2
Fax No

E-mail*

**Agent** *(if any)*

Name

Address

Postcode

Contact Telephone 1
Contact Telephone 2
Fax No

E-mail*

Mark this box to confirm all contact should be through this representative: ☐

* Do you agree to correspondence regarding your review being sent by e-mail? Yes ☒ No ☐

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| | |
|---|---|
| Planning authority | North Ayrshire Council |
| Planning authority's application reference number | 19/00882/PP |
| Site address | Sorbie Farm, Ardrossan, KA22 7NP |
| Description of proposed development | Section 42 application to vary condition 2 of planning permission 18/01061/PP to enable an increase of the consented wind turbine tip height from 104.3m to 125m |

Date of application 27/11/19 Date of decision (if any) 05/02/2020

Note: This notice must be served on the planning authority within three months of the date of the decision notice or from the date of expiry of the period allowed for determining the application.

**Nature of application**

1. Application for planning permission (including householder application) ☐
2. Application for planning permission in principle ☐
3. Further application (including development that has not yet commenced and where a time limit has been imposed; renewal of planning permission; and/or modification, variation or removal of a planning condition) ☒
4. Application for approval of matters specified in conditions ☐

**Reasons for seeking review**

1. Refusal of application by appointed officer ☒
2. Failure by appointed officer to determine the application within the period allowed for determination of the application ☐
3. Conditions imposed on consent by appointed officer ☐

**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.

Please indicate what procedure (or combination of procedures) you think is most appropriate for the handling of your review. You may tick more than one box if you wish the review to be conducted by a combination of procedures.

1. Further written submissions ☐
2. One or more hearing sessions ☒
3. Site inspection ☒
4 Assessment of review documents only, with no further procedure ☒

If you have marked box 1 or 2, please explain here which of the matters (as set out in your statement below) you believe ought to be subject of that procedure, and why you consider further submissions or a hearing are necessary:

Wind farm applications by their nature tend to raise complex and technical specialist issues relating to planning policy, potential effects and potential benefits. A hearing session would allow for a discussion and more exploration around some of these issues. A site visit would allow Members to understand the landscape and visual effects in context.

**Site inspection**

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

| | Yes | No |
|---|---|---|
| 1. Can the site be viewed entirely from public land? | ☐ | ☒ |
| 2 Is it possible for the site to be accessed safely, and without barriers to entry? | ☒ | ☐ |

If there are reasons why you think the Local Review Body would be unable to undertake an unaccompanied site inspection, please explain here:

| |
|---|
| If Members intend to visit Sorbie Farm then we would request details to notify the landowner |

**Statement**

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. Note: 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.

If the Local Review Body issues a notice requesting further information from any other person or body, you will have a period of 14 days in which to comment on any additional matter which has been raised by that person or body.

State here the reasons for your notice of review and all matters you wish to raise. If necessary, this can be continued or provided in full in a separate document. You may also submit additional documentation with this form.

Please see separate document 'Sorbie Wind Farm_Review Statement (Feb 20)'

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

Yes ☐ No ☒

If yes, you should explain in the box below, why you are raising new material, why it was not raised with the appointed officer before your application was determined and why you consider it should now be considered in your review.

**List of documents and evidence**

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.

The following figures and documents were submitted with the planning application:

- Application Forms
- Covering Letter (19/11/19)
- Planning Statement
- Comparative Environmental Report (Nov 19)
- Comparative Environmental Report LVIA Annexes
- Figure 1.1 Rev A Location Plan
- Figure 1.2 Turbine Elevation
- Figure 1.3 Site Layout
- Figure 1.4 Rev A Woodland Planting Proposals

The following figures and documents are relevant to the planning history of the site:

- 18/01061/PP Decision Notice
- 13/00627/PP DPEA Intentions Letter and Report
- 13/00627/PP Decision Letter from DPEA

Note: The planning authority will make a copy of the notice of review, the review documents and any notice of the procedure of the review available for inspection at an office of the planning authority until such time as the review is determined. It may also be available on the planning authority website.

**Checklist**

Please mark the appropriate boxes to confirm you have provided all supporting documents and evidence relevant to your review:

☒ Full completion of all parts of this form

☒ Statement of your reasons for requiring a review

☒ All documents, materials and evidence which you intend to rely on (e.g. plans and drawings or other documents) which are now the subject of this review.

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 from that earlier consent.

**Declaration**

**I the applicant/agent [delete as appropriate] hereby serve notice on the planning authority to review the application as set out on this form and in the supporting documents.**

Signed Date

Energiekontor – 4330 Park Approach – Thorpe Park – Leeds – LS15 8GB

**Energiekontor UK Ltd**

North Ayrshire Council
Cunningham House
Irvine
Scotland
KA12 8EE

**FAO Anthony Hume**

**19 November 2019**

Our reference:

Dear Sirs

**Submission of a Planning Application by Energiekontor UK Ltd under Section 42 of the Town and Country Planning (Scotland) Act 1997 to Vary Condition 2 of Planning Permission 18/01061/PP**
**At Sorbie Farm, North of Ardrossan, KA22 7NP**

On behalf of Energiekontor UK Ltd I hereby enclose a planning application made under Section 42 of the Town and Country Planning (Scotland) Act 1997 relating to the approved Sorbie Wind Farm (Council reference 18/01061/PP). The application is being submitted online via the ePlanning Portal (reference: 100204248-001) and consists of:

- Application forms;
- Planning Statement
- Comparative Environmental Report
- Comparative Environmental Report: LVIA Annexes
- The following plans and drawings:

    - Figure 1.1 Location Plan
    - Figure 1.2 Turbine Elevation
    - Figure 1.3 Site Layout
    - Figure 1.4 Woodland Planting Proposals

An electronic copy of the application will be also be provided in the post due to the large file size of certain documents.

**Application Fee**

This planning application follows a previously refused proposal (reference: 19/00306/PP) to increase the wind turbine tip heights at Sorbie Wind Farm. As this is the first such resubmission following this refusal it benefits from a "free go", and as such no application fee is payable.

**The Planning Application**

The planning application seeks to vary the consented Sorbie Wind Farm permission to achieve the following amendments:

- Increase the turbine tip heights from 104.3m to 125m;
- Varying the internal track layout;
- Identification of an area that could be utilised for energy storage in the future, should the technology become commercially available within the operational lifetime of the wind farm. A separate planning application would be submitted in the future to seek detailed consent for the energy storage facility;
- Introduction of new woodland planting on the southern boundary of the Site; and
- Deletion of the approved 65m high permanent anemometer mast.

The application is made under Section 42 of the Town and Country Planning (Scotland) Act 1997 and seeks to achieve this tip height increase by varying condition 2 of planning permission 18/01061/PP. Condition 2 currently reads:

> *"That, for the avoidance of doubt, all other conditions as set out in Appendix 1 attached to the decision letter of The Scottish Government (ref. AIR-NAY-001) dated 30th November 2015 shall continue to have effect."*

It is proposed to vary condition 2 to read:

> *"That, for the avoidance of doubt, all other conditions as set out in Appendix 1 attached to the decision letter of The Scottish Government (ref. AIR-NAY-001) dated 30th November 2015 shall continue to have effect except for conditions 4 and 7 which shall be amended to read:*
>
> *4. That the turbines shall be erected and the site roads constructed in the locations identified on drawing Figure 1.3 Site Layout, save for the ability to vary these locations by 30m. Any movement greater than 30m would require the written approval of North Ayrshire Council as Planning*

*Authority. Before the turbine bases are concreted, the precise position of the turbines shall be notified to, and approved in writing by, North Ayrshire Council as Planning Authority.*

*7. That no turbines will be erected until details of the model, height, colour and finish of the turbines and of any external transformers, have been submitted to, and approved in writing by, the planning authority. The turbines shall not be illuminated and shall not carry any symbols, logos or other lettering except where required under other legislation. For the avoidance of doubt, the height of the wind turbines to blade tip shall not exceed 125 metres. The development shall be carried out thereafter in accordance with the approved details, unless any changes are subsequently agreed in writing by North Ayrshire Council as Planning Authority."*

Figure 1.2 included with this planning application provides illustrative elevation details of the turbine model now proposed. Figure 1.3 illustrates the proposed wind farm layout, including the identification of an area for energy storage and new planting areas.

**Context and Addressing the Previous Reason for Refusal**

The planning application follows a previous refusal at Sorbie Wind Farm to vary the turbine tip heights to 125m. This application was refused by the Council in 2019 for the following reason:

*"The proposal would be contrary to the provisions of Local Development Plan Policy PI 9 criterion (a) and (d) and the General Policy of the adopted North Ayrshire Council Local Development Plan in the following ways: It is considered that the degree of change from 104.3m blade tip to 125m blade tip would be substantial and adverse in terms of landscape and visual impacts, especially given the locational context of the site within 2km to the north of the settlement of Ardrossan and in close proximity to the North Ayrshire Lowlands Landscape Character Type, being a landscape of smaller scale. Such a substantial increase in scale would contrast markedly with the turbine design approved in the previous consents, would overwhelm those parts of the North Ayrshire Lowlands Landscape Character Type close to the site and would have an adverse effect on the rural setting of Ardrossan Windfarm, resulting in conflict with the recommendations contained in the Council's Landscape Wind Capacity Study of 2018, all of which would adversely affect landscape character and visual amenity in the locality."*

Changes have been made to this application to address this reason for refusal, including:

- Varying the internal track layout would save 1.24km of new track from being constructed. This equates to 1,860m$^3$ less aggregate being required to build the wind farm, which improves its overall carbon balance.
- Identification of an area that could be utilised for energy storage in the future, should the technology become commercially available within the operational lifetime of the wind farm. This improves the overall renewable energy benefits of the wind farm.
- Introduction of new woodland planting on the southern boundary of the Site. This will serve to screen views towards the turbines from the closest viewpoints adjacent to the Site, namely views northwards from the A78 which are currently open in the direction of Sorbie Farm.
- Deletion of the approved 65m tall permanent anemometer mast from the development. This would reduce the visual effects of the wind farm development.

A Planning Statement has been prepared to accompany the application. This sets out a range of new supporting information, for example information on the commercial availability of 100m turbines (see Table 1.1), and information on the comparative heights of Sorbie and Ardrossan Wind Farms (see Figures 3.1 and 3.2). The Planning Statement also highlights that the planning policy context for this planning application has changed following the previous refusal. In particular there is a new planning policy within LDP2 for considering wind energy proposals (Policy 29), which is much more supportive and balanced than the policy in the previous LDP (Policy PI 9). The new policy also sets out a different approach to the use of landscape capacity studies, with proposals no longer required to "comply" with such studies. This is important because the landscape capacity study was a principal consideration in the refusal of the previous application.

Taken together these factors are sufficient to warrant a further consideration of larger turbines at Sorbie Wind Farm.

**Next Steps**

We trust that this information is satisfactory and the application can be validated. If however you require any additional information or there is anything you want to discuss then please do not hesitate to contact me.

Energiekontor UK

North Ayrshire Council
Comhairle Siorrachd Àir a Tuath

Cunninghame House Friars Croft Irvine KA12 8EE Tel: 01294 324 319 Fax: 01294 324 372 Email: eplanning@north-ayrshire.gov.uk

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

Thank you for completing this application form:

ONLINE REFERENCE 100204248-001

The online reference 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: *

☐ 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.

Please give the application reference no. of the previous application and date when permission was granted.

| | |
|---|---|
| Application Reference No: * | 18/01061/PP |
| Date (dd/mm/yyyy): * | 11/01/2019 |

## Description of Proposal

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

Submission of a Planning Application by Energiekontor UK Ltd under Section 42 of the Town and Country Planning (Scotland) Act 1997 to Vary Condition 2 of Planning Permission 18/01061/PP

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

Has the work already been started and/or completed? *

☐ No ☒ Yes – Started ☐ Yes - Completed

Please state date of completion, or if not completed, the start date (dd/mm/yyyy): * 01/11/2018

Please explain why work has taken place in advance of making this application: * (Max 500 characters)

Works have been undertaken to implement the planning permission

## 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

## Applicant Details

Please enter Applicant details

| | | | |
|---|---|---|---|
| Title: | Mr | You must enter a Building Name or Number, or both: * | |
| Other Title: | | Building Name: | |
| First Name: * | Michael | Building Number: | [redacted] |
| Last Name: * | Briggs | Address 1 (Street): * | [redacted] |
| Company/Organisation | [redacted] | Address 2: | [redacted] |
| Telephone Number: * | [redacted] | Town/City: * | [redacted] |
| Extension Number: | | Country: * | [redacted] |
| Mobile Number: | | Postcode: * | [redacted] |
| Fax Number: | | | |
| Email Address: * | [redacted] | | |

## Site Address Details

Planning Authority: North Ayrshire Council

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

Address 1: SORBIE FARM

Address 2:

Address 3:

Address 4:

Address 5:

Town/City/Settlement: ARDROSSAN

Post Code: KA22 7NP

Please identify/describe the location of the site or sites

Northing 644638 Easting 224637

## Pre-Application Discussion

Have you discussed your proposal with the planning authority? * ☒ Yes ☐ No

## Pre-Application Discussion Details Cont.

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)

Discussion around requirements for a further application

Title: Mr Other title:

First Name: Anthony Last Name: Hume

Correspondence Reference Number: Date (dd/mm/yyyy): 25/10/2019

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: 218.74

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)

Sorbie dairy farm

## Access and Parking

Are you proposing a new 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 change to public paths. public rights of way or affecting any public right 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. cycles 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.

## 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 2013 * ☒ 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 – TOWN AND COUNTRY PLANNING (DEVELOPMENT MANAGEMENT PROCEDURE) (SCOTLAND) REGULATION 2013

One Certificate must be completed and submitted along with the 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

Do you have any agricultural tenants? * ☐ Yes ☒ No

Are you able to identify and give appropriate notice to ALL the other owners? * ☒ Yes ☐ No

## Certificate Required

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

Certificate B

# Land Ownership Certificate

Certificate and Notice under Regulation 15 of the Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013

I hereby certify that

(1) - No person other than myself/the applicant was an owner [Note 4] 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:

or –

(1) - I have/The Applicant has served notice on every person other than myself/the applicant who, at the beginning of the period of 21 days ending with the date of the accompanying application was owner [Note 4] of any part of the land to which the application relates.

Name: Mr Alan Hogarth

Address: Sorbie Farm, Sorbie Road, Ardrossan, KA22 7NP

Date of Service of Notice: * 19/11/2019

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

or –

(2) - The land or part of the land to which the application relates constitutes or forms part of an agricultural holding and I have/the applicant has served notice on every person other than myself/himself who, at the beginning of the period of 21 days ending with the date of the accompanying application was an agricultural tenant. These persons are:

Name:

Address:

Date of Service of Notice: *

Signed: Mr Michael Briggs

On behalf of:

Date: 19/11/2019

☒ Please tick here to certify this Certificate. *

# Checklist – Application for Planning Permission

Town and Country Planning (Scotland) Act 1997

The Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013

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 or planning permission in principal where there is a crown interest in the land. have you provided a statement to that effect? *

☐ Yes ☐ No ☒ Not applicable to this application

c) 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 development (other than one under Section 42 of the planning Act). have you provided a Pre-Application Consultation Report? *

☐ Yes ☐ No ☒ Not applicable to this application

Town and Country Planning (Scotland) Act 1997

The Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013

d) 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 2013. have you provided a Design and Access Statement? *

☐ Yes ☐ No ☒ Not applicable to this application

e) 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 2013) have you provided a Design Statement? *

☐ Yes ☐ No ☒ Not applicable to this application

f) 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

g) 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.

If Other. please specify: * (Max 500 characters)

Provide copies of the following documents if applicable:

| | | |
|---|---|---|
| A copy of an Environmental Statement. * | ☐ Yes | ☒ N/A |
| A Design Statement or Design and Access Statement. * | ☐ Yes | ☒ N/A |
| A Flood Risk Assessment. * | ☐ Yes | ☒ N/A |
| A Drainage Impact Assessment (including proposals for Sustainable Drainage Systems). * | ☐ Yes | ☒ N/A |
| Drainage/SUDS layout. * | ☐ Yes | ☒ N/A |
| A Transport Assessment or Travel Plan | ☐ Yes | ☒ N/A |
| Contaminated Land Assessment. * | ☐ Yes | ☒ N/A |
| Habitat Survey. * | ☐ Yes | ☒ N/A |
| A Processing Agreement. * | ☐ Yes | ☒ 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: Mr Michael Briggs

Declaration Date: 19/11/2019

# Sorbie Wind Farm

## Section 42 Application to Vary Tip Height from 104.3M to 125M

## Planning Statement

November 2019

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# EXECUTIVE SUMMARY

*This Planning Statement has been prepared to support a planning application by Energiekontor UK Ltd ("the Applicant") to vary the consented Sorbie Wind Farm by increasing the tip heights of the wind turbines from 104.3m to 125m, amending the internal track layout, identifying and area for battery storage, providing additional new woodland planting and deleting the 65m high permanent met mast ("the Proposed Development") at Sorbie Farm, Ardrossan ("the Site").*

*Sorbie Wind Farm was previously approved by the Local Review Body (LRB) in 2014 due to non-determination, a decision that was subsequently ratified by Scottish Ministers in November 2015. The wind farm has not been constructed as it is no longer viable.*

*Since Sorbie was designed in 2013 there have been a number of significant changes to the onshore wind market, not least due to the complete removal of public subsidies in the UK. As a result, only one project has been delivered with no public subsidy in the UK (an Energiekontor project in the East Riding of Yorkshire), and despite the abundance of permissions for large schemes in Scotland, nothing has been delivered subsidy-free in the country to date.*

*Due to the site-specific conditions at Sorbie we will be able to deliver Sorbie as a subsidy-free project if we are able to use 125m modern turbines. These would generate an additional 87% of renewable energy compared to the original turbines (which incidentally are no longer available on the market) despite being just 19.8% taller. Sorbie could be the first subsidy-free wind farm in Scotland, providing a positive response from the wind industry to North Ayrshire Council's climate emergency declaration.*

*The scale of the threat we face through climate change is widely acknowledged by governments across the world. The Scottish Government has recently taken the decision to declare a climate emergency, citing the need for the world to act now and deliver transformative change. Everyone has a role to play in this global climate emergency, including businesses and local authorities. Extremely challenging targets have been set for decarbonising the economy: net zero emissions for Scotland by 2045, the most stringent target anywhere the world. A significant step change in delivery of renewables is required to meet these targets.*

*When the landscape and visual effects that the Proposed Development would give rise to, over and above those of the consented 104.3m turbines, are considered it is clear that the Proposed Development is in accordance with the Development Plan and that planning permission should be granted.*

# 1 INTRODUCTION

## Background

1.1 This Planning Statement has been prepared to support a planning application by Energiekontor UK Ltd ("the Applicant") to vary the existing

1.2 This Planning Statement sets out the background and context to the Proposed Development before discussing the planning policy context that is relevant to the proposal.

1.3 This planning application follows a previous refusal at the Site for an application to vary the turbine tip heights to 125m (reference 19/00306/PP). This application was refused by the Council in 2019 for the following reason:

> *"The proposal would be contrary to the provisions of Local Development Plan Policy PI 9 criterion (a) and (d) and the General Policy of the adopted North Ayrshire Council Local Development Plan in the following ways: It is considered that the degree of change from 104.3m blade tip to 125m blade tip would be substantial and adverse in terms of landscape and visual impacts, especially given the locational context of the site within 2km to the north of the settlement of Ardrossan and in close proximity to the North Ayrshire Lowlands Landscape Character Type, being a landscape of smaller scale. Such a substantial increase in scale would contrast markedly with the turbine design approved in the previous consents, would overwhelm those parts of the North Ayrshire Lowlands Landscape Character Type close to the site and would have an adverse effect on the rural setting of Ardrossan. This contrast would also be unfavourable against the design of the nearby Ardrossan Windfarm, resulting in conflict with the recommendations contained in the Council's Landscape Wind Capacity Study of 2018, all of which would adversely affect landscape character and visual amenity in the locality."*

1.4 This planning application seeks to address this reason for refusal.

## The Applicant

1.5 Energiekontor UK Ltd is a renewable energy development company with offices in Glasgow, Edinburgh and Leeds. The company was formed in 1999 and develops onshore wind and solar farms throughout the UK. We have eight operational sites in the UK with permissions in place for a further six wind farms, four of which are in Scotland. We are a complete service company who identifies potential wind farm sites and promotes them through the planning process. If permission is obtained, we manage the finance and construction processes before operating our sites for their full 25-year life cycles. We have an operations team in Glasgow who are responsible for operating and maintaining our sites in Scotland.

1.6 In 2018 we became the first developer to finance and construct a wind farm in the UK without any government subsidies or support mechanisms in place. Previously, onshore wind farms had access to a number of government initiatives to encourage renewable

energy deployment. The last UK program for onshore wind farms above 5MW (Contracts for Difference) was closed to new applicants in 2015. Since this time Energiekontor has endeavoured to find a "route to market" for onshore wind projects so that permitted developments can be realised. This first subsidy-free wind farm is located in England and we are also aiming to deliver the first subsidy-free wind farm in Scotland, which we hope will be Sorbie Wind Farm. However, we cannot do this based on the consented turbine tip heights as the scheme is not economically viable.

## The Site, Proposed Development and Context

### *The Site and its Surroundings*

1.7 Sorbie Wind Farm is approximately 1.5km to the north of Ardrossan. The Site is currently used for grazing cattle for Sorbie Dairy Farm and consists of a number of agricultural fields. The gradient of the land gently slopes from south to north with the highest point being approximately 157m Above Ordnance Datum (AOD) and the lowest point being approximately 75m AOD. There are a number of watercourses, patches of trees, a disused quarry, properties and buildings located within the Site. To the west of the Site is the B780 whilst to the north, east and south are agricultural field hedgerow boundaries. The Site is located within the Haupland Muir landscape character area as defined in the North Ayrshire Landscape Wind Capacity Study.

### *Description of Proposed Development*

1.8 This Proposed Development seeks to vary the consented Sorbie Wind Farm to achieve the following amendments:

- Increase of the turbine tip heights from 104.3m to 125m;
- Varying the internal track layout to save 1.24km of new track from being constructed;
- Identification of an area that could be utilised for energy storage in the future, should the technology become commercially available within the operational lifetime of the wind farm. A separate planning application would be submitted in the future to seek detailed consent for the energy storage facility;
- Introduction of new woodland planting on the Site; and
- Deletion of the approved 65m high permanent anemometer mast from the development.

1.9 It is proposed to achieve these variations through the use of Section 42 of the Town and Council Planning Act (Scotland) 1997 to amend planning condition 2 of permission 18/01061/PP from:

> *"That, for the avoidance of doubt, all other conditions as set out in Appendix 1 attached to the decision letter of The Scottish Government (ref. AIR-NAY-001) dated 30th November 2015 shall continue to have effect."*

To read:

> *"That, for the avoidance of doubt, all other conditions as set out in Appendix 1 attached to the decision letter of The Scottish Government (ref. AIR-NAY-*

*001) dated 30th November 2015 shall continue to have effect except for conditions 4 and 7 which shall be amended to read:*

*4. That the turbines shall be erected and the site roads constructed in the locations identified on drawing Figure 1.3 Site Layout, save for the ability to vary these locations by 30m. Any movement greater than 30m would require the written approval of North Ayrshire Council as Planning Authority. Before the turbine bases are concreted, the precise position of the turbines shall be notified to, and approved in writing by, North Ayrshire Council as Planning Authority.*

*7. That no turbines will be erected until details of the model, height, colour and finish of the turbines and of any external transformers, have been submitted to, and approved in writing by, the planning authority. The turbines shall not be illuminated and shall not carry any symbols, logos or other lettering except where required under other legislation. For the avoidance of doubt, the height of the wind turbines to blade tip shall not exceed 125 metres. The development shall be carried out thereafter in accordance with the approved details, unless any changes are subsequently agreed in writing by North Ayrshire Council as Planning Authority."*

## Context

1.10 Sorbie Wind Farm was previously approved by the Local Review Body (LRB) in 2014 due to non-determination (reference 13/00627/PP and 14/00001/LRB), a decision that was subsequently ratified by Scottish Ministers in November 2015. The wind farm has not been constructed.

1.11 The original planning application for Sorbie Wind Farm was submitted to the Council in October 2013 at a time when public subsidies were still in place for onshore wind development. The tip heights originally applied for (104.3m) reflect this as, with subsidies in place, it was possible to realise viable wind projects at this height. That is reflected in a wind farm developments across North Ayrshire, a number of which have tip heights at ~100m (e.g. Ardrossan Wind Farm) and have been operational for a number of years.

1.12 Since Sorbie was designed in 2013 there have been a number of significant changes to the onshore wind market, not least due to the complete removal of public subsidies in the UK and gradual withdrawal of subsidy elsewhere in Europe. In the UK potential revenues for wind development have more than halved as a result; a change which has sent shockwaves through the industry and led to some significant adjustments in the way that developments are approached.

1.13 The most significant changes have been led by the turbine manufacturing industry, which in response to falling revenues have sought to push design envelopes further to allow individual turbines to generate more energy through the use of larger rotor diameters and higher tip heights. The rotor diameter is particularly important because it is the part of the turbine that captures the wind energy, so the larger the rotor, the more energy it can capture. Increased tip heights are required to accommodate larger diameters, and taller tip heights have the added benefit of enabling increased wind speeds at higher elevations to be captured.

1.14 Table 1.1 below illustrates the availability of turbines from the major manufacturers that would fit within the consented turbine envelope. As the table shows, the turbines from the major manufacturers that would have fit within the consented turbine envelope in 2015 are no longer available for purchase.

Table 1.1 Turbine model availability within consented envelope

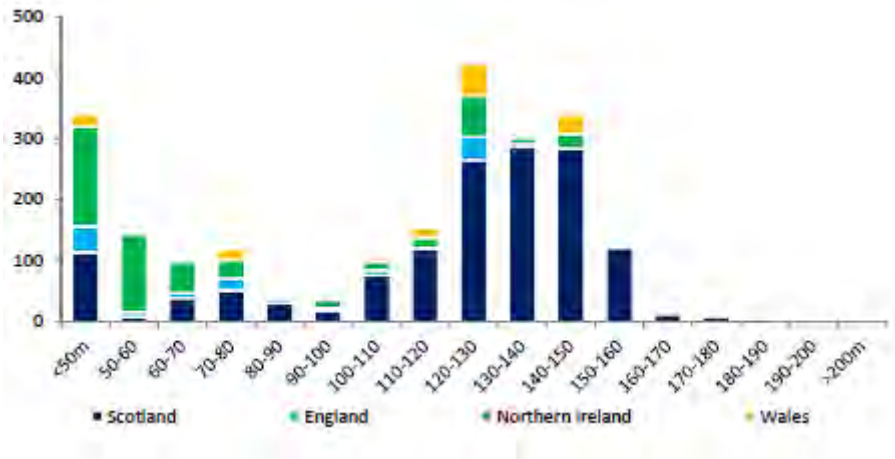
| Turbine Model | Rotor Diameter | Tip Height | Capacity | Availability |
|---|---|---|---|---|
| Vestas V80 | 80m | 100m | 2.5MW | Not available, see manufacturer website. |
| Nordex N80 | 80m | 100m | 2MW | Not available, see manufacturer website. |
| Senvion MM82 | 82m | 100m | 2.05MW | Not available, manufacturer has entered administration. |
| Enercon E82 | 82m | 100m | 2.35/3MW | Not available, see correspondence with manufacturer at Appendix B. |

1.15 Growing turbine sizes has helped lower the cost of wind energy to the point where it can be economically competitive with fossil-fuel alternatives in some locations, but individual schemes require the right combination of turbine scale, wind speed and other infrastructure costs to ultimately be delivered. The overall deployment picture in the UK however is stark: since 2015 only one project has been delivered with no public subsidy in the UK, and despite the abundance of permissions for large schemes in Scotland, nothing has been delivered subsidy-free in the country to date.

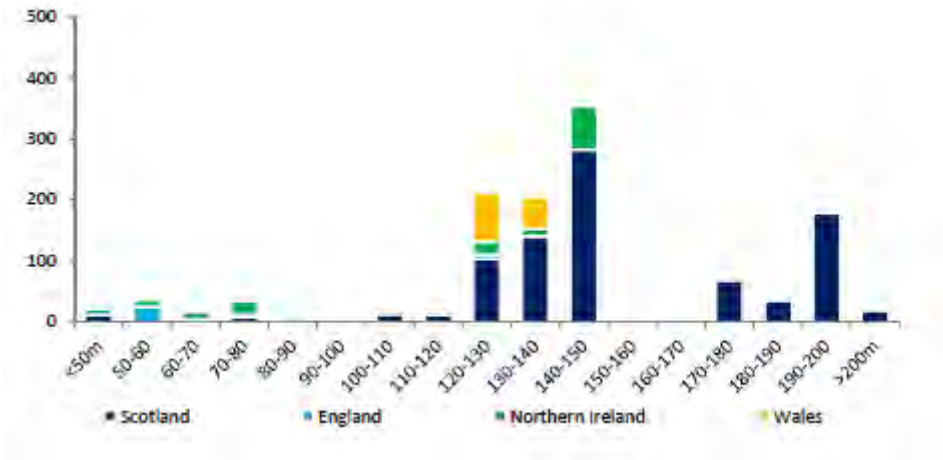
1.16 Energiekontor is aiming to take things further and position our wind projects to be the cheapest form of all energy available, which means being able to deliver projects at a cost that is lower than nuclear, coal and gas. We have a team dedicated to efficiency savings as part of this drive and every member of staff is actively involved in seeking to reduce the cost of developing wind and increasing energy output across a wide variety of initiatives. If we can be successful in our goal then the results will be transformative for the energy market in the UK; driving down consumer bills and accelerating progress towards net zero emissions. After all, if onshore wind is the cheapest form of energy, why would consumers choose more expensive fossil fuels?

1.17 Since subsidies were removed in the UK it is rare to see a project being promoted in Scotland with tip heights below 150m, which is rapidly becoming the new 'normal' for wind developments (that being the maximum height permitted before visible aviation lights are statutorily required to be installed on the turbine nacelle). Indeed, several projects are now being promoted with tip heights in excess of 200m, with support from stakeholders in the right locations (see Graphs 1.1 and 1.2 below which show either the consented maximum turbine height for onshore projects or the tip heights of application sites).

Graph 1.1 Tip heights of consented onshore wind projects (number of turbines)




Graph 1.2 Tip heights of onshore wind projects in planning (number of turbines)




1.18 At Sorbie, whilst we would of course like to use the latest turbine technology available and deliver a 150m+ development, that is not what is needed to make the project cost-competitive with fossil fuel alternatives. Due to the site-specific conditions at Sorbie, in particular the high wind speeds and relatively low infrastructure costs, we will be able to deliver Sorbie as a subsidy-free project if we are able to use 125m modern turbines. The 125m turbines that we are seeking consent for, as summarised in the table below, would generate an additional 87% of renewable energy compared to the original turbines (which in any event are no longer available on the market) despite being just 19.8% taller. This nearly doubling of renewable energy output is a disproportionate benefit compared to the modest increase in size.

Table 1.2 Summary of changes due to Proposed Development

| Characteristic | Original Sorbie Wind Farm | Proposed Development |
|---|---|---|
| Number of turbines | 3 | 3 |
| Turbine capacity | 2.05MW | 4MW |
| Rotor diameter | 82m | 115m |
| Hub height | 63.3m | 67.5m |
| Tip height | 104.3m | 125m |
| Blades | 3 | 3 |
| Turbine colour | Light grey | Light grey |
| Turbine foundations | Approximately 18m width on a square base | Approximately 18m width on a square base |
| Approximate Annual Energy Yield (approx.) | 23 GWh | 43 GWh |
| Homes Powered[1] (approx.) | 5,900 homes | 11,050 homes |
| Annual CO2 savings[2] (approx.) | 55,500 tonnes | 100,000 tonnes |
| Total length of new access track to be constructed | 2.14 km | 0.9 km |
| Aggregate required to construct access tracks | 3,210 $m^3$ | 1,350 $m^3$ |
| Area of new woodland planting | 0 ha | 1.1 ha |
| Energy storage area identified | No | Yes |
| Permanent anemometer mast included | Yes | No |

1.19 The Proposed Development includes proposed amendments to the internal wind farm track layout which are being sought as part of a drive to further optimise the wind farm and reduce unnecessary carbon expenditure. The new proposed layout would result in a saving of 1.24km of new track as compared to the consented layout, meaning that 1,860$m^3$ of aggregate would be saved from the total amount required to construct the tracks.

1.20 The Proposed Development includes the identification of an area within the construction compound that could be utilised for energy storage in the future, should the technology become commercially viable within the operational lifetime of the wind farm. A separate planning application would be submitted in the future to seek detailed consent for the storage facility.

1.21 The tip height extension would allow Sorbie Wind Farm to power 11,050 homes with renewable energy, which is roughly equivalent to every home in Saltcoats and Ardrossan.

[1] Based on an average annual UK domestic electricity consumption figure of 3,889 KWh as set out in the BEIS publication "Energy Consumption in the UK" (2017)

[2] Based on BEIS's standard carbon dioxide savings figure of 430g/KWh

That represents an increase of 5,150 homes as compared to the original Sorbie Wind Farm; an increase which is roughly equivalent to all the homes in Saltcoats. In addition, the Proposed Development would save an additional 44,500 tonnes of CO2 emissions every year as compared to the consented wind farm, meaning 100,000 tonnes of CO2 could be saved annually by the wind farm. When compared to the annual CO2 emissions for the whole of North Ayrshire, which in 2018 was 864,600 tonnes, Sorbie Wind Farm alone could reduce net emissions in North Ayrshire by 12%. Against the context of the global climate change emergency, these benefits are significant, weigh heavily in favour of the Proposed Development and should not be overlooked.

## Structure of this Planning Statement

1.22 This Review Statement is structured as follows:

- Section 2 provides a summary of the policy context that is relevant to the Proposed Development, including planning policy and renewable energy policy; and
- Section 3 identifies and discusses the principal planning issues before drawing together overall conclusions.

# 2 POLICY CONTEXT

## Introduction

2.1 This section sets out the planning policy context that is relevant to the Proposed Development. It covers local and national planning policy together with other material considerations.

## Development Plan

2.2 The current statutory Development Plan for the purposes of Section 25 of the Town and Country Planning (Scotland) Act 1997 consists of the North Ayrshire Council Local Development Plan (May 2014) (LDP).

2.3 The policy of most direct relevance to the Proposed Development is Policy PI 9: Renewable Energy. This policy states:

> *"Proposals for the development of wind turbines, wind farms, biomass, solar powered, thermal, wave or run-of-river renewable energy development, or microrenewables, shall accord with the LDP subject to the proposal satisfying the following criteria:*
>
> *a) The development is appropriate in design and scale to its surroundings; AND*
> *b) It can be demonstrated that there is no unacceptable adverse impact on the intrinsic landscape qualities of the area (especially for areas with a specific landscape designation, and coastal areas); AND*
> *c) In the case of individual wind turbine or wind farm development, that the proposed development is not in an area designated as "high sensitivity" in the "Landscape Capacity Study for Wind farm Development in North Ayrshire"; AND*
> *d) The proposal shall not result in unacceptable intrusion, or have an unacceptable adverse effect on the natural, built, cultural or historic heritage of the locality; AND*
> *e) It can be demonstrated that there are no unacceptable adverse impacts on the operation of tourism or recreation interests; AND*
> *f) It can be demonstrated that any unacceptable adverse effects on telecommunications, transmitting, receiving, or radar systems for civil broadcasting, aviation or defence interests can be effectively overcome; AND*
> *g) The proposal can be satisfactorily connected to the national grid without causing any unacceptable negative environmental impacts; AND*
> *h) When considered in association with existing sites, sites formally engaged in the Environmental Assessment process or sites with planning permission, including those in neighbouring authorities, there are no unacceptable impacts due to the cumulative impact of development proposals; AND*
> *i) In the case of individual wind turbine and wind farm development, that the proposal satisfies the contents of the Ayrshire supplementary Guidance: Wind Farm Development (October 2009); AND*
> *j) Where appropriate, applicants will be required to demonstrate consideration of co-location with significant electricity or heat users.*

*The Council will require that any redundant apparatus will be removed within 6 months of it becoming non-operational and that the site will be restored, unless it can be demonstrated that said apparatus will return to productive use within a reasonable timeframe."*

2.4 The LDP was adopted in May 2014 and prior to the approval of the most recent Scottish Planning Policy (June 2014).

2.5 The Council is in the process of preparing a new LDP for adoption. It published its proposed LDP2 for Examination in April 2018, and in July 2019 Scottish Ministers issued their Examination Report on the proposed plan. More recently in September 2019 the Council's Local Development Plan Committee approved certain modifications to LDP2 and agreed to submit the Plan to Scottish Ministers for adoption. Final adoption of LDP2 is likely to take place before the end of 2019, meaning that it will constitute the statutory Development Plan when this planning application is determined by the Council. The planning policy context of this planning application is therefore different to the previous application for 125m at Sorbie Wind Farm.

2.6 LDP2 includes a new policy which sets out how the Council will consider wind development, *Policy 29 Energy Infrastructure Development*, which states:

*"We will support development proposals for energy infrastructure development, including wind, solar, tidal, cropping and other renewable sources, where they will contribute positively to our transition to a low carbon economy and have no unacceptable adverse environmental impacts, taking into consideration (including cumulatively) the following:*

*Environmental*

- *Communities and individual dwellings – including visual impact, residential amenity, noise and shadow flicker;*
- *Water quality;*
- *Landscape – including avoiding unacceptable adverse impacts on our landscape designations;*
- *Effects on the natural heritage – including birds;*
- *Carbon rich soils including peat;*
- *Impacts on the historic environment – including scheduled monuments, listed buildings and their settings.*

*Community*

- *Establishing the use of the site for energy infrastructure development;*
- *Providing a net economic impact – including socio-economic benefits such as employment, associated business and supply chain opportunities;*
- *Scale of contribution to renewable energy generation targets;*
- *Public access – including impact on long distance walking and cycling routes and scenic routes identified in the National Planning Framework;*
- *Impacts on tourism and recreation;*
- *Specific locational opportunities for energy storage/generation.*

*Public Safety*

- *Greenhouse gas emissions;*

- *Aviation and defence interests and seismological recording;*
- *Telecommunications and broadcasting installations – particularly ensuring that transmission links are not compromised; radio telemetry interference and below ground assets;*
- *Road traffic and adjacent trunk roads;*
- *Effects on hydrology, the water environment and flood risk including drinking water quality and quantity (to both the public and private water supplies);*
- *Decommissioning of developments – including ancillary infrastructure, and site restoration and aftercare.*

*Proposals should include redundancy plans which will demonstrate how apparatus will be timeously removed as reasonably soon as the approved scheme ceases operation. There may be a requirement for financial bonds to ensure that decommissioning can be achieved. Taking into consideration the above, proposals for wind turbine developments should accord with the Spatial Framework (as mapped) and consider the current Landscape Capacity Study for Wind Farm Development in North Ayrshire. This study will be used as a point of reference for assessing all wind energy proposals including definitions of what small to large scale entails."*

2.7 There is a clear shift in tone in Policy 29 as compared to Policy PI 9. Policy PI 9 requires proposals to comply with a range of criteria before being considered acceptable. Policy 29 turns this on its head and says from the outset that the Council "will support" wind proposals which contribute to our transition to a low carbon economy. This support is subject to there being no unacceptable adverse environmental impacts, "taking into consideration" a range of criteria. Again there is a shift here with respect to which the various criteria area relevant; Policy PI 9 requires proposals to satisfy all of the criteria, whereas Policy 29 requires proposals to take the criteria "into consideration". In addition, the criteria listed in Policy PI 9 considered the extent to which proposals had the potential to result in adverse effects, with no consideration of or weight given to the benefits that individual schemes could bring. By contrast, the criteria in Policy 29 include a range of positive factors to be taken into account by the decision maker, namely:

- Providing a net economic impact – including socio-economic benefits such as employment, associated business and supply chain opportunities;
- Scale of contribution to renewable energy generation targets; and
- Specific locational opportunities for energy storage/generation.

2.8 Overall, there is a shift in tone and emphasis in the new policy where support from the Council for wind energy is explicit and a framework is provided for balancing the positive aspects of proposals against environmental effects.

2.9 Moreover, at the time the previous application for 125m turbines at Sorbie Wind Farm was being considered by planning officers, the emerging Policy 29 placed significantly more weight on the landscape capacity study than the current wording of Policy 29. Proposals were previously required to "comply" with the landscape capacity study, which is a much higher test than the current wording of Policy 29, which simply states that the landscape capacity study will be "used as a point of reference". The LDP Examination Report (July 2019) notes that the Scottish Government objected to this part of the original wording on the basis that:

> *"wind energy developments do not need to 'comply' with landscape guidance in order to align with Scottish Planning Policy (CD02). [Scottish Government] suggests that development management could determine compliance and the [landscape guidance] should be used for information only as suggested in another part of the policy."*

2.10 The Reporter's conclusion on this matter note that:

> *"The council failed to respond to the Scottish Government's suggestion to remove the requirement to comply with the current landscape capacity study for wind farm development in North Ayrshire…I consider that requiring proposals to 'comply' with the landscape capacity study is at odds with the final sentence of proposed policy 29 which suggests that 'this study will be used as a point of reference for assessing all wind energy proposals'. It would be reasonable and appropriate for the text to simply require proposals to consider the findings of the landscape capacity study. A change is justified on this basis."*

2.11 The requirements of Policy 29 have therefore been watered down in respect of the capacity study, with proposals now being required to simply "consider" the study, rather than "comply" with it. This is more in line with how landscape capacity studies should be used when considering individual applications for wind energy development, as discussed further in Section 3, and marks a change from what was before planning officers when they considered the previous application for 125m turbines at Sorbie.

## National Policy and Guidance

### *National Planning Framework*

2.12 National Planning Framework 3 (NPF 3) was published on 23 June 2014. NPF 3 is a long term strategy for Scotland and is the spatial expression of the Government's Economic Strategy and plans for development and investment in infrastructure.

2.13 The general and high level support for renewables is provided through the 'vision' which is referred to as *inter alia*:

- A successful, sustainable place – "we have a growing low carbon economy which provides opportunities…";
- A low carbon place – "we have seized the opportunities arising from our ambition to be a world leader in low carbon generation, both onshore and offshore"; and
- A natural resilient place – "natural and cultural assets are respected; they are improving in condition and represent a sustainable economic, environmental and social resource for the nation".

### *Scottish Planning Policy*

2.14 Scottish Planning Policy (SPP) was adopted in June 2014 and sets out the Scottish Government's policy on how nationally important land use matters should be addressed across the country.

2.15 Both SPP and NPF3 share a vision for Scotland: "a *growing, low carbon economy with progressively narrowing disparities in well-being and opportunity. It is growth that can be achieved whilst reducing our emissions and which respects the quality of the environment, place and life and which makes our country so special*" (para 11).

2.16 Paragraph 18 makes reference to the Climate Change (Scotland) Act 2009 which sets a target of reducing greenhouse gas emissions by at least 80% by 2050, with an interim target of recuing emissions by at least 42% by 2020. SPP explains that Section 44 of the 2009 Act places a duty on public bodies to act in the best way to contribute to the delivery of emissions targets as set out in the Act, and to help deliver the Scottish Government's climate change adaption programme.

2.17 The SPP sets out continued support for onshore wind in a similar manner to the previous SPP. However, it also now sets out a presumption in favour of development that contributes to sustainable development. The 'presumption in favour' is an important new aspect of national planning policy. Paragraphs 32 and 33 of SPP explain how this Policy Principle is given effect to in development management, as discussed in Section 3 of this Statement.

2.18 SPP addresses 'A Low Carbon Place' as a 'subject policy' and refer to 'delivering electricity'. Paragraph 152 refers to the NPF context and states that NPF3 is clear that planning <u>must</u> facilitate the transition to a low carbon economy and help to deliver the aims of the Scottish Government. It is stated that Scotland has significant renewable energy resources, both onshore and offshore.

2.19 In terms of renewable energy, paragraph 154 sets out that the planning system should support the transformational change to a low Carbon economy, consistent with national objectives and targets. Important to this is the expansion of renewable energy generation capacity.

## *Onshore Wind Policy Statement*

2.20 In December 2017 the Scottish Government published its Onshore Wind Policy Statement. The ministerial forward by Paul Wheelhouse MSP highlights the "*vital*" role that onshore wind will continue to play in Scotland's future, "*helping to substantively decarbonise our electricity supplies, heat and transport systems, thereby boosting our economy, and meeting local and national demand*". The ministerial forward continues to highlight that this important role "*means <u>we must support development in the right places, and – increasingly – the extension and replacement of existing sites, where acceptable, with new and larger turbines</u>, based on an appropriate, case by case assessment of their effects and impacts*".

2.21 Specifically in relation to the use of larger turbines, the policy statement makes the following points:

> *"3. In order for onshore wind to play its vital role in meeting Scotland's energy needs, and a material role in growing our economy, its contribution must continue to grow. Onshore wind generation will remain crucial in terms of our goals for a decarbonised energy system, helping to meet the greater demand from our heat and transport sectors, as well as making further*

*progress towards the ambitious renewable targets which the Scottish Government has set.*

*4. This means that Scotland will continue to need more onshore wind development and capacity, in locations across our landscapes where it can be accommodated.*

*9. We know that new projects face a highly uncertain route to market. The arrangements which have enabled onshore wind to expand and to reduce its costs so successfully, are no longer in place. Continued innovation and cost reduction, a supportive and well-resourced planning system, and continued advances in turbine and blade technology will help close the gap that currently exists – but not sufficiently, and not for all developments.*

*23. …We acknowledge that onshore wind technology and equipment manufacturers in the market are moving towards larger and more powerful (i.e. higher capacity) turbines, and that these – by necessity – will mean taller towers and blade tip heights.*

*24. The technology shift towards larger turbines may present challenges when identifying landscapes with the capacity to accommodate larger scale development, as not all will be suitable. However, fewer but larger wind turbines may also present an opportunity for landscape improvement, as well as increasing the amount of electricity generated.*

*25. The Scottish Government acknowledges the way in which wind turbine technology and design is evolving, and fully supports the delivery of large wind turbines in landscapes judged to be capable of accommodating them without significant adverse impacts…"*

## The Renewable Energy Legislative and Policy Context

### *The COP21 UN Paris Agreement*

2.22 The Paris Agreement (December 2015) is an international agreement on climate change, of which there are 195 countries, including the UK.

2.23 The Agreement came into force on November 4th 2016, having been ratified by at least 55% (the point which triggers ratification) of the 195 countries.

2.24 The meeting in Paris was considered a make-or-break opportunity to secure an international agreement on the approach to tackling climate change, commitment to a longer-term goal of near zero net emissions in the second half of the century, and supporting the transition to a clean economy and low carbon society.

2.25 Governments agreed:

- A long-term goal of keeping the increase in global average temperature to well below 2°C above pre-industrial levels.
- To aim to limit the increase to 1.5°C, since this would significantly reduce risks and the impacts of climate change.

- On the need for global emissions to peak as soon as possible, recognising that this will take longer for developing countries.
- To undertake rapid reductions thereafter in accordance with the best available science.

2.26 Countries will also be legally obliged to make new post-2030 commitments to reduce emissions every five years.

## *UK 2050 Net Zero Target*

2.27 In June 2019 the UK became the first major economy in the world to pass laws to end its contribution to global warming by 2050. The target will require the UK to bring all greenhouse gas emissions to net zero by 2050, compared with the previous target of at least an 80% reduction from 1990 levels.

## *Scottish Energy Strategy: The future of energy in Scotland*

2.28 The *Scottish Government published its Scottish Energy Strategy: The future of energy in Scotland* in December 2017. The strategy sets two new targets for the Scottish energy system by 2030:

- The equivalent of 50% of the energy for Scotland's heat, transport and electricity consumption to be supplied from renewable sources.
- An increase by 30% in the productivity of energy use across the Scottish economy.

2.29 In relation to renewable energy targets the strategy states the following:

> *"Scotland's long term climate change targets will require the near complete decarbonisation or our energy system by 2050, with renewable energy meeting a significant share of our needs.*
>
> *In 2009 the Scottish Government established a suite of renewable energy targets for 2020 – with a headline target of the equivalent of 30% of Scotland's heat, transport and electricity consumption to be supplied from renewable sources. We have made good progress to date, with the equivalent of 17.8% being met by renewable sources in 2015.*
>
> *Reaching 50% in 13 years time will be challenging, particularly in more uncertain market conditions compared to those in the preceding decade, and due to the fact that not all the relevant policy levers are devolved to the Scottish Government. But the target demonstrates the Scottish Government's commitment to a low carbon system and to continued growth of the renewable energy sector in Scotland. It also underlines our belief in the sector's ability to build on its huge achievements and progress thus far."*

2.30 Specifically in relation to onshore wind the strategy states the following:

> *"Onshore wind is now amongst the lowest cost forms of power generation of any kind, and is a vital component of the huge industrial opportunity that renewables create for Scotland. The sector supports an estimated 7,500 jobs in Scotland, and generated more than £3 billion in turnover in 2015.*

*Campbeltown is also currently home to the UK's only turbine tower fabricator.*

*Our energy and climate change goals mean that onshore wind must continue to play a vital role in Scotland's future – helping decarbonise our electricity, heat and transport systems, boosting our economy, and meeting local and national demand.*

*That means continuing to support development in the right places, and – increasingly – the extension and replacement of existing sites with new and larger turbines, all based on an appropriate, case by case assessment of their effects and impacts.*

*It means continuing to provide a route to market for that power – in ways which reduce and ultimately eliminate any additional costs for consumers.*

*And it means developers and communities working together and continuing to strike the right balance between environmental impacts, local support, benefit and – where possible – economic benefits deriving from community ownership.*

*This can be done in a way which is compatible with Scotland's magnificent landscapes, including our areas of wild land. This means that the relevant planning and consenting processes will remain vitally important. A major review of the Scottish planning system is well under way, and will continue as now to fully reflect the important role of renewable energy and energy infrastructure, in the right places."*

## Scotland Climate Change Plan

2.31 The Climate Change Plan (2018) provides the framework for Scotland's transition to a low-carbon economy, setting out how emissions will be reduced in every year to 2032.

2.32 The Climate Change Plan highlights that climate change is one of the greatest global threats we face and that Scotland must play its part to achieve the ambitions set out in the Paris Agreement, which mandates concerted, global action to deal with the threat. It notes that the path towards a low carbon future will require great effort across all parts of our society and economy, but it also presents tremendous opportunities.

## The Global Climate Emergency – Scotland's Response

2.33 On 14 May 2019 the Climate Change Secretary Roseanna Cunningham made a statement to the Scottish Parliament regarding Scotland's response to the climate change emergency. Her statement highlighted *inter alia*:

*"There is a global climate emergency. The evidence is irrefutable. The science is clear. And people have been clear: they expect action. The Intergovernmental Panel on Climate Change issues a stark warning last year: the world must act now. By 2030 it will be too late to limit warming to 1.5 degrees…*

*…it's not too late for us to turn things around, but to do so requires transformative change. This is not just about government action. And it is not*

*something that only affects Scotland…We all have a part to play: individuals, communities, businesses, other organisations…*

*…Earlier this month, the Scottish Government received advice from the UK Committee on Climate Change in light of the IPCC report. We acted immediately with amendments to our Climate Change Bill to set a 2045 target for net zero emissions…these will be the most stringent legislative targets anywhere in the world and Scotland's contribution to climate change will end, definitively, within a generation. The CCC was clear that this will be enormously challenging…*

*…The CCC has been stark in saying that the proposed new targets will require a 'fundamental change from the current piecemeal approach that focuses on specific actions in some sectors to an explicitly economy wide approach'. To deliver the transformational change that is required, dwe need structural changes across the board: to our planning, procurement, and financial policies, processes and assessments…that is exactly what we will do."*

## Summary

2.34 The scale of the threat we face through climate change is widely acknowledged by governments across the world. The Scottish Government has recently taken the decision to declare a climate emergency, citing the need for the world to act now and deliver transformative change. Everyone has a role to play in this global climate emergency, including businesses and local authorities. Extremely challenging targets have been set for decarbonising the economy: net zero emissions for Scotland by 2045, the most stringent target anywhere the world.

2.35 International and national commitments have been made to address the effects of climate change and to achieve greater security in the domestic supply of energy. This in turn has directly influenced a response through the land use planning system which through national planning policy strongly encourages renewable energy development and the evidence base demonstrates that wind energy is the key renewable resource for Scotland.

2.36 There remains a shortfall on a national basis against targets for renewable energy generation. National targets are not capped and decision makers are not prevented from consenting projects just because an interim target may be achieved.

2.37 In addition:

- It is clear from NPF3 that onshore wind development is recognised as a key technology in the energy mix which will contribute to Scotland becoming a 'low carbon place' which in turn is a key part of the 'vision' for Scotland.
- Scottish Government has made it unequivocally clear that it wants to continue to "capitalise on our wind resource", including through the use of larger turbines where appropriate.
- SPP sets out continued support for onshore wind in a similar manner to the previous SPP.
- SPP also sets out a presumption in favour of development that contributes to sustainable development.

- The presumption in favour is an important new aspect of national planning policy and material to the consideration of planning applications.
- Policy 29 in LDP2 is more inherently supportive of wind energy proposals than Policy PI 9 in the previous LDP, allowing a range of positive factors such as economic benefit to be balanced against adverse effects.
- Policy 29 has also been watered down in respect of the relevance of the landscape capacity study,

# 3 PLANNING APPRAISAL

3.1 This section considers the planning issues raised by the Proposed Development against the planning policy context outlined in Section 2. In presenting an assessment of the overall planning policy case we firstly consider the following two questions:

- Does the Proposed Development accord with the provisions of the statutory Development Plan?
- Do material considerations outweigh the provisions of the statutory Development Plan?

## Does the Proposed Development accord with the statutory Development Plan?

3.2 At the point at which this planning application is determined, the principal Development Plan policy for considering wind energy proposals will be LDP2 Policy 29. Prior to considering the Proposed Development against this policy, this section first considers the Council's reason for refusing the previous 125m turbine application on the Site.

3.3 The reason for refusal for the previous 125m turbine application sets out that the proposal's conflict with previous Policy PI 9 was due to the proposed increase in tip height from 104.3m to 125m (an increase of just 20.7m) being perceived by the case officer to be 'substantial'. The reason for refusal states:

> *"It is considered that the degree of change from 104.3m blade tip to 125m blade tip would be substantial and adverse in terms of landscape and visual impacts, especially given the locational context of the site within 2km to the north of the settlement of Ardrossan and in close proximity to the North Ayrshire Lowlands Landscape Character Type, being a landscape of smaller scale. Such a substantial increase in scale would contrast markedly with the turbine design approved in the previous consents, would overwhelm those parts of the North Ayrshire Lowlands Landscape Character Type close to the site and would have an adverse effect on the rural setting of Ardrossan. This contrast would also be unfavourable against the design of the nearby Ardrossan Windfarm, resulting in conflict with the recommendations contained in the Council's Landscape Wind Capacity Study of 2018, all of which would adversely affect landscape character and visual amenity in the locality."*

3.4 There are a number of points raised against the Proposed Development in this reason for refusal, in particular in relation to the use of the Landscape Wind Capacity Study of 2018 (LWCS), the Site's location within 2km of Ardrossan, the landscape and visual effects of the Proposed Development, and contrasting turbine scale. These points are considered separately below.

<u>Use of Landscape Capacity Studies</u>

3.5 The general role of the LWCS is to guide wind farm development away from areas of higher sensitivity towards those areas that are best able to accommodate development. The importance of site-specific analysis (as opposed to over-reliance on generic high-level

guidance) is supported by recent appeal decisions, including the decision made by Scottish Ministers on the original Sorbie application. The Reporter in this case stated:

> *"6.47 Landscape capacity studies can be useful tools in understanding the nature of impacts caused by wind turbines. However, I do not consider that it is appropriate to give them the attributes of detailed zonings of land for a particular number of turbines of a particular size."*
>
> *"6.49 …it would be impossible for any landscape capacity study to be able to properly anticipate all the multiple impacts of the many factors that influence the design of a wind farm. I therefore consider that the Local Review Body were correct to attach more weight to a proposal specific landscape and visual impact assessment compared to the general conclusions contained in the Landscape Capacity Study."*

3.6 In addition to this conclusion being-site specific and issue-specific, what is particularly interesting is that the landscape capacity study that was in place at the time (being a previous version of the current LWCS) did not identify any landscape capacity for a wind farm development at Sorbie.

3.7 Similar conclusions are reached by the Reporter in the Kirk Hill Wind Farm decision notice (ref: PPA-370-2052):

> *"10. A review of the relative sensitivity of landscape character types, as provided by the landscape wind capacity study, is helpful in the assessment of a wind farm proposal's landscape impacts as required by the development plan's wind energy policy; it assists by identifying key characteristics of each landscape character type and their sensitivity to a range of wind turbine sizes. Beyond this, I attach limited weight to the conclusions drawn by the capacity study in regard to the capacity of each landscape character type to accommodate development. It would be unjustifiably simplistic to draw any conclusions on acceptability of wind turbine developments (which the capacity study attempts for each character type), in the absence of a full assessment of proposals on a case-by-case basis. To do so would be inconsistent with the spatial framework for wind farms set out in Table 1 of SPP, and as reflected in the local development plan".*

3.8 It is no doubt acknowledgement of these factors that led the Scottish Government to object to the original wording of Policy 29 which required proposals to "comply" with the landscape capacity study. The new wording of Policy 29 suggested as a modification by the Reporter into LDP2, which refers to the landscape capacity study as a "point of reference", is more in line with how such studies should be used in considering planning applications for individual proposals.

3.9 The wording of the reason for refusal for the previous planning application for 125m turbines at Sorbie is based around a paragraph within the LWCS relating to repowering operational and consented turbines within the Haupland Muir character area (which Sorbie is located within). This states that:

> *"20.3.2 Turbines substantially above the height of existing turbines (which are around 100m) would overwhelm the relief of the low knolly hills of Haupland Muir. They would also adversely affect the setting of Ardrossan (and*

*potentially other coastal settlements such as West Kilbride depending on position and height). Cumulative effects could also occur with operational and consented wind energy developments sited in this and nearby LCT 19d. Annex E provides more detail on scope for repowering."*

3.10 In respect of this paragraph it should firstly be noted that this guidance is very broad brush and it applies to the entire Haupland Muir landscape character area, rather than providing site-specific guidance for repowering Sorbie with larger turbines. The detailed guidance at Annex E of the LWCS similarly does not provide any guidance on repowering Sorbie, indeed, Sorbie Wind Farm is excluded from any repowering scenarios considered in the study. This strategic guidance should therefore be read in the context of the conclusions reached by the previous Reporter on Sorbie Wind Farm, who highlighted that the LRB was right to attach more weight to a site-specific LVIA compared to the LWCS and that the LWCS could not be used to consider the acceptability of specific turbine numbers or sizes at individual sites.

3.11 Secondly, and more importantly, when the LWCS is read in context it becomes clear what the authors had in mind when they referred to turbines "substantially above" the height of existing turbines. This is because:

- The LWCS is clear at the outset that for any repowering scenarios considered in the assessment, turbines of 150m and 200m height have been assumed.
- This is confirmed in paragraph 3.2.2 of the LWCS which states "*an assessment has been undertaken to consider scope for accommodating 150m and 200m turbines as part of repowering (or amending) operational and consented wind farms*".
- This is evident at the detailed guidance for repowering at Annex E of the LWCS where all scenarios considered are either 150m or 200m.
- The only repowering scenario considered in detail within the Haupland Muir character area is repowering Ardrossan Wind Farm (currently 100m to tip) with 150m and 200m turbines. As shown in Figures 3.1 and 3.2 below, the Ardrossan turbines are sited at higher elevations than Sorbie and so an increase in height to 150m/200m at Ardrossan would have completely different
- It is clear then that the broad brush statement at paragraph 20.3.2 of the LWCS is referring to turbines 150m and 200m in height at Ardrossan Wind Farm when it says "turbines substantially above the height of existing turbines would overwhelm the relief of the low knolly hills of Haupland Muir". That is the case because only 150m and 200m turbines at Ardrossan Wind Farm have been assessed within Haupland Muir.
- The word 'substantially' therefore means 150m or 200m turbines.
- Nowhere does the LWCS consider the appropriateness of repowering Sorbie with 125m turbines, or repowering any developments within Haupland Muir with 125m turbines.
- Indeed, despite the proposed increase in height at Sorbie, the turbines would still fall within the same 'Large' turbine typology used in the LWCS (which is for turbines in the height range of 70-130m). As far as the LWCS is concerned, the turbines at Sorbie are the same whether they are 104.3m or 125m.

3.12 The conclusions of the LWCS are therefore in no way directly applicable to the Proposed Development. It would be incorrect to rely on them to provide site-specific conclusions on the planning application. As far as the LWCS is concerned, the turbines could be 130m in

height without raising any additional effects, as the typology would still be the same as for 104.3m turbines.

3.13 Incidentally we would agree with the LWCS that turbines of 150m and 200m in height would not likely be appropriate for Sobie, hence why we have proposed a more modest increase up to 125m, which the LVIA submitted with the application concludes is acceptable and would not give rise to any new significant landscape, visual or cumulative effects over and above the consented scheme.

The Site's Location within 2km of Ardrossan

3.14 The reason for refusal indicates that the perceived adverse effect of the height increase is in someway exacerbated by Sorbie's location within 2km of the settlement of Ardrossan. It is important to highlight that in terms of the Spatial Framework approach in SPP the 2km separate distance from settlements is not absolute, and development can proceed within 2km where it can be demonstrated that a proposal would not have any "significant effects on the qualities" of a settlement. The Scottish Government's online *Onshore wind turbines: planning advice* further notes that "this 2km separation distance is a guide, not a rule, and decisions on individual developments should take into account specific local circumstances and geography". Finally, the Scottish Government's online *Onshore wind planning: frequently asked questions* states that the 2km separation "is not a ban on wind farm development in the identified area. The character of some settlements can in part be defined through their relationship with their surroundings. In some settlements this relationship is more important than in others. The separation distance allows for the important vistas out from a settlement that could be harmed by an insensitively sited or designed wind farm to be identified".

3.15 In relation to effects on the rural setting of Adrossan it is relevant that the current setting of the town is influenced by the existing Ardrossan Wind Farm, which is often seen either in a semi-urban context at the eastern settlement edges or from the western settlement edge (such as Ardrossan Harbour) with the rural backdrop including the Ardrossan Wind Farm appearing beyond the town. The LWCS states that "*the area is visually dominated by the operational Ardrossan wind farm which is located within the upland core of this landscape and on gently graded southern slopes*", and that "*the Kelburn and Adrossan wind farms and the power stations and other infrastructure at Hunterston are key features in views from the sea and close offshore islands*".

3.16 The Proposed Development would be visible within this same landscape context and would have a clear association with this particular wind farm influenced landscape, which provides a setting commensurate with the scale of the development. The LWCS confirms this point at paragraph 3.3.3, which states:

> *"The operational wind farms of Kelburn, Dalry and Millour form a concentrated grouping in the southern part of the Clyde Muirshiel Uplands. The Ardrossan wind farm is slightly set apart from this grouping being associated with lower hills in the south of these uplands and closer to the settled coast. The consented Sorbie wind turbines will lie close to the operational Ardrossan wind farm at the transition of these uplands with more settled farmed hill slopes and lowlands."*

3.17 The proposed increase in turbine blade tip height would not materially alter the relationship that the consented development maintains with the settlement of Ardrossan. As such, it is clear that the Proposed Development would not have any significant effects on the qualities of Ardrossan, which is the key test in SPP for proposals within 2km of a settlement boundary.

Landscape and Visual Effects of the Proposed Development

3.18 The LVIA submitted in support of this planning application is supported by a range of visual material, including a set of photomontages comparing the larger proposed turbines against the consented turbines. These photomontages provide strong evidence that the proposed increase in turbine size would appear as more of a moderate increase from key views in the surrounding landscape, and not a 'substantial' change as cautioned against in the LWCS.

3.19 The reason for refusal also refers to the effects of the Proposed Development on the Ayrshire Lowlands Landscape Character Type (LCT). In relation to these effects, the influence of the Proposed Development on the landscape character of the Ayrshire Lowlands would be limited to the western part of this LCT, where the Ayrshire Lowlands rise to meet the Rugged Moorlands.

3.20 We would strongly disagree with the view that the three turbines at Sorbie at 125m height would 'overwhelm' the Ayrshire Lowlands LCT. The LWCS describes this LCT as being a "*small to medium scale gently undulating to rolling landscape*", however, "*scale is increased where remnant mosses and pastures surrounding them are more open and less settled on the western edge of this character type where a more gradual transition occurs with the adjacent uplands of Haupland Muir*". It is within this area of 'increased' scale and 'gradual transition' with the uplands that the Proposed Development is found to have most influence. The LVIA submitted in 2013 for the original Sorbie application found that the effects on this LCT would be significant within 3km of the Site (with a Medium-High magnitude of change) and not significant in the wider area of this LCT (with a Low magnitude of change). The LRB and Scottish Ministers agreed that these effects were acceptable. Crucially, the LVIA submitted for this Proposed Development does not find a material increase in the magnitude of effect on landscape character for the Ayrshire Lowlands LCT. The effects are therefore the same as those already accepted.

Contrasting Turbine Scale

3.21 The final point raised in the reason for refusal is that the different scales of turbines at Sorbie and Ardrossan would give rise to unacceptable adverse effects. We do not accept this point. The turbines at Ardrossan are sited at higher elevations than Sorbie, meaning that despite the proposed increase in height, the Ardrossan turbines will still have higher overall tip heights. This is illustrated on Figure 3.1 and Figure 3.2 below which illustrate the overall tip heights in metres Above Ordnance Datum (AOD) across the two wind farms based on the original consent (Figure 3.1) and the Proposed Development (Figure 3.2).

3.22 Indeed, if anything it is the Ardrossan turbines that appear larger in scale than the Sorbie turbines, and the overall tip height relationship will be more equally matched between the two wind farms if the Proposed Development goes ahead.

Figure 3.1 Comparison of tip heights in metres AOD between the consented Sorbie turbines (S T1-3, 104.3m to tip) and the existing Ardrossan turbines (A T1-15, 100m to tip)

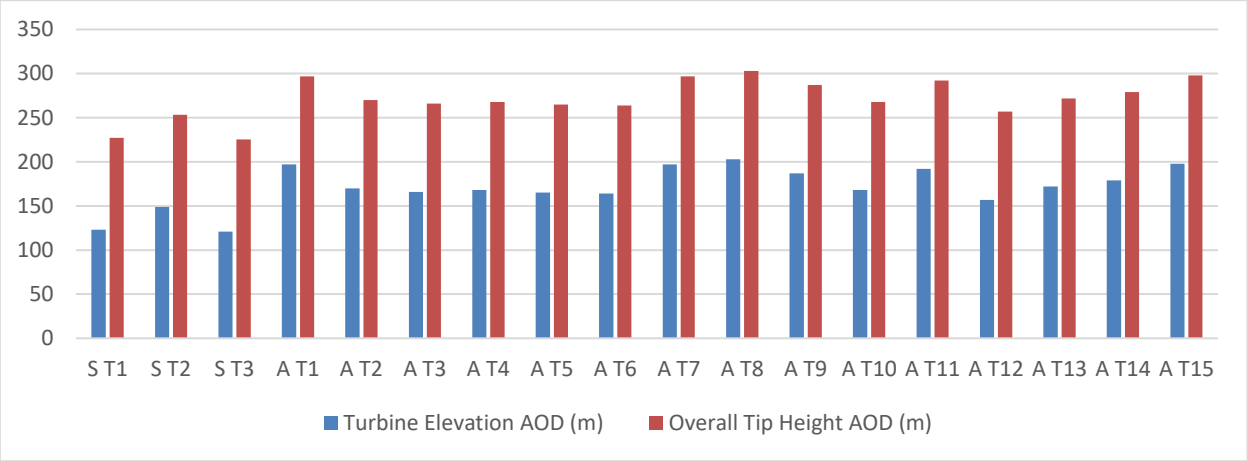
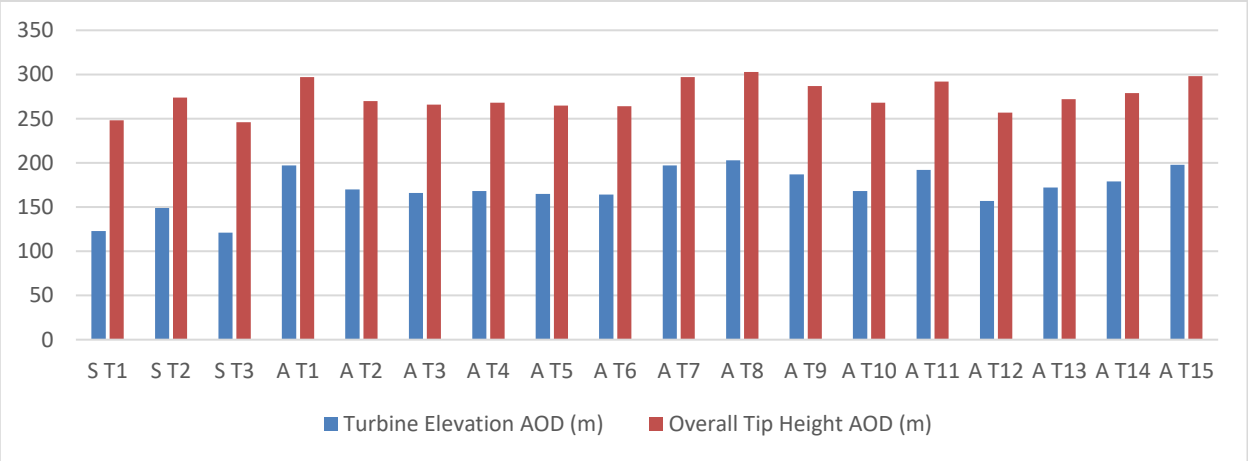



Figure 3.2 Comparison of tip heights in metres AOD between the proposed Sorbie turbines (S T1-3, 125m to tip) and the existing Ardrossan turbines (A T1-15, 100m to tip)




LDP 2 Policy 29

3.23 Policy 29 sets out that the Council will support wind developments where they will contribute positively to our transition to a low carbon economy and have no unacceptable adverse environmental impacts taking into consideration various criteria. These criteria are considered in turn below.

*Communities and individual dwellings – including visual impact, residential amenity, noise and shadow flicker*

3.24 Taking these issues in turn:

- Visual impact – The nearest community to the Site is Ardrossan and the proposed increase in turbine height would not materially alter the relationship that the consented wind farm maintains with the settlement of Ardrossan.

- Residential amenity – The Proposed Development would not result in any residential property becoming an unattractive place to live, which is the key planning test in terms of residential amenity.
- Noise – The noise assessment included within the Comparative Environmental Report confirms that the proposed 125m turbines would be able to operate within the existing noise limits in place for the consented wind farm. Noise levels from the Proposed Development would therefore be acceptable.
- Shadow flicker – Although theoretically there would be additional shadow flicker effects as a result of the Proposed Development owing to the larger rotor diameter, in practice mitigation would prevent the occurrence of flicker at receptor locations. This mitigation would be in the form of software which would automatically shut down the turbines at periods where flicker effects could theoretically occur.

*Water quality*

3.25 The Proposed Development would not lead to any additional effects on water quality over and above those of the consented wind farm.

*Landscape – including avoiding unacceptable adverse impacts on our landscape designations*

3.26 For the reasons set out in paragraphs 3.5 – 3.22 above, we consider that no unacceptable impacts on landscape would arise as a result of the Proposed Development.

*Effects on the natural heritage – including birds*

3.27 The Proposed Development would not lead to any additional effects on natural heritage over and above those of the consented wind farm.

*Carbon rich soils including peat*

3.28 The Proposed Development would not lead to any additional effects on carbon rich soils over and above those of the consented wind farm. By contrast, soil disturbance would be reduced owing to the reduced length of access track required to construct the Proposed Development.

*Impacts on the historic environment – including scheduled monuments, listed buildings and their settings*

3.29 The Proposed Development would not lead to any additional direct or indirect effects on the historic environment over and above those of the consented wind farm.

*Establishing the use of the site for energy infrastructure development*

3.30 It is not clear exactly what is meant by this criterion. If it refers to establishing the principle of wind farm use on individual sites, then that has already been established at Sorbie by the existing consent. If however it refers to the economic benefits that would flow to the local area by establishing/constructing the wind farm, then these benefits would be significant and are highlighted below with reference to the following criterion.

*Providing a net economic impact – including socio-economic benefits such as employment, associated business and supply chain opportunities*

3.31 The Proposed Development would deliver the following socio-economic benefits:

- The Proposed Development could give rise to a range of opportunities for civil engineering and associated works for local contractors during the construction phase, with investment in the local economy and supply chain. SPP paragraph 169 is clear that net economic impact, including the community socio-economic benefits such as employment, associated business and supply chain opportunities are relevant material considerations in the determination of onshore wind proposals.
- Utilising RenewableUK assumptions the Applicant will invest more than £14.5 million in the project. This is a significant investment with a strong policy fit both regionally and nationally.
- The total value of contracts that could be secured in North Ayrshire has been estimated at £3 million and in Scotland as a whole businesses could secure contracts worth £6.1 million.
- Energiekontor is keen to maximise these local economic benefits and would put a local contracting procurement policy in place for the Proposed Development (see Appendix A) which will give price advantage to local firms in bidding for contracts.
- The Proposed Development would be expected to generate significant business rates revenue over its 25 year lifetime. It is estimated that approximately £120,000 every year could be paid, which would be retained by the Council. Over the project's 25 year operational life that could equate to £3 million of business rates funding for the Council.
- A Community Fund would be established that could deliver £60,000 of funding a year for local causes based on a rate of £5,000 per MW of installed capacity. That could equate to £1.5 million of funding over the lifetime of the project.

*Scale of contribution to renewable energy generation targets*

3.32 The 125m turbines would generate an additional 87% of renewable energy compared to the consented wind farm despite being just 19.8% taller. This nearly doubling of renewable energy output is a disproportionate benefit compared to the modest increase in size. Similarly the wind farm would have an installed capacity of 12MW compared to the 6.15MW of the existing consent.

3.33 The tip height extension would allow Sorbie Wind Farm to power 11,050 homes with renewable energy, which is roughly equivalent to every home in Saltcoats and Ardrossan. That represents an increase of 5,150 homes as compared to the original Sorbie Wind Farm; an increase which is roughly equivalent to all the homes in Saltcoats. In addition, the Proposed Development would save an additional 44,500 tonnes of CO2 emissions every year as compared to the consented wind farm, meaning 100,000 tonnes of CO2 could be saved annually by the wind farm. When compared to the annual CO2 emissions for the whole of North Ayrshire, which in 2018 was 864,600 tonnes, Sorbie Wind Farm alone could reduce net emissions in North Ayrshire by 12%. Against the context of the global climate change emergency, these benefits are significant, weigh heavily in favour of the Proposed Development and should not be overlooked.

*Public access – including impact on long distance walking and cycling routes and scenic routes and scenic routes identified in the National Planning Framework*

3.34 The Proposed Development would not lead to any additional effects on public access over and above those of the consented wind farm.

*Impacts on tourism and recreation*

3.35 The Proposed Development would not lead to any additional effects on tourism and recreation over and above those of the consented wind farm.

*Specific locational opportunities for energy storage/generation*

3.36 The Proposed Development includes the identification of an area within the construction compound that could be utilised for energy storage in the future, should the technology become commercially viable within the operational lifetime of the wind farm. A separate planning application would be submitted in the future to seek detailed consent for the storage facility.

3.37 In terms of locational opportunities for energy generation, Sorbie benefits from several factors that make it a suitable location for the generation of wind energy. In particular, the wind resource available at the Site is very good, benefitting as it does from south westerly winds blowing in straight off the Firth of Clyde and rising up to the elevated ground at the Site. The presence of nearby settlements, in particular the three towns of Ardrossan, Saltcoats and Stevenston means that there is ample demand for the electricity to be used locally, rather than exported long distances on the transmission network. This combination of factors means that it is possible to realise a subsidy-free wind farm at Sorbie using tip heights of 125m, which is still comparatively small in Scotland's subsidy-free wind industry, and would make North Ayrshire Council the first in Scotland to deliver a subsidy-free wind farm. There is also sufficient separation at the Site from residential properties to be able to operate a wind farm without creating any unacceptable noise, shadow flicker or other residential amenity effects. In addition, the landscape in the locality is also already influenced by wind farm development (Ardrossan Wind Farm) and the principle of wind farm development is also established on the Site itself by the existing consent. Sorbie is therefore an excellent location for the generation of wind energy.

*Greenhouse gas emissions*

3.38 Wind turbines do not generate greenhouse gas emissions whilst they are operating. The only activities with the potential to generate greenhouse gas emissions during the 25 year operational period would be for routine maintenance of the wind farm by service personnel, which would involve only a handful of vehicle trips each year. Any greenhouse gas emissions generated during the turbine manufacture and wind farm construction and decommissioning phases would be greatly exceeded by the amount of fossil fuel energy generation displaced by the renewable energy generated by the wind farm over the operational period. This 'carbon payback period' would be shorter for the Proposed Development as compared to the consented wind farm, as the Proposed Development would generate nearly double the amount of renewable energy for only a modest increase in turbine component material.

*Aviation and defence interests and seismological recording*

3.39 The Proposed Development would not lead to any additional effects on aviation, defence and seismological recording over and above those of the consented wind farm.

*Telecommunications and broadcasting installations – particularly ensuring that transmission links are not compromised; radio telemetry interference and below ground assets*

3.40 The Proposed Development would not lead to any additional effects on telecommunications and broadcasting installations over and above those of the consented wind farm.

*Road traffic and adjacent trunk roads*

3.41 The Proposed Development would not lead to any additional effects on road traffic and adjacent trunk roads over and above those of the consented wind farm.

*Effects on hydrology, the water environment and flood risk including drinking water quality and quantity (to both the public and private water supplies)*

3.42 The Proposed Development would not lead to any effects on hydrology, the water environment, flood risk and drinking water quality over and above those of the consented wind farm.

*Decommissioning of developments – including ancillary infrastructure, and site restoration and aftercare*

3.43 The Applicant would be willing accept a requirement for a decommissioning bond to be included as a condition to any grant of planning permission.

Development Plan Conclusions

3.44 Overall it is considered that the Proposed Development is in general accordance with the Development Plan. This is because:

- The Proposed Development would comply with the LWCS and would not overwhelm local landscape character or lead to unacceptable cumulative effects.
- The Proposed Development would comply with the criteria set out in Policy 29 and as such benefits from support from the Council as it would support our transition to a low carbon economy.

## Do material considerations outweigh the provisions of the statutory Development Plan?

3.45 Section 2 of this Planning Statement set out the renewable energy, national planning policy and other material considerations which, in terms of Section 25 of the Town and Country Planning (Scotland) Act 1997, must be considered. The material considerations which we consider to be particularly relevant are set out below.

3.46 NPF3 is clear that planning must facilitate the transition to a low carbon economy, and help to deliver the aims of the Scottish Government's Report on Proposals and Policies. Nnshore wind development is recognised as a key technology in the energy mix which will contribute to Scotland becoming 'a low carbon place' which in turn will be a key part of the 'vision' for Scotland. Furthermore, the Government has made it unequivocally clear that it wants to continue to "capitalise on our wind resource".

3.47 SPP sets out continued support for onshore wind in a similar manner to the previous SPP. However, it also now sets out a presumption in favour of development that contributes to sustainable development. The 'presumption in favour' is an important new aspect of national planning policy, which requires that benefits must be "significantly and demonstrably" outweighed by other considerations before a development should be refused planning permission.

3.48 The Scottish Government's Onshore Wind Policy Statement highlights the "*vital*" role that onshore wind will continue to play in Scotland's future, "*helping to substantively decarbonise our electricity supplies, heat and transport systems, thereby boosting our economy, and meeting local and national demand*". The Policy Statement further adds that this important role "*means we must support development in the right places, and – increasingly – the extension and replacement of existing sites, where acceptable, with new and larger turbines, based on an appropriate, case by case assessment of their effects and impacts*".

3.49 More recently, it is clear that national and international efforts to combat climate change have been ramped up. The Scottish Government has recently taken the decision to declare a climate emergency, citing the need for the world to act now and deliver transformative change. Extremely challenging targets have been set for decarbonising the economy: net zero emissions for Scotland by 2045, the most stringent target anywhere the world.

3.50 North Ayrshire Council has recently declared its own climate change emergency and has made good progress towards decarbonisation through the establishment of its Climate Change Strategy, first published in 2014 and updated in 2017. The Council has also delivered almost 10MW of installed renewable or low-carbon energy generation through its solar retrofit programme, biomass retrofit programme and landfill gas recovery schemes, as well as replacing over 60 per cent of street lighting across North Ayrshire with more energy-efficient LED lighting. These efforts are to be lauded.

3.51 It is important to stress however that everybody has a role to play in the global climate emergency, and we would ask the Council not to overlook the role that businesses can play. Energiekontor is ready and able to build Sorbie Wind Farm and deliver the renewable energy benefits that it would bring – the equivalent of powering all the homes in Ardrossan and Saltcoats with renewable energy and reducing the carbon emissions of the Council area by a net 12% – but we need assistance from the Council; we need access to modern turbine hardware at 125m heights to make Sorbie cost-competitive with fossil fuel alternatives.

3.52 Other material considerations and benefits of the Proposed Development include:

- The Proposed Development could give rise to a range of opportunities for civil engineering and associated works for local contractors during the construction phase, with investment in the local economy and supply chain. SPP paragraph 169 is clear that net economic impact, including the community socio-economic benefits such as employment, associated business and supply chain opportunities are relevant material considerations in the determination of onshore wind proposals.
- Utilising RenewableUK assumptions the Applicant will invest more than £14.5 million in the project. This is a significant investment with a strong policy fit both regionally and nationally.
- The total value of contracts that could be secured in North Ayrshire has been estimated at £3 million and in Scotland as a whole businesses could secure contracts worth £6.1 million.
- Energiekontor is keen to maximise these local economic benefits and would put a local contracting procurement policy in place for the Proposed Development (see Appendix A) which will give price advantage to local firms in bidding for contracts.
- The Proposed Development would be expected to generate significant business rates revenue over its 25 year lifetime. It is estimated that approximately £120,000 every year could be paid, which would be retained by the Council. Over the project's 25 year operational life that could equate to £3 million of business rates funding for the Council.
- A Community Fund would be established that could deliver £60,000 of funding a year for local causes based on a rate of £5,000 per MW of installed capacity. That could equate to £1.5 million of funding over the lifetime of the project.

3.53 The Proposed Development would therefore result in a wide range of benefits which should be afforded significant weight in the planning balance when determining this application.

3.54 These local and wider benefits can only be delivered if this application is successful.

## Summary and Conclusions

3.55 As we have identified, the Proposed Development would comply with relevant elements of the Development Plan. We can identify no particular issue that deserves significant weight such that planning permission should be refused. Specifically in drawing our conclusions, our view is that:

- Scottish Government has made it unequivocally clear that it wants to continue to "capitalise on our wind resource". The Proposed Development would contribute to the unmet 2020 target set out in NPF3.
- The 'presumption in favour' is a material consideration and the Proposed Development is considered to be consistent with the principles of sustainable development.
- Significant weight should be afforded to the contribution that the Proposed Development would make towards meeting the renewable energy targets and Government objectives that we have referred to in section 2 above.

3.56 The Proposed Development would only result in some minor incremental changes to the local area over and above the consented wind farm, but change in itself is not unacceptable. Wind energy development will always give rise to significant landscape

and visual effects. In this case however, none of the likely environmental effects that would result from the Proposed Development would, in our view, be unacceptable in the public interest which the planning system serves.

3.57 There are forceful material considerations that lend support to the case that planning permission should be granted for the reasons explained above. A key consideration in this regard is the presumption in favour of sustainable development as set out in SPP. It is our view that the presumption is engaged.

3.58 It is important that developments which are acceptable in planning terms are granted consent, particular renewable energy schemes which can make a difference in the global climate emergency. This Proposed Development can pave the way for the first subsidy-free wind farm to be constructed in Scotland, delivering a range of benefits at a cost that is competitive with fossil fuel alternatives.

3.59 Accordingly we respectfully consider the planning permission should be granted for the Proposed Development.

# APPENDICES

# APPENDIX A:
# Energiekontor Contractor Procurement Policy

## Aims

Many local companies are ideally placed to supply materials and services for our projects but may find it difficult to compete with national suppliers. Balance of Plant (BoP) construction contracts are normally selected on the basis of the 'most economically advantageous offer'. The aim of this policy is to ensure that the community and local employment benefits offered by contractors are recognised in the evaluation and award of Balance of Plant (BoP) construction contracts.

## Justification

By recognising the economic advantage that the contract may bring to local communities and individuals, our policy seeks to foster a closer relationship between Energiekontor and local communities. The construction of the development will be the first physical activity in a project that will exist for at least 25 years and a close relationship between those parties is desirable for all concerned.

## Policy Statement

We have defined our strategy in the following policy statement:

*When assessing bids for supply of materials and services to construct our projects, Energiekontor will give significant weight to bids from suppliers who demonstrate they have an established local presence, employ local people and source materials within the respective local authority region. Regional suppliers who meet our procurement qualification standards will be given a 5% price advantage on local market prices over National suppliers through the bidding process.*

# APPENDIX B:
# Wind Turbine Manufacturer Correspondence

Subject: ENERCON E-82 Availability

Morning Peter,

As discussed this morning ENERCON as Wind Turbine Manufacturers are currently in a period of transition and the direction of travel is to produce larger turbines in the +5MW sector as dictated by global demand.

As such we are in the process of streamlining our turbine portfolio and many of our EP1 and EP2 turbines will be discontinued.

Regarding the E-82 I cannot guarantee this will be available as we foresee demand to be very limited for this size and scale of machine moving forward.

The new EP3 range (including the E-115) is designed with the latest technology and provides a far better Levelised Cost Of Energy.

Mit freundlichen Grüßen / With kind regards

Nick Hudson

ENERCON
ENERGY FOR THE WORLD

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# Sorbie Wind Farm

## Section 42 Application to Vary Tip Height from 104.3M to 125M

## Review Statement

February 2020

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APPENDIX A: ENERGIEKONTOR CONTRACTOR PROCUREMENT POLICY

# EXECUTIVE SUMMARY

*This Review Statement has been prepared to support a planning application by Energiekontor UK Ltd ("the Applicant") to vary the consented Sorbie Wind Farm by increasing the tip heights of the wind turbines from 104.3m to 125m, amending the internal track layout, identifying an area for battery storage, providing additional new woodland planting, and deleting the 65m high permanent met mast ("the Proposed Development") at Sorbie Farm, Ardrossan ("the Site").*

*Since Sorbie was designed in 2013 there have been a number of significant changes to the onshore wind market, not least due to the complete removal of public subsidies in the UK. As a result, only one project has been delivered with no public subsidy in the UK.*

*Due to the site-specific conditions at Sorbie we will be able to deliver Sorbie as a subsidy-free project if we are able to use 125m modern turbines. These would generate an additional 87% of renewable energy compared to the original turbines (which incidentally are no longer available on the market) despite being just 19.8% taller.*

*The scale of the threat we face through climate change is widely acknowledged by governments across the world. The Scottish Government has recently taken the decision to declare a climate emergency, citing the need for the world to act now and deliver transformative change. Extremely challenging targets have been set for decarbonising the economy: net zero emissions for Scotland by 2045, the most stringent target anywhere the world. A significant step change in delivery of renewables is required to meet these targets.*

*The Council's planning officers have mis-applied their own, as well as national planning policies relating to spatial frameworks for wind farms. Officers consider the location of the Site within 2km of Ardrossan to be an "in principle" reason why this development should be refused. That approach is based on a basic and concerning mis-interpretation of planning policy. It is clear that spatial strategies are guides for developers, and that wind farms can be acceptable within 2km of settlements. There is no ban on wind farms within 2km of settlements within local or national policy, contrary to what Council officers would have you believe. That Council officers should misdirect themselves in this way in the face of clear national policy is a matter of grave concern to the Applicant, as it should be to Council Members. To illustrate this point, the 2km separation guide was already in place as part of SPP (June 2014) when the original 2015 permission was granted by Scottish Ministers, (November 2015) yet it was still approved despite being within a Group 2 area. Policy on spatial frameworks has not changed since then, as the spatial framework within LDP2 mirrors that within SPP. The Site was a in a Group 2 area in 2015 as it is now. Planning officers have not considered the relevant planning test that applies for wind farms within 2km of settlements, and when considered correctly it is clear that the Proposed Development is acceptable in terms of the spatial strategy.*

*When the landscape and visual effects that the Proposed Development would give rise to, over and above those of the consented 104.3m turbines, are considered it is clear that the Proposed Development is in accordance with the Development Plan and that planning permission should be granted.*

# 1 INTRODUCTION

## Background

1.1 This Review Statement has been prepared to support a Review by Energiekontor UK Ltd ("the Applicant") following a delegated decision to refuse an application to amend the existing planning permission for Sorbie Wind Farm ("the Proposed Development").

1.2 This Review Statement sets out the background and context to the Proposed Development before discussing the planning policy context and the reasons for refusing the application. This Review Statement has been prepared by the Applicant with specialist input on landscape and visual impact assessment matters provided by a qualified landscape architect.

1.3 This planning application follows a previous refusal at the Site for an application to vary the turbine tip heights to 125m (reference 19/00306/PP). This application was refused by the Council in 2019 for the following reason:

> *"The proposal would be contrary to the provisions of Local Development Plan Policy PI 9 criterion (a) and (d) and the General Policy of the adopted North Ayrshire Council Local Development Plan in the following ways: It is considered that the degree of change from 104.3m blade tip to 125m blade tip would be substantial and adverse in terms of landscape and visual impacts, especially given the locational context of the site within 2km to the north of the settlement of Ardrossan and in close proximity to the North Ayrshire Lowlands Landscape Character Type, being a landscape of smaller scale. Such a substantial increase in scale would contrast markedly with the turbine design approved in the previous consents, would overwhelm those parts of the North Ayrshire Lowlands Landscape Character Type close to the site and would have an adverse effect on the rural setting of Ardrossan. This contrast would also be unfavourable against the design of the nearby Ardrossan Windfarm, resulting in conflict with the recommendations contained in the Council's Landscape Wind Capacity Study of 2018, all of which would adversely affect landscape character and visual amenity in the locality."*

1.4 This planning application has sought to address this reason for refusal.

## Procedural Background

1.5 This planning application was submitted to the Council on 19 November 2019 and subsequently validated on 27 November 2019. The application as submitted comprised the following documents:

- Application forms;
- Planning Statement;
- Comparative Environmental Report;
- Comparative Environmental Report: LVIA Annexes; and
- The following plans and drawings:

- Figure 1.1 Location Plan
- Figure 1.2 Turbine Elevation
- Figure 1.3 Site Layout
- Figure 1.4 Woodland Planting Proposals

1.6 Following a request from local Members, on 22 January 2020 the Planning Committee met to consider whether the planning application should be called-in for its own determination, or whether it should be left to the delegated authority of officers. The Planning Committee voted to leave determination of the application with officers.

1.7 Following this Planning Committee meeting, planning officers contacted the Applicant to request that additional tree planting be provided within the Site boundary to further mitigate the landscape and visual effects of the Proposed Development. The Applicant agreed to this request and a revised *Figure 1.4 Woodland Planting Proposals* was submitted to the Council on 30 January 2020 in line with the officer's request. This resulted in an increased area of proposed woodland planting within the Site from 1.1ha to 2.2ha.

1.8 Despite meeting this request, on 5 February 2020 the planning application was refused by officers under delegated powers for the following reasons:

> "*1. The proposal would be contrary to the provisions of Policy 29 of the adopted North Ayrshire Local Development Plan (LDP) in the following ways: It is considered that the degree of change from 104.3m blade tip to 125m blade tip would be adverse in terms of landscape and visual impacts, especially given the locational context of the site within 2km to the north of the settlement of Ardrossan, which is afforded protection in terms of the Windfarm Spatial Framework as set out in the LDP. Such an increase in scale would contrast markedly with the turbine design approved in the previous consents and would have a significant adverse effect on the rural setting of Ardrossan. This contrast would also be unfavourable against the design of the nearby Ardrossan Windfarm, resulting in adverse effects on the landscape character and visual amenity of the locality.*
>
> *2. The proposed development would set an undesirable precedent for a scale of windfarm development that is unjustified at a location within 2km of a settlement, which would undermine the Policies of the adopted North Ayrshire Local Development Plan.*"

## The Applicant

1.9 Energiekontor UK Ltd is a renewable energy development company with offices in Glasgow, Edinburgh and Leeds. The company was formed in 1999 and develops onshore wind and solar farms throughout the UK. We have eight operational sites in the UK with permissions in place for a further six wind farms, five of which are in Scotland. We are a complete service company who identifies potential wind farm sites and promotes them through the planning process. If permission is obtained, we manage the finance and construction processes before operating our sites for their full 25-year life cycles. We have an operations team in Glasgow who are responsible for operating and maintaining our sites in Scotland.

1.10 In 2018 we became the first developer to finance and construct a wind farm in the UK without any government subsidies or support mechanisms in place. Previously, onshore wind farms had access to a number of government initiatives to encourage renewable energy deployment. The last UK program for onshore wind farms above 5MW (Contracts for Difference) was closed to new applicants in 2015. Since this time Energiekontor has endeavoured to find a "route to market" for onshore wind projects so that permitted developments can be realised. This first subsidy-free wind farm is located in England and we are also aiming to deliver the first subsidy-free wind farm in Scotland, which we hope will be Sorbie Wind Farm. However, we cannot do this based on the consented turbine tip heights as the scheme is not economically viable.

## The Site, Proposed Development and Context

### *The Site and its Surroundings*

1.11 Sorbie Wind Farm is approximately 1.5km to the north of Ardrossan. The Site is currently used for grazing cattle for Sorbie Dairy Farm and consists of a number of agricultural fields. The gradient of the land gently slopes from south to north with the highest point being approximately 157m Above Ordnance Datum (AOD) and the lowest point being approximately 75m AOD. There are a number of watercourses, patches of trees, a disused quarry, properties and buildings located within the Site. To the west of the Site is the B780 whilst to the north, east and south are agricultural field hedgerow boundaries. The Site is located within the Haupland Muir landscape character area as defined in the North Ayrshire Landscape Wind Capacity Study.

### *Description of Proposed Development*

1.12 This Proposed Development seeks to vary the consented Sorbie Wind Farm to achieve the following amendments:

- Increase of the turbine tip heights from 104.3m to 125m;
- Varying the internal track layout to save 1.24km of new track from being constructed;
- Identification of an area that could be utilised for energy storage in the future, should the technology become commercially available within the operational lifetime of the wind farm. A separate planning application would be submitted in the future to seek detailed consent for the energy storage facility;
- Introduction of new woodland planting on the Site; and
- Deletion of the approved 65m high permanent anemometer mast from the development.

1.13 It is proposed to achieve these variations through the use of Section 42 of the Town and Council Planning Act (Scotland) 1997 to amend planning condition 2 of permission 18/01061/PP from:

> *"That, for the avoidance of doubt, all other conditions as set out in Appendix 1 attached to the decision letter of The Scottish Government (ref. AIR-NAY-001) dated 30th November 2015 shall continue to have effect."*

To read:

> *"That, for the avoidance of doubt, all other conditions as set out in Appendix 1 attached to the decision letter of The Scottish Government (ref. AIR-NAY-001) dated 30th November 2015 shall continue to have effect except for conditions 4 and 7 which shall be amended to read:*
>
> *4. That the turbines shall be erected and the site roads constructed in the locations identified on drawing Figure 1.3 Site Layout, save for the ability to vary these locations by 30m. Any movement greater than 30m would require the written approval of North Ayrshire Council as Planning Authority. Before the turbine bases are concreted, the precise position of the turbines shall be notified to, and approved in writing by, North Ayrshire Council as Planning Authority.*
>
> *7. That no turbines will be erected until details of the model, height, colour and finish of the turbines and of any external transformers, have been submitted to, and approved in writing by, the planning authority. The turbines shall not be illuminated and shall not carry any symbols, logos or other lettering except where required under other legislation. For the avoidance of doubt, the height of the wind turbines to blade tip shall not exceed 125 metres. The development shall be carried out thereafter in accordance with the approved details, unless any changes are subsequently agreed in writing by North Ayrshire Council as Planning Authority."*

## Context

1.14 Sorbie Wind Farm was previously approved by the Local Review Body (LRB) in 2014 due to non-determination (reference 13/00627/PP and 14/00001/LRB), a decision that was subsequently ratified by Scottish Ministers in November 2015. The wind farm has not been constructed.

1.15 The original planning application for Sorbie Wind Farm was submitted to the Council in October 2013 at a time when public subsidies were still in place for onshore wind development. The tip heights originally applied for (104.3m) reflect this as, with subsidies in place, it was possible to realise viable wind projects at this height. That is reflected in a wind farm developments across North Ayrshire, a number of which have tip heights at ~100m (e.g. Ardrossan Wind Farm) and have been operational for a number of years.

1.16 Since Sorbie was designed in 2013 there have been a number of significant changes to the onshore wind market, not least due to the complete removal of public subsidies in the UK and gradual withdrawal of subsidy elsewhere in Europe. In the UK potential revenues for wind development have more than halved as a result; a change which has sent shockwaves through the industry and led to some significant adjustments in the way that developments are approached.

1.17 The most significant changes have been led by the turbine manufacturing industry, which in response to falling revenues have sought to push design envelopes further to allow individual turbines to generate more energy through the use of larger rotor diameters and higher tip heights. The rotor diameter is particularly important because it is the part of the turbine that captures the wind energy, so the larger the rotor, the more energy it can capture. Increased tip heights are required to accommodate larger diameters, and taller

tip heights have the added benefit of enabling increased wind speeds at higher elevations to be captured.

1.18 Table 1.1 below illustrates the availability of turbines from the major manufacturers that would fit within the consented turbine envelope. As the table shows, the turbines from the major manufacturers that would have fit within the consented turbine envelope in 2015 are no longer available for purchase.

Table 1.1 Turbine model availability within consented envelope

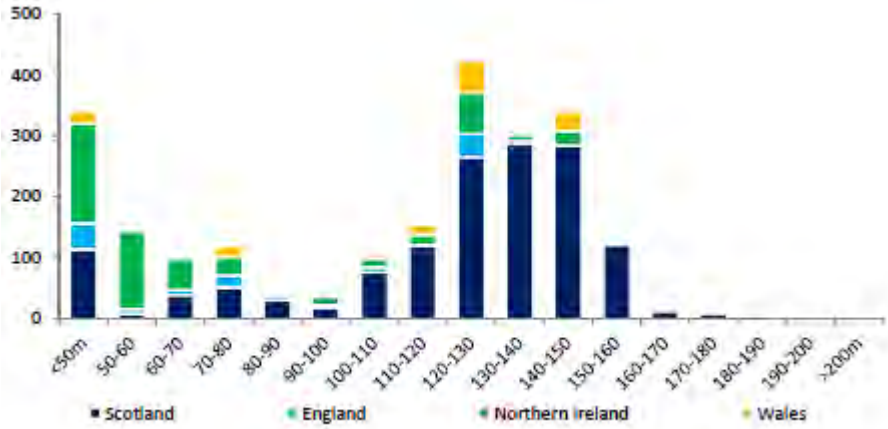
| Turbine Model | Rotor Diameter | Tip Height | Capacity | Availability |
|---|---|---|---|---|
| Vestas V80 | 80m | 100m | 2.5MW | Not available |
| Nordex N80 | 80m | 100m | 2MW | Not available |
| Senvion MM82 | 82m | 100m | 2.05MW | Not available |
| Enercon E82 | 82m | 100m | 2.35/3MW | Not available |

1.19 Growing turbine sizes has helped lower the cost of wind energy to the point where it can be economically competitive with fossil-fuel alternatives in some locations, but individual schemes require the right combination of turbine scale, wind speed and other infrastructure costs to ultimately be delivered. The overall deployment picture in the UK however is stark: since 2015 only one project has been delivered with no public subsidy in the UK, and despite the abundance of permissions for large schemes in Scotland, nothing has been delivered subsidy-free in the country to date.

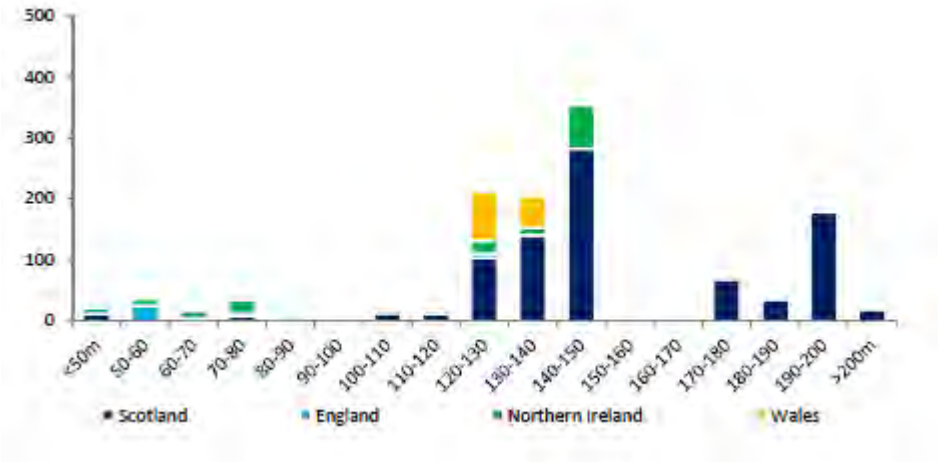
1.20 Energiekontor is aiming to take things further and position our wind projects to be the cheapest form of all energy available, which means being able to deliver projects at a cost that is lower than nuclear, coal and gas. We have a team dedicated to efficiency savings as part of this drive and every member of staff is actively involved in seeking to reduce the cost of developing wind and increasing energy output across a wide variety of initiatives. If we can be successful in our goal then the results will be transformative for the energy market in the UK; driving down consumer bills and accelerating progress towards net zero emissions. After all, if onshore wind is the cheapest form of energy, why would consumers choose more expensive fossil fuels?

1.21 Since subsidies were removed in the UK it is rare to see a project being promoted in Scotland with tip heights below 150m, which is rapidly becoming the new 'normal' for wind developments (that being the maximum height permitted before visible aviation lights are statutorily required to be installed on the turbine nacelle). Indeed, several projects are now being promoted with tip heights in excess of 200m, with support from stakeholders in the right locations (see Graphs 1.1 and 1.2 below which show either the consented maximum turbine height for onshore projects or the tip heights of application sites).

Graph 1.1 Tip heights of consented onshore wind projects (number of turbines)




Graph 1.2 Tip heights of onshore wind projects in planning (number of turbines)




1.22 At Sorbie, whilst we would of course like to use the latest turbine technology available and deliver a 150m+ development, that is not what is needed to make the project cost-competitive with fossil fuel alternatives. Due to the site-specific conditions at Sorbie, in particular the high wind speeds and relatively low infrastructure costs, we will be able to deliver Sorbie as a subsidy-free project if we are able to use 125m modern turbines. The 125m turbines that we are seeking consent for, as summarised in the table below, would generate an additional 87% of renewable energy compared to the original turbines (which in any event are no longer available on the market) despite being just 19.8% taller. This nearly doubling of renewable energy output is a disproportionate benefit compared to the modest increase in size.

Table 1.2 Summary of changes due to Proposed Development

| Characteristic | Original Sorbie Wind Farm | Proposed Development |
|---|---|---|
| Number of turbines | 3 | 3 |
| Turbine capacity | 2.05MW | 4MW |
| Rotor diameter | 82m | 115m |
| Hub height | 63.3m | 67.5m |
| Tip height | 104.3m | 125m |
| Blades | 3 | 3 |
| Turbine colour | Light grey | Light grey |
| Turbine foundations | Approximately 18m width on a square base | Approximately 18m width on a square base |
| Approximate Annual Energy Yield (approx.) | 23 GWh | 43 GWh |
| Homes Powered[1] (approx.) | 5,900 homes | 11,050 homes |
| Annual CO2 savings[2] (approx.) | 55,500 tonnes | 100,000 tonnes |
| Total length of new access track to be constructed | 2.14 km | 0.9 km |
| Aggregate required to construct access tracks | 3,210 $m^3$ | 1,350 $m^3$ |
| Area of new woodland planting | 0 ha | 2.2 ha |
| Energy storage area identified | No | Yes |
| Permanent anemometer mast included | Yes | No |

1.23 The Proposed Development includes proposed amendments to the internal wind farm track layout which are being sought as part of a drive to further optimise the wind farm and reduce unnecessary carbon expenditure. The new proposed layout would result in a saving of 1.24km of new track as compared to the consented layout, meaning that 1,860$m^3$ of aggregate would be saved from the total amount required to construct the tracks.

1.24 The Proposed Development includes the identification of an area within the construction compound that could be utilised for energy storage in the future, should the technology become commercially viable within the operational lifetime of the wind farm. A separate planning application would be submitted in the future to seek detailed consent for the storage facility.

1.25 The tip height extension would allow Sorbie Wind Farm to power 11,050 homes with renewable energy, which is roughly equivalent to every home in Saltcoats and Ardrossan.

[1] Based on an average annual UK domestic electricity consumption figure of 3,889 KWh as set out in the BEIS publication "Energy Consumption in the UK" (2017)

[2] Based on BEIS's standard carbon dioxide savings figure of 430g/KWh

That represents an increase of 5,150 homes as compared to the original Sorbie Wind Farm; an increase which is roughly equivalent to all the homes in Saltcoats. In addition, the Proposed Development would save an additional 44,500 tonnes of CO2 emissions every year as compared to the consented wind farm, meaning 100,000 tonnes of CO2 could be saved annually by the wind farm. When compared to the annual CO2 emissions for the whole of North Ayrshire, which in 2018 was 864,600 tonnes, Sorbie Wind Farm alone could reduce net emissions in North Ayrshire by 12%. Against the context of the global climate change emergency, these benefits are significant, weigh heavily in favour of the Proposed Development and should not be overlooked.

## Structure of this Review Statement

1.26 This Review Statement is structured as follows:

- Section 2 provides a summary of the policy context that is relevant to the Proposed Development, including planning policy and renewable energy policy; and
- Section 3 identifies and discusses the principal planning issues before drawing together overall conclusions.

# 2 POLICY CONTEXT

## Introduction

2.1 This section sets out the planning policy context that is relevant to the Proposed Development. It covers local and national planning policy together with other material considerations.

## Development Plan

2.2 The current statutory Development Plan for the purposes of Section 25 of the Town and Country Planning (Scotland) Act 1997 consists of the North Ayrshire Council Local Development Plan (November 2019) (LDP).

2.3 The LDP includes a policy which sets out how the Council will consider wind development, *Policy 29 Energy Infrastructure Development*, which states:

> *"We will support development proposals for energy infrastructure development, including wind, solar, tidal, cropping and other renewable sources, where they will contribute positively to our transition to a low carbon economy and have no unacceptable adverse environmental impacts, taking into consideration (including cumulatively) the following:*
>
> *Environmental*
>
> - *Communities and individual dwellings – including visual impact, residential amenity, noise and shadow flicker;*
> - *Water quality;*
> - *Landscape – including avoiding unacceptable adverse impacts on our landscape designations;*
> - *Effects on the natural heritage – including birds;*
> - *Carbon rich soils including peat;*
> - *Impacts on the historic environment – including scheduled monuments, listed buildings and their settings.*
>
> *Community*
>
> - *Establishing the use of the site for energy infrastructure development;*
> - *Providing a net economic impact – including socio-economic benefits such as employment, associated business and supply chain opportunities;*
> - *Scale of contribution to renewable energy generation targets;*
> - *Public access – including impact on long distance walking and cycling routes and scenic routes identified in the National Planning Framework;*
> - *Impacts on tourism and recreation;*
> - *Specific locational opportunities for energy storage/generation.*
>
> *Public Safety*
>
> - *Greenhouse gas emissions;*
> - *Aviation and defence interests and seismological recording;*

- *Telecommunications and broadcasting installations – particularly ensuring that transmission links are not compromised; radio telemetry interference and below ground assets;*
- *Road traffic and adjacent trunk roads;*
- *Effects on hydrology, the water environment and flood risk including drinking water quality and quantity (to both the public and private water supplies);*
- *Decommissioning of developments – including ancillary infrastructure, and site restoration and aftercare.*

*Proposals should include redundancy plans which will demonstrate how apparatus will be timeously removed as reasonably soon as the approved scheme ceases operation. There may be a requirement for financial bonds to ensure that decommissioning can be achieved. Taking into consideration the above, proposals for wind turbine developments should accord with the Spatial Framework (as mapped) and consider the current Landscape Capacity Study for Wind Farm Development in North Ayrshire. This study will be used as a point of reference for assessing all wind energy proposals including definitions of what small to large scale entails."*

2.4 The Spatial Strategy for wind farms is set out on page 99 of the LDP. This sets out where the various Group 1, Group 2 and Group 3 areas within North Ayrshire are located in broad terms. Group 1 areas are locations where wind farms will not be acceptable, Group 2 areas are defined as "areas of significant protection", and Group 3 areas are locations with potential for wind farm development. The Site is located within a 'Group 2' area due to its location within 2km of the settlement of Ardrossan. The Spatial Strategy on page 99 makes it clear that the classification of these Groups comes from Scottish Planning Policy Table 1: Spatial Frameworks, a matter which we refer to later in this Review Statement.

2.5 The previous planning applications for Sorbie Wind Farm, including the most recent tip height increase application in 2019, were considered against the previous LDP from May 2014, in particular Policy PI 9 which dealt with wind energy proposals. Comparing the new Policy 29 with the previous Policy PI 9, it is clear that there is a shift in tone between the two policies. Policy PI 9 requires proposals to demonstrate compliance with a range of criteria before they can be considered acceptable. Policy 29 meanwhile turns this on its head and states from the outset that the Council "will support" wind proposals which contribute to our transition to a low carbon economy. This support is subject to there being no unacceptable adverse environmental impacts, "taking into consideration" a range of criteria. Again there has been a shift here with respect to which the various criteria are relevant; Policy IP 9 required proposals to satisfy all of the criteria, whereas Policy 29 requires proposals to take the criteria "into consideration". In addition, the criteria listed in Policy PI 9 considered the extent to which proposals had the potential to result in adverse effects, with no consideration of or weight given to the benefits that individual schemes could bring. By contrast, the criteria in Policy 29 include a range of positive factors to be taken into account by the decision maker, namely:

- Providing a net economic impact – including socio-economic benefits such as employment, associated business and supply chain opportunities;
- Scale of contribution to renewable energy generation targets; and
- Specific locational opportunities for energy storage/generation.

2.6 Overall, there is a shift in tone and emphasis in the new policy where support from the Council for wind energy is explicit and a framework is provided for balancing the positive aspects of proposals against environmental effects.

2.7 Moreover, at the time the previous application for 125m turbines at Sorbie Wind Farm was being considered by planning officers, the emerging Policy 29 placed significantly more weight on the landscape capacity study than the current wording of Policy 29. Proposals were previously required to "comply" with the landscape capacity study, which is a much higher test than the current wording of Policy 29, which simply states that the landscape capacity study will be "used as a point of reference". The LDP Examination Report (July 2019) notes that the Scottish Government objected to this part of the original wording on the basis that:

> *"wind energy developments do not need to 'comply' with landscape guidance in order to align with Scottish Planning Policy (CD02). [Scottish Government] suggests that development management could determine compliance and the [landscape guidance] should be used for information only as suggested in another part of the policy."*

2.8 The Reporter's conclusion on this matter note that:

> *"The council failed to respond to the Scottish Government's suggestion to remove the requirement to comply with the current landscape capacity study for wind farm development in North Ayrshire…I consider that requiring proposals to 'comply' with the landscape capacity study is at odds with the final sentence of proposed policy 29 which suggests that 'this study will be used as a point of reference for assessing all wind energy proposals'. It would be reasonable and appropriate for the text to simply require proposals to consider the findings of the landscape capacity study. A change is justified on this basis."*

2.9 The requirements of Policy 29 have therefore been watered down in respect of the capacity study, with proposals now being required to simply "consider" the study, rather than "comply" with it. This is more in line with how landscape capacity studies should be used when considering individual applications for wind energy development, as discussed further in Section 3, and marks a change from what was before planning officers when they considered the previous application for 125m turbines at Sorbie.

## National Policy and Guidance

### *National Planning Framework*

2.10 National Planning Framework 3 (NPF 3) was published on 23 June 2014. NPF 3 is a long term strategy for Scotland and is the spatial expression of the Government's Economic Strategy and plans for development and investment in infrastructure.

2.11 The general and high level support for renewables is provided through the 'vision' which is referred to as *inter alia*:

- A successful, sustainable place – "we have a growing low carbon economy which provides opportunities…";

- A low carbon place – "we have seized the opportunities arising from our ambition to be a world leader in low carbon generation, both onshore and offshore"; and
- A natural resilient place – "natural and cultural assets are respected; they are improving in condition and represent a sustainable economic, environmental and social resource for the nation".

## *Scottish Planning Policy*

2.12 Scottish Planning Policy (SPP) was adopted in June 2014 and sets out the Scottish Government's policy on how nationally important land use matters should be addressed across the country.

2.13 Both SPP and NPF3 share a vision for Scotland: "a *growing, low carbon economy with progressively narrowing disparities in well-being and opportunity. It is growth that can be achieved whilst reducing our emissions and which respects the quality of the environment, place and life and which makes our country so special*" (para 11).

2.14 Paragraph 18 makes reference to the Climate Change (Scotland) Act 2009 which sets a target of reducing greenhouse gas emissions by at least 80% by 2050, with an interim target of recuing emissions by at least 42% by 2020. SPP explains that Section 44 of the 2009 Act places a duty on public bodies to act in the best way to contribute to the delivery of emissions targets as set out in the Act, and to help deliver the Scottish Government's climate change adaption programme.

2.15 The SPP sets out continued support for onshore wind in a similar manner to the previous SPP. However, it also now sets out a presumption in favour of development that contributes to sustainable development. The 'presumption in favour' is an important new aspect of national planning policy. Paragraphs 32 and 33 of SPP explain how this Policy Principle is given effect to in development management, as discussed in Section 3 of this Statement.

2.16 SPP addresses 'A Low Carbon Place' as a 'subject policy' and refer to 'delivering electricity'. Paragraph 152 refers to the NPF context and states that NPF3 is clear that planning <u>must</u> facilitate the transition to a low carbon economy and help to deliver the aims of the Scottish Government. It is stated that Scotland has significant renewable energy resources, both onshore and offshore.

2.17 In terms of renewable energy, paragraph 154 sets out that the planning system should support the transformational change to a low Carbon economy, consistent with national objectives and targets. Important to this is the expansion of renewable energy generation capacity.

2.18 Paragraph 161 sets out the approach that should be taken by local authorities in preparing spatial strategies. It states that planning authorities "should set out in the development plan a spatial framework identifying those areas that are likely to be most appropriate for onshore wind farms <u>as a guide for developers</u> and communities, <u>following the approach set out below in Table 1</u>". Table 1 is reproduced in full below:

SPP Table 1: Spatial Frameworks

| | | |
|---|---|---|
| Group 1: Areas where wind farms will not be acceptable:<br><br>National Parks and National Scenic Areas | | |
| Group 2: Areas of significant protection:<br><br>Recognising the need for significant protection, in these areas wind farms may be appropriate in some circumstances. Further consideration will be required to demonstrate that any significant effects on the qualities of these areas can be substantially overcome by siting, design or other mitigation. | | |
| National and international designations:<br><br>▪ World Heritage Sites;<br>▪ Natura 2000 and Ramsar sites;<br>▪ Sites of Special Scientific Interest;<br>▪ National Nature Reserves;<br>▪ Sites identified in the Inventory of Gardens and Designed Landscapes;<br>▪ Sites identified in the Inventory of Historic Battlefields. | Other nationally important mapped environmental interests:<br><br>▪ Areas of wild land as shown on the 2014 SNH map of wild land areas;<br>▪ Carbon rich soils, deep peat and priority peatland habitat. | Community separation for consideration of visual impact:<br><br>▪ An area not exceeding 2km around cities, towns and villages identified on the local development plan with an identified settlement envelope or edge. The extent of the area will be determined by the planning authority based on landform and other features which restrict views out from the settlement. |
| Group 3: Areas with potential for wind farm development:<br><br>Beyond groups 1 and 2, wind farms are likely to be acceptable, subject to detailed consideration against identified policy criteria. | | |

## *Onshore Wind Policy Statement*

2.19 In December 2017 the Scottish Government published its Onshore Wind Policy Statement. The ministerial forward by Paul Wheelhouse MSP highlights the "*vital*" role that onshore wind will continue to play in Scotland's future, "*helping to substantively decarbonise our electricity supplies, heat and transport systems, thereby boosting our economy, and meeting local and national demand*". The ministerial forward continues to highlight that this important role "*means we must support development in the right places, and – increasingly – the extension and replacement of existing sites, where acceptable, with new*

*and larger turbines, based on an appropriate, case by case assessment of their effects and impacts*".

2.20 Specifically in relation to the use of larger turbines, the policy statement makes the following points:

> *"3. In order for onshore wind to play its vital role in meeting Scotland's energy needs, and a material role in growing our economy, its contribution must continue to grow. Onshore wind generation will remain crucial in terms of our goals for a decarbonised energy system, helping to meet the greater demand from our heat and transport sectors, as well as making further progress towards the ambitious renewable targets which the Scottish Government has set.*
>
> *4. This means that Scotland will continue to need more onshore wind development and capacity, in locations across our landscapes where it can be accommodated.*
>
> *9. We know that new projects face a highly uncertain route to market. The arrangements which have enabled onshore wind to expand and to reduce its costs so successfully, are no longer in place. Continued innovation and cost reduction, a supportive and well-resourced planning system, and continued advances in turbine and blade technology will help close the gap that currently exists – but not sufficiently, and not for all developments.*
>
> *23. …We acknowledge that onshore wind technology and equipment manufacturers in the market are moving towards larger and more powerful (i.e. higher capacity) turbines, and that these – by necessity – will mean taller towers and blade tip heights.*
>
> *24. The technology shift towards larger turbines may present challenges when identifying landscapes with the capacity to accommodate larger scale development, as not all will be suitable. However, fewer but larger wind turbines may also present an opportunity for landscape improvement, as well as increasing the amount of electricity generated.*
>
> *25. The Scottish Government acknowledges the way in which wind turbine technology and design is evolving, and fully supports the delivery of large wind turbines in landscapes judged to be capable of accommodating them without significant adverse impacts…"*

## The Renewable Energy Legislative and Policy Context

### *The COP21 UN Paris Agreement*

2.21 The Paris Agreement (December 2015) is an international agreement on climate change, of which there are 195 countries, including the UK.

2.22 The Agreement came into force on November 4th 2016, having been ratified by at least 55% (the point which triggers ratification) of the 195 countries.

2.23 The meeting in Paris was considered a make-or-break opportunity to secure an international agreement on the approach to tackling climate change, commitment to a

longer-term goal of near zero net emissions in the second half of the century, and supporting the transition to a clean economy and low carbon society.

2.24 Governments agreed:

- A long-term goal of keeping the increase in global average temperature to well below 2°C above pre-industrial levels.
- To aim to limit the increase to 1.5°C, since this would significantly reduce risks and the impacts of climate change.
- On the need for global emissions to peak as soon as possible, recognising that this will take longer for developing countries.
- To undertake rapid reductions thereafter in accordance with the best available science.

2.25 Countries will also be legally obliged to make new post-2030 commitments to reduce emissions every five years.

## *UK 2050 Net Zero Target*

2.26 In June 2019 the UK became the first major economy in the world to pass laws to end its contribution to global warming by 2050. The target will require the UK to bring all greenhouse gas emissions to net zero by 2050, compared with the previous target of at least an 80% reduction from 1990 levels.

## *Scottish Energy Strategy: The future of energy in Scotland*

2.27 The *Scottish Government published its Scottish Energy Strategy: The future of energy in Scotland* in December 2017. The strategy sets two new targets for the Scottish energy system by 2030:

- The equivalent of 50% of the energy for Scotland's heat, transport and electricity consumption to be supplied from renewable sources.
- An increase by 30% in the productivity of energy use across the Scottish economy.

2.28 In relation to renewable energy targets the strategy states the following:

> *"Scotland's long term climate change targets will require the near complete decarbonisation or our energy system by 2050, with renewable energy meeting a significant share of our needs.*
>
> *In 2009 the Scottish Government established a suite of renewable energy targets for 2020 – with a headline target of the equivalent of 30% of Scotland's heat, transport and electricity consumption to be supplied from renewable sources. We have made good progress to date, with the equivalent of 17.8% being met by renewable sources in 2015.*
>
> *Reaching 50% in 13 years time will be challenging, particularly in more uncertain market conditions compared to those in the preceding decade, and due to the fact that not all the relevant policy levers are devolved to the Scottish Government. But the target demonstrates the Scottish*

*Government's commitment to a low carbon system and to continued growth of the renewable energy sector in Scotland. It also underlines our belief in the sector's ability to build on its huge achievements and progress thus far."*

2.29 Specifically in relation to onshore wind the strategy states the following:

*"Onshore wind is now amongst the lowest cost forms of power generation of any kind, and is a vital component of the huge industrial opportunity that renewables create for Scotland. The sector supports an estimated 7,500 jobs in Scotland, and generated more than £3 billion in turnover in 2015. Campbeltown is also currently home to the UK's only turbine tower fabricator.*

*Our energy and climate change goals mean that onshore wind must continue to play a vital role in Scotland's future – helping decarbonise our electricity, heat and transport systems, boosting our economy, and meeting local and national demand.*

*That means continuing to support development in the right places, and – increasingly – the extension and replacement of existing sites with new and larger turbines, all based on an appropriate, case by case assessment of their effects and impacts.*

*It means continuing to provide a route to market for that power – in ways which reduce and ultimately eliminate any additional costs for consumers.*

*And it means developers and communities working together and continuing to strike the right balance between environmental impacts, local support, benefit and – where possible – economic benefits deriving from community ownership.*

*This can be done in a way which is compatible with Scotland's magnificent landscapes, including our areas of wild land. This means that the relevant planning and consenting processes will remain vitally important. A major review of the Scottish planning system is well under way, and will continue as now to fully reflect the important role of renewable energy and energy infrastructure, in the right places."*

## Scotland Climate Change Plan

2.30 The Climate Change Plan (2018) provides the framework for Scotland's transition to a low-carbon economy, setting out how emissions will be reduced in every year to 2032.

2.31 The Climate Change Plan highlights that climate change is one of the greatest global threats we face and that Scotland must play its part to achieve the ambitions set out in the Paris Agreement, which mandates concerted, global action to deal with the threat. It notes that the path towards a low carbon future will require great effort across all parts of our society and economy, but it also presents tremendous opportunities.

## *The Global Climate Emergency* – ***Scotland's Response***

2.32 On 14 May 2019 the Climate Change Secretary Roseanna Cunningham made a statement to the Scottish Parliament regarding Scotland's response to the climate change emergency. Her statement highlighted *inter alia*:

> *"There is a global climate emergency. The evidence is irrefutable. The science is clear. And people have been clear: they expect action. The Intergovernmental Panel on Climate Change issues a stark warning last year: the world must act now. By 2030 it will be too late to limit warming to 1.5 degrees…*
>
> *…it's not too late for us to turn things around, but to do so requires transformative change. This is not just about government action. And it is not something that only affects Scotland…We all have a part to play: individuals, communities, businesses, other organisations…*
>
> *…Earlier this month, the Scottish Government received advice from the UK Committee on Climate Change in light of the IPCC report. We acted immediately with amendments to our Climate Change Bill to set a 2045 target for net zero emissions…these will be the most stringent legislative targets anywhere in the world and Scotland's contribution to climate change will end, definitively, within a generation. The CCC was clear that this will be enormously challenging…*
>
> *…The CCC has been stark in saying that the proposed new targets will require a 'fundamental change from the current piecemeal approach that focuses on specific actions in some sectors to an explicitly economy wide approach'. To deliver the transformational change that is required, dwe need structural changes across the board: to our planning, procurement, and financial policies, processes and assessments…that is exactly what we will do."*

## Summary

2.33 The scale of the threat we face through climate change is widely acknowledged by governments across the world. The Scottish Government has recently taken the decision to declare a climate emergency, citing the need for the world to act now and deliver transformative change. Everyone has a role to play in this global climate emergency, including businesses and local authorities. Extremely challenging targets have been set for decarbonising the economy: net zero emissions for Scotland by 2045, the most stringent target anywhere the world.

2.34 International and national commitments have been made to address the effects of climate change and to achieve greater security in the domestic supply of energy. This in turn has directly influenced a response through the land use planning system which through national planning policy strongly encourages renewable energy development and the evidence base demonstrates that wind energy is the key renewable resource for Scotland.

2.35 There remains a shortfall on a national basis against targets for renewable energy generation. National targets are not capped and decision makers are not prevented from consenting projects just because an interim target may be achieved.

2.36 In addition:

- It is clear from NPF3 that onshore wind development is recognised as a key technology in the energy mix which will contribute to Scotland becoming a 'low carbon place' which in turn is a key part of the 'vision' for Scotland.
- Scottish Government has made it unequivocally clear that it wants to continue to "capitalise on our wind resource", including through the use of larger turbines where appropriate.
- SPP sets out continued support for onshore wind in a similar manner to the previous SPP.
- SPP also sets out a presumption in favour of development that contributes to sustainable development.
- The presumption in favour is an important new aspect of national planning policy and material to the consideration of planning applications.
- Policy 29 in LDP2 is more inherently supportive of wind energy proposals than Policy PI 9 in the previous LDP, allowing a range of positive factors such as economic benefit to be balanced against adverse effects.
- Policy 29 has also been watered down in respect of the relevance of the landscape capacity study,
- A Spatial Strategy is contained within the LDP as required by SPP. The Site is located within a Group 2 area where, according to SPP, "wind farms may be appropriate in some circumstances".

# 3 PLANNING APPRAISAL

3.1 This section considers the planning issues raised by the Proposed Development against the planning policy context outlined in Section 2. In presenting an assessment of the overall planning policy case we firstly consider the following two questions:

- Does the Proposed Development accord with the provisions of the statutory Development Plan?
- Do material considerations outweigh the provisions of the statutory Development Plan?

3.2 Before addressing these two questions however it is first worth considering the Council's reasons for refusal, and the perceived Development Plan conflict that they raise.

## The Reasons for Refusal

3.3 The two stated reasons for refusal are:

> *"1. The proposal would be contrary to the provisions of Policy 29 of the adopted North Ayrshire Local Development Plan (LDP) in the following ways: It is considered that the degree of change from 104.3m blade tip to 125m blade tip would be adverse in terms of landscape and visual impacts, especially given the locational context of the site within 2km to the north of the settlement of Ardrossan, which is afforded protection in terms of the Windfarm Spatial Framework as set out in the LDP. Such an increase in scale would contrast markedly with the turbine design approved in the previous consents and would have a significant adverse effect on the rural setting of Ardrossan. This contrast would also be unfavourable against the design of the nearby Ardrossan Windfarm, resulting in adverse effects on the landscape character and visual amenity of the locality.*
>
> *2. The proposed development would set an undesirable precedent for a scale of windfarm development that is unjustified at a location within 2km of a settlement, which would undermine the Policies of the adopted North Ayrshire Local Development Plan."*

3.4 There are three principal issues raised in these reasons for refusal, namely landscape and visual impact, contrasting turbine scale, and the location of the Site within 2km of Ardrossan. Each of these issues is said by the planning officers to raise conflict with Policy 29. We will deal with each issue separately below.

<u>Landscape and Visual Effects of the Proposed Development</u>

3.5 The LVIA submitted in support of this planning application is supported by a range of visual material, including a set of photomontages comparing the larger proposed turbines against the consented turbines. These photomontages provide strong evidence that the proposed increase in turbine size would appear as more of a moderate increase from key views in the surrounding landscape, and not a 'substantial' change as cautioned against in the LWCS.

3.6 In terms of effects on landscape, the LWCS describes the host Landscape Character Type (LCT) (Ayrshire Lowlands) as being a "*small to medium scale gently undulating to rolling landscape*", however, "*scale is increased where remnant mosses and pastures surrounding them are more open and less settled on the western edge of this character type where a more gradual transition occurs with the adjacent uplands of Haupland Muir*". It is within this area of 'increased' scale and 'gradual transition' with the uplands that the Proposed Development is found to have most influence. The LVIA submitted in 2013 for the original Sorbie application found that the effects on this LCT would be significant within 3km of the Site (with a Medium-High magnitude of change) and not significant in the wider area of this LCT (with a Low magnitude of change). The LRB and Scottish Ministers agreed that these effects were acceptable. Crucially, the LVIA submitted for this Proposed Development does not find a material increase in the magnitude of effect on landscape character for the Ayrshire Lowlands LCT. The effects are therefore the same as those already accepted by Scottish Ministers in 2015.

Contrasting Turbine Scale

3.7 The second point raised in the first reason for refusal is that the different scales of turbines at Sorbie and Ardrossan would give rise to unacceptable adverse effects. We do not accept this point. The turbines at Ardrossan are sited at higher elevations than Sorbie, meaning that despite the proposed increase in height, the Ardrossan turbines will still have higher overall tip heights. This is illustrated on Figure 3.1 and Figure 3.2 below which illustrate the overall tip heights in metres Above Ordnance Datum (AOD) across the two wind farms based on the original consent (Figure 3.1) and the Proposed Development (Figure 3.2).

3.8 Indeed, if anything it is the Ardrossan turbines that appear larger in scale than the Sorbie turbines, and the overall tip height relationship will be more equally matched between the two wind farms if the Proposed Development goes ahead.

Figure 3.1 Comparison of tip heights in metres AOD between the consented Sorbie turbines (S T1-3, 104.3m to tip) and the existing Ardrossan turbines (A T1-15, 100m to tip)

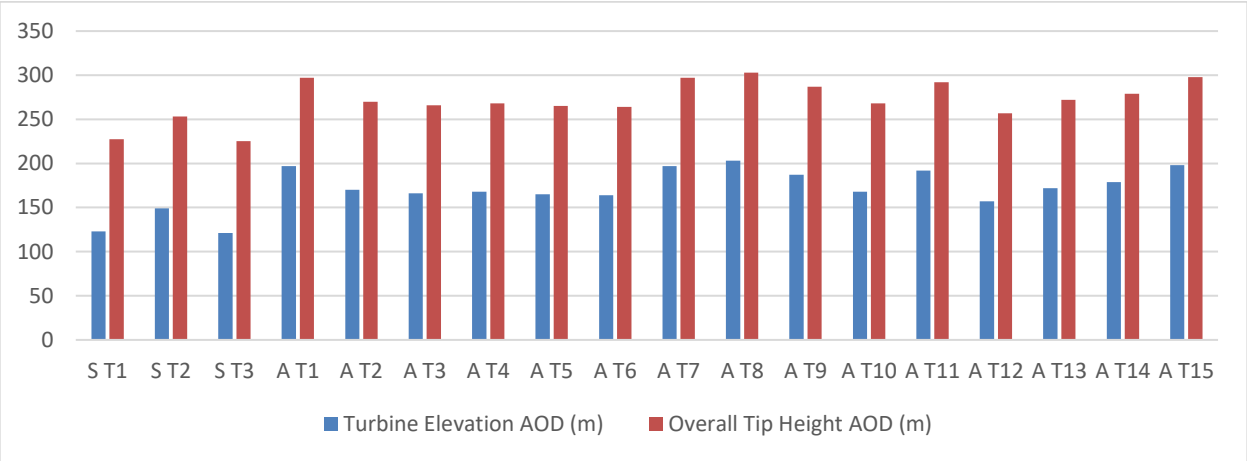
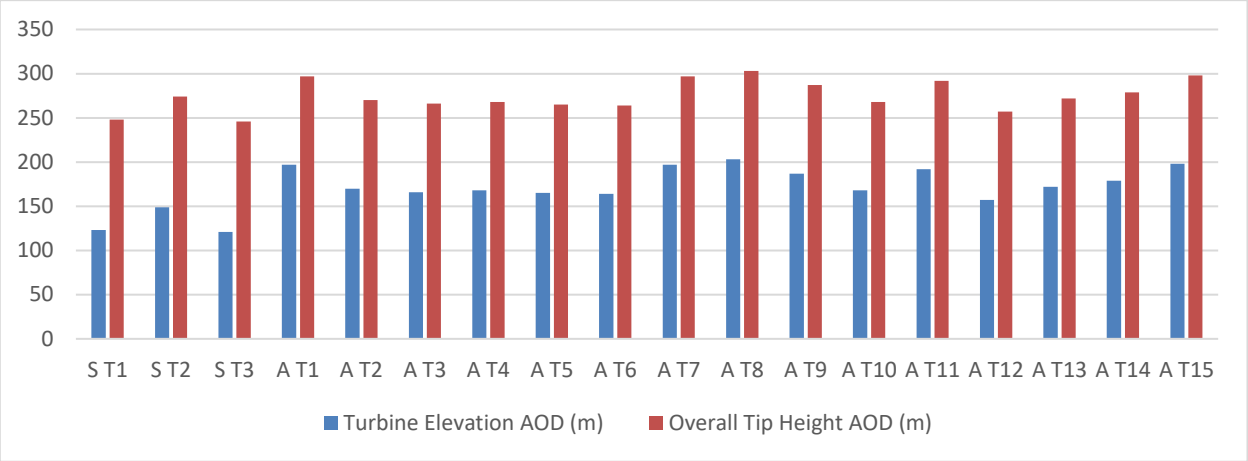


Figure 3.2 Comparison of tip heights in metres AOD between the proposed Sorbie turbines (S T1-3, 125m to tip) and the existing Ardrossan turbines (A T1-15, 100m to tip)




The Site's Location within 2km of Ardrossan

3.9 The Report of Handling sets out the position of the planning officers in terms of applying the 2km separation guide, which is reflected in the reasons for refusal. It states:

> *"In summary, it is considered that there would be a precedent set by supporting a proposal of a scale that exceeds the previously agreed wind turbine height at this location, within 2km of a built-up area. The applicant is of the view that the 2km figure is simply a 'guideline' – however, as clearly illustrated in the recently adopted LDP, the Council's spatial strategy for wind farm development seeks to safeguard the 2km buffer around settlements from wind farm development as a matter of principle…"*

3.10 This analysis by planning officers is deeply concerning. Officers appear to be labouring under the misapprehension that the spatial framework for wind places a ban on wind farm development within 2km as "a matter of principle". This approach is clearly flawed for the following reasons:

- The spatial framework contained in the LDP is based on the requirements of SPP (to which it refers), which identifies Group 1, Group 2 and Group 3 areas.
- The 2km separation guide from settlements is a 'Group 2' consideration.
- There is no outright restriction on wind farms within Group 2 areas. Instead, SPP stresses that within these areas "wind farms may be appropriate in some circumstances". That is not an 'in principle' ban by any stretch.
- That can be contrasted with Group 1 areas (National Parks and National Scenic Areas, where SPP is clear that wind farms will definitely "not be acceptable" in principle. Why would SPP differentiate between Group 1 and Group 2 areas if they are both to be treated as unacceptable places in principle for wind farms.
- By using the 2km separation guide as an 'in principle' objection to wind farms, officers have therefore made a very basic error in applying the spatial strategy, which has resulted in the wrong decision being made on the acceptability of the Proposed Development. The 2km separation guide should never be used as an 'in principle' objection to wind farms, as it is a Group 2 consideration, not a Group 1 consideration.

3.11 To illustrate the point and make the correct position clear beyond any doubt, SPP introduced spatial frameworks in 2014 before the original 2015 permission was granted by Scottish Ministers. The Site was therefore in Group 2 area when it was approved, which was a matter accepted by the parties at the time including the Council's planning officers. If locations within 2km of settlements were not suitable in principle for wind farms then the 2015 permission would not have been granted by Scottish Ministers, as it would have contravened national policy. Instead, the Reporter noted the guidance on spatial frameworks within SPP and went on to approve the application anyway. He stated:

> *"6.51 It was accepted at the hearing that the proposal is within 2 kilometres of a settlement and would therefore fall within group 2 – Areas of Significant Protection in Table 1. However, the commentary does not preclude development in every case and it may be appropriate in some circumstances. The relationship with the surrounding settlements was assessed in the submitted landscape and visual impact assessment. In summary, in the context of the existing Ardrossan Wind Farm, the impacts were found to be acceptable".*

3.12 Nothing has changed to planning policy on spatial frameworks since 2015: the Site was in a Group 2 area when it was approved in 2015; it is still in a Group 2 area today; and the relevant policy tests remain the same notwithstanding the adoption of LDP2 in 2019. The spatial framework in LDP2 is derived from SPP and aligned with it; it does not introduce anything different or new.

3.13 The Report of Handling highlights that planning officers consider the 2km separation distance is not a guide, but operates as a pass or fail. SPP states however at paragraph 161 that it is "a guide to developers". SPP could not be clearer on this point. The Scottish Government's online *Onshore wind turbines: planning advice* further notes that "this 2km separation distance is a guide, not a rule, and decisions on individual developments should take into account specific local circumstances and geography". Finally, the Scottish Government's online *Onshore wind planning: frequently asked questions* states that the 2km separation "is not a ban on wind farm development in the identified area. The character of some settlements can in part be defined through their relationship with their surroundings. In some settlements this relationship is more important than in others. The separation distance allows for the important vistas out from a settlement that could be harmed by an insensitively sited or designed wind farm to be identified".

3.14 For wind farm developments proposed within 2km of settlements, SPP is clear at Table 1 that the relevant test is whether it can be demonstrated that a proposal would not have any "significant effects on the qualities" of a settlement. Planning officers have given no consideration to this test.

3.15 Overall, planning policy on this point could not be clearer: the 2km separation distance is a guide, not a pass or fail. Planning officers have incorrectly applied the 2km distance as an 'in principle' objection to the Proposed Development, which is a serious error in considering the merits of the application. Wind farms within 2km of settlements can, according to planning policy, be acceptable in some circumstances and the relevant planning test is whether any significant effects on the qualities of the settlement can be substantially overcome by siting, design or other mitigation. Planning officers have not considered this planning test. This was all set out by the Reporter for the 2015 application,

and nothing has changed to the relevant policy tests since then, notwithstanding the adoption of LDP2.

3.16 In relation to this planning test, specifically whether any significant effects on the qualities of Ardrossan have been substantially overcome by siting, design or other mitigation, it is relevant that the current setting of the town is influenced by the existing Ardrossan Wind Farm, which is often seen either in a semi-urban context at the eastern settlement edges or from the western settlement edge (such as Ardrossan Harbour) with the rural backdrop including the Ardrossan Wind Farm appearing beyond the town. The LWCS states that "*the area is visually dominated by the operational Ardrossan wind farm which is located within the upland core of this landscape and on gently graded southern slopes*", and that "*the Kelburn and Adrossan wind farms and the power stations and other infrastructure at Hunterston are key features in views from the sea and close offshore islands*".

3.17 The Proposed Development would be visible within this same landscape context and would have a clear association with this particular wind farm influenced landscape, which provides a setting commensurate with the scale of the Proposed Development. The LWCS confirms this point at paragraph 3.3.3, which states:

> *"The operational wind farms of Kelburn, Dalry and Millour form a concentrated grouping in the southern part of the Clyde Muirshiel Uplands. The Ardrossan wind farm is slightly set apart from this grouping being associated with lower hills in the south of these uplands and closer to the settled coast. The consented Sorbie wind turbines will lie close to the operational Ardrossan wind farm at the transition of these uplands with more settled farmed hill slopes and lowlands."*

3.18 The proposed increase in turbine blade tip height would not materially alter the relationship that the consented development maintains with the settlement of Ardrossan. As such, it is clear that the Proposed Development would not have any significant effects on the qualities of Ardrossan, which is the key test in SPP for proposals within 2km of a settlement boundary.

3.19 In summary on this issue:

- Planning officers have made a basic error in applying the spatial framework for wind energy development, treating the 2km separation distance as an 'in principle' ban.
- SPP is clear that wind farms can still proceed within 2km of settlements, and that the relevant planning test is whether any significant effects on the qualities of the settlement can be substantially overcome by reason of siting, design or other mitigation. This test has not been considered by officers.
- In that respect, the proposed increase in turbine blade tip height would not materially alter the relationship that the consented wind farm maintains with the settlement of Ardrossan and it is clear that the Proposed Development would not have any significant effects on the qualities of Ardrossan.
- The spatial framework in LDP2 is derived from and aligned with the spatial framework in SPP; it does not introduce anything different or new.
- The policy position on spatial frameworks is therefore the same as when the original 2015 permission was approved by Scottish Ministers. The Site was a Group 2 area then

as it is now, and nothing has changed to policy for strategic frameworks in the intervening period notwithstanding the adoption of LDP2.

## Does the Proposed Development accord with the statutory Development Plan?

3.20 In terms of the Proposed Development's compliance with the statutory Development Plan, Policy 29 sets out that the Council will support wind developments where they will contribute positively to our transition to a low carbon economy and have no unacceptable adverse environmental impacts taking into consideration various criteria. These criteria are considered in turn below.

*Communities and individual dwellings – including visual impact, residential amenity, noise and shadow flicker*

3.21 Taking these issues in turn:

- Visual impact – The nearest community to the Site is Ardrossan and the proposed increase in turbine height would not materially alter the relationship that the consented wind farm maintains with the settlement of Ardrossan.
- Residential amenity – The Proposed Development would not result in any residential property becoming an unattractive place to live, which is the key planning test in terms of residential amenity.
- Noise – The noise assessment included within the Comparative Environmental Report confirms that the proposed 125m turbines would be able to operate within the existing noise limits in place for the consented wind farm. Noise levels from the Proposed Development would therefore be acceptable.
- Shadow flicker – Although theoretically there would be additional shadow flicker effects as a result of the Proposed Development owing to the larger rotor diameter, in practice mitigation would prevent the occurrence of flicker at receptor locations. This mitigation would be in the form of software which would automatically shut down the turbines at periods where flicker effects could theoretically occur.

*Water quality*

3.22 The Proposed Development would not lead to any additional effects on water quality over and above those of the consented wind farm.

*Landscape – including avoiding unacceptable adverse impacts on our landscape designations*

3.23 For the reasons set out in paragraphs 3.5 – 3.22 above, we consider that no unacceptable impacts on landscape would arise as a result of the Proposed Development.

*Effects on the natural heritage – including birds*

3.24 The Proposed Development would not lead to any additional effects on natural heritage over and above those of the consented wind farm.

*Carbon rich soils including peat*

3.25 The Proposed Development would not lead to any additional effects on carbon rich soils over and above those of the consented wind farm. By contrast, soil disturbance would be reduced owing to the reduced length of access track required to construct the Proposed Development.

*Impacts on the historic environment – including scheduled monuments, listed buildings and their settings*

3.26 The Proposed Development would not lead to any additional direct or indirect effects on the historic environment over and above those of the consented wind farm.

*Establishing the use of the site for energy infrastructure development*

3.27 It is not clear exactly what is meant by this criterion. If it refers to establishing the principle of wind farm use on individual sites, then that has already been established at Sorbie by the existing consent. If however it refers to the economic benefits that would flow to the local area by establishing/constructing the wind farm, then these benefits would be significant and are highlighted below with reference to the following criterion.

*Providing a net economic impact – including socio-economic benefits such as employment, associated business and supply chain opportunities*

3.28 The Proposed Development would deliver the following socio-economic benefits:

- The Proposed Development could give rise to a range of opportunities for civil engineering and associated works for local contractors during the construction phase, with investment in the local economy and supply chain. SPP paragraph 169 is clear that net economic impact, including the community socio-economic benefits such as employment, associated business and supply chain opportunities are relevant material considerations in the determination of onshore wind proposals.
- Utilising RenewableUK assumptions the Applicant will invest more than £14.5 million in the project. This is a significant investment with a strong policy fit both regionally and nationally.
- The total value of contracts that could be secured in North Ayrshire has been estimated at £3 million and in Scotland as a whole businesses could secure contracts worth £6.1 million.
- Energiekontor is keen to maximise these local economic benefits and would put a local contracting procurement policy in place for the Proposed Development (see Appendix A) which will give price advantage to local firms in bidding for contracts.
- The Proposed Development would be expected to generate significant business rates revenue over its 25 year lifetime. It is estimated that approximately £120,000 every year could be paid, which would be retained by the Council. Over the project's 25 year operational life that could equate to £3 million of business rates funding for the Council.
- A Community Fund would be established that could deliver £60,000 of funding a year for local causes based on a rate of £5,000 per MW of installed capacity. That could equate to £1.5 million of funding over the lifetime of the project.

*Scale of contribution to renewable energy generation targets*

3.29 The 125m turbines would generate an additional 87% of renewable energy compared to the consented wind farm despite being just 19.8% taller. This nearly doubling of renewable energy output is a disproportionate benefit compared to the modest increase in size. Similarly the wind farm would have an installed capacity of 12MW compared to the 6.15MW of the existing consent.

3.30 The tip height extension would allow Sorbie Wind Farm to power 11,050 homes with renewable energy, which is roughly equivalent to every home in Saltcoats and Ardrossan. That represents an increase of 5,150 homes as compared to the original Sorbie Wind Farm; an increase which is roughly equivalent to all the homes in Saltcoats. In addition, the Proposed Development would save an additional 44,500 tonnes of CO2 emissions every year as compared to the consented wind farm, meaning 100,000 tonnes of CO2 could be saved annually by the wind farm. When compared to the annual CO2 emissions for the whole of North Ayrshire, which in 2018 was 864,600 tonnes, Sorbie Wind Farm alone could reduce net emissions in North Ayrshire by 12%. Against the context of the global climate change emergency, these benefits are significant, weigh heavily in favour of the Proposed Development and should not be overlooked.

*Public access – including impact on long distance walking and cycling routes and scenic routes and scenic routes identified in the National Planning Framework*

3.31 The Proposed Development would not lead to any additional effects on public access over and above those of the consented wind farm.

*Impacts on tourism and recreation*

3.32 The Proposed Development would not lead to any additional effects on tourism and recreation over and above those of the consented wind farm.

*Specific locational opportunities for energy storage/generation*

3.33 The Proposed Development includes the identification of an area within the construction compound that could be utilised for energy storage in the future, should the technology become commercially viable within the operational lifetime of the wind farm. A separate planning application would be submitted in the future to seek detailed consent for the storage facility.

3.34 In terms of locational opportunities for energy generation, Sorbie benefits from several factors that make it a suitable location for the generation of wind energy. In particular, the wind resource available at the Site is very good, benefitting as it does from south westerly winds blowing in straight off the Firth of Clyde and rising up to the elevated ground at the Site. The presence of nearby settlements, in particular the three towns of Ardrossan, Saltcoats and Stevenston means that there is ample demand for the electricity to be used locally, rather than exported long distances on the transmission network. This combination of factors means that it is possible to realise a subsidy-free wind farm at Sorbie using tip heights of 125m, which is still comparatively small in Scotland's subsidy-free wind industry, and would make North Ayrshire Council the first in Scotland to deliver a subsidy-free wind farm. There is also sufficient separation at the Site from residential properties to be able to

operate a wind farm without creating any unacceptable noise, shadow flicker or other residential amenity effects. In addition, the landscape in the locality is also already influenced by wind farm development (Ardrossan Wind Farm) and the principle of wind farm development is also established on the Site itself by the existing consent. Sorbie is therefore an excellent location for the generation of wind energy.

*Greenhouse gas emissions*

3.35 Wind turbines do not generate greenhouse gas emissions whilst they are operating. The only activities with the potential to generate greenhouse gas emissions during the 25 year operational period would be for routine maintenance of the wind farm by service personnel, which would involve only a handful of vehicle trips each year. Any greenhouse gas emissions generated during the turbine manufacture and wind farm construction and decommissioning phases would be greatly exceeded by the amount of fossil fuel energy generation displaced by the renewable energy generated by the wind farm over the operational period. This 'carbon payback period' would be shorter for the Proposed Development as compared to the consented wind farm, as the Proposed Development would generate nearly double the amount of renewable energy for only a modest increase in turbine component material.

*Aviation and defence interests and seismological recording*

3.36 The Proposed Development would not lead to any additional effects on aviation, defence and seismological recording over and above those of the consented wind farm.

*Telecommunications and broadcasting installations – particularly ensuring that transmission links are not compromised; radio telemetry interference and below ground assets*

3.37 The Proposed Development would not lead to any additional effects on telecommunications and broadcasting installations over and above those of the consented wind farm.

*Road traffic and adjacent trunk roads*

3.38 The Proposed Development would not lead to any additional effects on road traffic and adjacent trunk roads over and above those of the consented wind farm.

*Effects on hydrology, the water environment and flood risk including drinking water quality and quantity (to both the public and private water supplies)*

3.39 The Proposed Development would not lead to any effects on hydrology, the water environment, flood risk and drinking water quality over and above those of the consented wind farm.

*Decommissioning of developments – including ancillary infrastructure, and site restoration and aftercare*

3.40 The Applicant would be willing accept a requirement for a decommissioning bond to be included as a condition to any grant of planning permission.

Development Plan Conclusions

3.41 Overall it is considered that the Proposed Development is in general accordance with the Development Plan. This is because:

- The Proposed Development would comply with the LWCS and would not overwhelm local landscape character or lead to unacceptable cumulative effects.
- The Proposed Development would comply with the criteria set out in Policy 29 and as such benefits from support from the Council as it would support our transition to a low carbon economy.
- The Proposed Development would comply with the spatial framework set out in LDP2, as the Proposed Development would not lead to any unacceptable significant effects on the qualities of Ardrossan.

## Do material considerations outweigh the provisions of the statutory Development Plan?

3.42 Section 2 of this Review Statement set out the renewable energy, national planning policy and other material considerations which, in terms of Section 25 of the Town and Country Planning (Scotland) Act 1997, must be considered. The material considerations which we consider to be particularly relevant are set out below.

3.43 NPF3 is clear that planning must facilitate the transition to a low carbon economy, and help to deliver the aims of the Scottish Government's Report on Proposals and Policies. Nnshore wind development is recognised as a key technology in the energy mix which will contribute to Scotland becoming 'a low carbon place' which in turn will be a key part of the 'vision' for Scotland. Furthermore, the Government has made it unequivocally clear that it wants to continue to "capitalise on our wind resource".

3.44 SPP sets out continued support for onshore wind in a similar manner to the previous SPP. However, it also now sets out a presumption in favour of development that contributes to sustainable development. The 'presumption in favour' is an important new aspect of national planning policy, which requires that benefits must be "significantly and demonstrably" outweighed by other considerations before a development should be refused planning permission.

3.45 The Scottish Government's Onshore Wind Policy Statement highlights the "*vital*" role that onshore wind will continue to play in Scotland's future, "*helping to substantively decarbonise our electricity supplies, heat and transport systems, thereby boosting our economy, and meeting local and national demand*". The Policy Statement further adds that this important role "*means we must support development in the right places, and – increasingly – the extension and replacement of existing sites, where acceptable, with new and larger turbines, based on an appropriate, case by case assessment of their effects and impacts*".

3.46 More recently, it is clear that national and international efforts to combat climate change have been ramped up. The Scottish Government has recently taken the decision to declare a climate emergency, citing the need for the world to act now and deliver transformative change. Extremely challenging targets have been set for decarbonising

the economy: net zero emissions for Scotland by 2045, the most stringent target anywhere the world.

3.47 North Ayrshire Council has recently declared its own climate change emergency and has made good progress towards decarbonisation through the establishment of its Climate Change Strategy, first published in 2014 and updated in 2017. The Council has also delivered almost 10MW of installed renewable or low-carbon energy generation through its solar retrofit programme, biomass retrofit programme and landfill gas recovery schemes, as well as replacing over 60 per cent of street lighting across North Ayrshire with more energy-efficient LED lighting. These efforts are to be lauded.

3.48 It is important to stress however that everybody has a role to play in the global climate emergency, and we would ask the Council not to overlook the role that businesses can play. Energiekontor is ready and able to build Sorbie Wind Farm and deliver the renewable energy benefits that it would bring – the equivalent of powering all the homes in Ardrossan and Saltcoats with renewable energy and reducing the carbon emissions of the Council area by a net 12% – but we need assistance from the Council; we need access to modern turbine hardware at 125m heights to make Sorbie cost-competitive with fossil fuel alternatives.

3.49 Other material considerations and benefits of the Proposed Development include:

- The Proposed Development could give rise to a range of opportunities for civil engineering and associated works for local contractors during the construction phase, with investment in the local economy and supply chain. SPP paragraph 169 is clear that net economic impact, including the community socio-economic benefits such as employment, associated business and supply chain opportunities are relevant material considerations in the determination of onshore wind proposals.
- Utilising RenewableUK assumptions the Applicant will invest more than £14.5 million in the project. This is a significant investment with a strong policy fit both regionally and nationally.
- The total value of contracts that could be secured in North Ayrshire has been estimated at £3 million and in Scotland as a whole businesses could secure contracts worth £6.1 million.
- Energiekontor is keen to maximise these local economic benefits and would put a local contracting procurement policy in place for the Proposed Development (see Appendix A) which will give price advantage to local firms in bidding for contracts.
- The Proposed Development would be expected to generate significant business rates revenue over its 25 year lifetime. It is estimated that approximately £120,000 every year could be paid, which would be retained by the Council. Over the project's 25 year operational life that could equate to £3 million of business rates funding for the Council.
- A Community Fund would be established that could deliver £60,000 of funding a year for local causes based on a rate of £5,000 per MW of installed capacity. That could equate to £1.5 million of funding over the lifetime of the project. However, although this Community Fund is noteworthy, it is not a relevant material consideration for the purposes of decision-making.

3.50 The Proposed Development would therefore result in a wide range of benefits which should be afforded significant weight in the planning balance when determining this application.

3.51 These local and wider benefits can only be delivered if this application is successful.

## Summary and Conclusions

3.52 As we have identified, the Proposed Development would comply with relevant elements of the Development Plan. We can identify no particular issue that deserves significant weight such that planning permission should be refused. Specifically in drawing our conclusions, our view is that:

- Scottish Government has made it unequivocally clear that it wants to continue to "capitalise on our wind resource". The Proposed Development would contribute to the unmet 2020 target set out in NPF3.
- The 'presumption in favour' is a material consideration and the Proposed Development is considered to be consistent with the principles of sustainable development.
- Significant weight should be afforded to the contribution that the Proposed Development would make towards meeting the renewable energy targets and Government objectives that we have referred to in section 2 above.
- The Proposed Development is in compliance with the Development Plan.

3.53 The Proposed Development would only result in some minor incremental changes to the local area over and above the consented wind farm, but change in itself is not unacceptable. Wind energy development will always give rise to significant landscape and visual effects. In this case however, none of the likely environmental effects that would result from the Proposed Development would, in our view, be unacceptable in the public interest which the planning system serves.

3.54 There are forceful material considerations that lend support to the case that planning permission should be granted for the reasons explained above. A key consideration in this regard is the presumption in favour of sustainable development as set out in SPP. It is our view that the presumption is engaged.

3.55 It is important that developments which are acceptable in planning terms are granted consent, particular renewable energy schemes which can make a difference in the global climate emergency. This Proposed Development can pave the way for the first subsidy-free wind farm to be constructed in Scotland, delivering a range of benefits at a cost that is competitive with fossil fuel alternatives.

3.56 Accordingly we respectfully consider the planning permission should be granted for the Proposed Development.

# APPENDICES

# APPENDIX A:
# Energiekontor Contractor Procurement Policy

## Aims

Many local companies are ideally placed to supply materials and services for our projects but may find it difficult to compete with national suppliers. Balance of Plant (BoP) construction contracts are normally selected on the basis of the 'most economically advantageous offer'. The aim of this policy is to ensure that the community and local employment benefits offered by contractors are recognised in the evaluation and award of Balance of Plant (BoP) construction contracts.

## Justification

By recognising the economic advantage that the contract may bring to local communities and individuals, our policy seeks to foster a closer relationship between Energiekontor and local communities. The construction of the development will be the first physical activity in a project that will exist for at least 25 years and a close relationship between those parties is desirable for all concerned.

## Policy Statement

We have defined our strategy in the following policy statement:

*When assessing bids for supply of materials and services to construct our projects, Energiekontor will give significant weight to bids from suppliers who demonstrate they have an established local presence, employ local people and source materials within the respective local authority region. Regional suppliers who meet our procurement qualification standards will be given a 5% price advantage on local market prices over National suppliers through the bidding process.*

# Sorbie Wind Farm Tip Height Extension

## Comparative Environmental Appraisal

November 2019

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# 1 INTRODUCTION

## Background

1.1 This Comparative Environmental Report is submitted in support of a planning application by Energiekontor UK Ltd ("the Applicant") to North Ayrshire Council ("the Council") to vary the existing planning permission for Sorbie Wind Farm.

1.2 Planning permission was originally granted for Sorbie Wind Farm by the Scottish Ministers in November 2015 (reference: 13/00627/PP) subject to 16 planning conditions. The original planning application for Sorbie Wind Farm was deemed to not be 'EIA Development' for the purposes of the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations and was accompanied by an Environmental Appraisal dated October 2013, with accompanying figures.

1.3 In January 2019 an application made under Section 42 of the Town and Country Planning Act (Scotland) 1997 (reference: 18/01061/PP) was approved to vary one of the planning conditions attached to the original consent. This resulted in a fresh planning permission being granted for the wind farm subject to 2 individual planning conditions, the second of which (planning condition 2) reaffirms the planning conditions set out in the original planning consent.

1.4 This Proposed Development seeks to vary the consented Sorbie Wind Farm to achieve the following amendments:

- Increase of the turbine tip heights from 104.3m to 125m;
- Varying the internal track layout to save 1.24km of new track from being constructed;
- Identification of an area that could be utilised for energy storage in the future, should the technology become commercially available within the operational lifetime of the wind farm. A separate planning application would be submitted in the future to seek detailed consent for the energy storage facility;
- Introduction of new woodland planting on the Site; and
- Deletion of the approved 65m high permanent anemometer mast from the development.

1.5 It is proposed to achieve these variations through the use of Section 42 of the Town and Council Planning Act (Scotland) 1997 to amend planning condition 2 of permission 18/01061/PP from:

> *"That, for the avoidance of doubt, all other conditions as set out in Appendix 1 attached to the decision letter of The Scottish Government (ref. AIR-NAY-001) dated 30th November 2015 shall continue to have effect."*

To read:

> *"That, for the avoidance of doubt, all other conditions as set out in Appendix 1 attached to the decision letter of The Scottish Government (ref.*

*AIR-NAY-001) dated 30th November 2015 shall continue to have effect except for conditions 4 and 7 which shall be amended to read:*

*4. That the turbines shall be erected and the site roads constructed in the locations identified on drawing Figure 1.3 Site Layout, save for the ability to vary these locations by 30m. Any movement greater than 30m would require the written approval of North Ayrshire Council as Planning Authority. Before the turbine bases are concreted, the precise position of the turbines shall be notified to, and approved in writing by, North Ayrshire Council as Planning Authority.*

*7. That no turbines will be erected until details of the model, height, colour and finish of the turbines and of any external transformers, have been submitted to, and approved in writing by, the planning authority. The turbines shall not be illuminated and shall not carry any symbols, logos or other lettering except where required under other legislation. For the avoidance of doubt, the height of the wind turbines to blade tip shall not exceed 125 metres. The development shall be carried out thereafter in accordance with the approved details, unless any changes are subsequently agreed in writing by North Ayrshire Council as Planning Authority."*

1.6 More recently an application was refused by North Ayrshire Council in October 2019 (reference: 19/00306/PP) to increase the tip height of the consented turbines to 125m. The sole reason for refusal states:

*"The proposal would be contrary to the provisions of the Local Development Plan Policy PI 9 criterion (a) and (d) and the General Policy on the adopted North Ayrshire Council Local Development Plan in the followings ways: It is considered that the degree of change from 104.3m blade tip to 125m blade tip would be substantial and adverse in terms of landscape and visual impacts, especially given the locational context of the site within 2km to the north of the settlement of Ardrossan and in close proximity to the North Ayrshire Lowlands Landscape Character Type, being a landscape of smaller scale. Such a substantial increase in scale would contrast markedly with the turbine design approved in the previous consents, would overwhelm those parts of the North Ayrshire Lowlands Landscape Character Type close to the site and would have an adverse effect on the rural setting of Ardrossan. This contrast would also be unfavourable against the design of the nearby Ardrossan Windfarm, resulting in a conflict with the recommendations contained in the Council's Landscape Wind Capacity Study of 2018, all of which would adversely affect landscape character and visual amenity in the locality."*

1.7 This planning application seeks to address this reason for refusal. A Planning Statement accompanies the application which sets out how the Proposed Development responds to the issues raised in the reason for refusal.

1.8 This Comparative Environmental Appraisal has been prepared by Energiekontor UK Ltd and sets out the findings of a comparative analysis which has been undertaken to consider whether the Proposed Development would result in any additional adverse environmental effects not identified in the Environmental Appraisal dated October 2013.

## Site Location and Proposed Development

### *The Site and its Surroundings*

1.9 Sorbie Wind Farm is located approximately 1.5km north of Ardrossan. The Site is currently used for grazing cattle for Sorbie Dairy Farm and consists of a number of agricultural fields. The gradient of the land gently slopes from south to north with the highest point being approximately 157m Above Ordnance Datum (AOD), and the lowest point being approximately 75m AOD. There are a number of watercourses, patches of trees, a disused quarry, properties and buildings located within the Site. To the west of the Site is the B780, whilst to the north, east and south are agricultural field hedgerow boundaries.

### *Description of Proposed Development*

1.10 The key changes to Sorbie Wind Farm introduced by the Proposed Development are set out in Table 1.1 below.

| Characteristic | Original Sorbie Wind Farm | Proposed Development |
|---|---|---|
| Number of turbines | 3 | 3 |
| Turbine capacity | 2.05MW | 4MW |
| Rotor diameter | 82m | 115m |
| Hub height | 63.3m | 67.5m |
| Tip height | 104.3m | 125m |
| Blades | 3 | 3 |
| Turbine colour | Light grey | Light grey |
| Turbine foundations | Approximately 18m width on a square base | Approximately 18m width on a square base |
| Approximate Annual Energy Yield (approx.) | 23 GWh | 43 GWh |
| Homes Powered[1] (approx.) | 5,900 homes | 11,050 homes |
| Annual CO2 savings[2] (approx.) | 55,500 tonnes | 100,000 tonnes |
| Total length of new access track to be constructed | 2.14 km | 0.9 km |
| Aggregate required to construct access tracks | 3,210 $m^3$ | 1,350 $m^3$ |
| Area of new woodland planting | 0 ha | 1.1 ha |
| Energy storage area identified | No | Yes |
| Permanent anemometer mast | Yes | No |

[1] Based on an average annual UK domestic electricity consumption figure of 3,889 KWh as set out in the BEIS publication "Energy Consumption in the UK" (2017)

[2] Based on BEIS's standard carbon dioxide savings figure of 430g/KWh

| | | |
|---|---|---|
| included | | |

Table 1.1: Summary of Changes due to Proposed Development

1.11 The Proposed Development includes proposed amendments to the internal wind farm track layout which are being sought as part of a drive to further optimise the wind farm and reduce unnecessary carbon expenditure. The new proposed layout would result in a saving of 1.24km of new track as compared to the consented layout, meaning that 1,860m$^3$ of aggregate would be saved from the total amount required to construct the tracks.

1.12 Table 1.1 illustrates that the proposed 19.8% increase in turbine tip height would result in a 87% increase in energy production. This is a substantial increase in energy production which would be transformative for the economic viability and deliverability of the wind farm, particularly given that the original wind farm was planned at a time before public subsidy for wind farm development was removed.

1.13 The renewable energy benefits associated with larger wind turbines have been acknowledged by the Scottish Government in its Onshore Wind Policy Statement published in December 2017. The ministerial forward to this policy statement by Paul Wheelhouse MSP highlights the "*vital*" role that onshore wind will continue to play in Scotland's future, "*helping to substantively decarbonise our electricity supplies, heat and transport systems, thereby boosting our economy, and meeting local and national demand*". The ministerial forward continues to highlight that this important role "*means we must support development in the right places, and – increasingly – the extension and replacement of existing sites, where acceptable, with new and larger turbines, based on an appropriate, case by case assessment of their effects and impacts*".

1.14 Specifically in relation to the use of larger turbines, the policy statement makes the following points:

> *"3. In order for onshore wind to play its vital role in meeting Scotland's energy needs, and a material role in growing our economy, its contribution must continue to grow. Onshore wind generation will remain crucial in terms of our goals for a decarbonised energy system, helping to meet the greater demand from our heat and transport sectors, as well as making further progress towards the ambitious renewable targets which the Scottish Government has set.*
>
> *4. This means that Scotland will continue to need more onshore wind development and capacity, in locations across our landscapes where it can be accommodated.*
>
> *9. We know that new projects face a highly uncertain route to market. The arrangements which have enabled onshore wind to expand and to reduce its costs so successfully, are no longer in place. Continued innovation and cost reduction, a supportive and well-resourced planning system, and continued advances in turbine and blade technology will help close the gap that currently exists – but not sufficiently, and not for all developments.*
>
> *23. …We acknowledge that onshore wind technology and equipment manufacturers in the market are moving towards larger and more powerful*

*(i.e. higher capacity) turbines, and that these – by necessity – will mean taller towers and blade tip heights.*

*24. The technology shift towards larger turbines may present challenges when identifying landscapes with the capacity to accommodate larger scale development, as not all will be suitable. However, fewer but larger wind turbines may also present an opportunity for landscape improvement, as well as increasing the amount of electricity generated.*

*25. The Scottish Government acknowledges the way in which wind turbine technology and design is evolving, and fully supports the delivery of large wind turbines in landscapes judged to be capable of accommodating them without significant adverse impacts…"*

## Structure of Report

1.15 This Comparative Environmental Appraisal has been prepared by Energiekontor UK Ltd and sets out the findings of a comparative analysis which has been undertaken to consider whether the Proposed Development would result in any additional adverse environmental effects not identified in the Environmental Appraisal dated October 2013.

1.16 Three areas with the potential for materially different effects from those reported in the October 213 Environmental Appraisal have been identified. These are:

- Landscape and visual effects;
- Noise effects; and
- Shadow flicker effects

1.17 This Comparative Environmental Appraisal is structured as follows:

- Section 1 provides a background to the Proposed Development;
- Section 2 presents a review of the key topics in the Environmental Appraisal dated October 2013 and any specific items within these topics which have the potential for materially different environmental effects as a result of the Proposed Development;
- Sections 3 to 5 provide a consideration of detailed assessments of the Proposed Development in relation to the following areas:
    - Section 3 assesses the landscape and visual effects
    - Section 4 assesses the operational noise effects
    - Section 5 assesses the shadow flicker effects
- Section 6 provides a summary of the findings of the comparative environmental appraisal.

## The Applicant

1.18 Energiekontor UK Ltd is a renewable energy development company with offices in Glasgow and Leeds. The company was formed in 1999 and develops small to medium-sized onshore wind and solar farms throughout the United Kingdom. The company operates seven existing wind farms in the UK with consents for a further five projects. EK also has a number of other wind and solar projects at various stages of the development process throughout the UK.

1.19 Energiekontor UK Ltd is part of the Energiekontor Group. The parent company, Energiekontor AG, was established in 1990 in Bremerhaven in Northern Germany. It has since grown to become one of the leading wind energy companies in Europe and is active in Germany, France, The Netherlands, Portugal, the USA and the UK. The company has built more than 100 onshore wind farms in Europe.

# 2 COMPARATIVE ENVIRONMENTAL APPRAISAL

## Introduction

2.1 This section provides a summary appraisal of the potential for additional adverse environmental effects to occur as a result of the Proposed Development over and above those identified in the October 2013 Environmental Appraisal.

## Comparative Environmental Appraisal

2.2 Table 2.1 below sets out the findings of the comparative environmental appraisal exercise.

| Landscape and Visual Amenity | |
|---|---|
| Key findings from October 2013 Environmental Appraisal | In common with all onshore wind farms, the introduction of three wind turbines would lead to some visual and landscape effects.<br><br>The main changes to the landscape study area as a result of the wind farm would arise in the *Rugged Moorland: Haupland Muir, Ayrshire Lowlands* and *Raised Beach Coast* landscape units. The wind farm would increase the influence of wind farm development on the existing landscape character, such that wind farms appear as repeating components, but would not introduce an entirely new feature into the landscape character.<br><br>The assessment of effects on views indicates that seven viewpoints would experience significant effects, of which all are in close proximity to the Site (within 3.4km). Significant visual effects would also occur at the settlement of Ardrossan, and on limited close range sections of the A78, B714, B780 and B781. |
| Potential for material change / significant effects as a result of the Proposed Development | There is potential for changes to the landscape and visual amenity effects associated with the wind farm as a result of the increased turbine dimensions. |
| Comment | Further assessment to determine the landscape and visual amenity effects associated with the Proposed Development is provided in Section 3. |
| **Ecology and Ornithology** | |
| Key findings from October 2013 Environmental Appraisal | The Site is considered to be of low ecological sensitivity.<br><br>Any effects of the construction phase on protected species populations would be minimised through mitigation measures to comply with relevant protected species legislation.<br><br>In terms of ornithology, the Site is considered to be of low sensitivity and no effects were predicted that would have any |

| | |
|---|---|
| | measurable effect on ornithological features.<br><br>Overall, it was concluded that the wind farm would not have a significant effect on the ecology or nature conservation value of the Site and its setting. |
| Potential for material change / significant effects as a result of the Proposed Development | There is not considered to be any potential for material change or any alteration of the assessment of adverse effects. These effects remain unchanged with the longer blades and higher tip height. |
| Comment | No change is predicted. |
| Hydrology | |
| Key findings from October 2013 Environmental Appraisal | With the implementation of construction good practice measures, it is unlikely that a pollution incident or disruption to the hydrological environment would arise from the construction and operation of the wind farm. |
| Potential for material change / significant effects as a result of the Proposed Development | There is not considered to be any potential for material change or any alteration of the assessment of adverse effects. These effects remain unchanged with the longer blades and higher tip height. |
| Comment | No change is predicted. |
| Cultural Heritage | |
| Key findings from October 2013 Environmental Appraisal | The wind farm would not have any direct impact upon nationally designated cultural heritage features.<br><br>There is moderate potential for direct impacts to affect unknown archaeological remains if encountered within the development footprint. It was recommended that the implementation of a suitable phased programme of archaeological work could be secured through the imposition of a planning condition.<br><br>In terms of indirect, the wind farm would not adversely affect the site or setting or any nationally designated cultural heritage assets. |
| Potential for material change / significant effects as a result of the Proposed Development | There is not considered to be any potential for material change or any alteration of the assessment of adverse effects. These effects remain unchanged with the longer blades and higher tip height. |
| Comment | No change is predicted. |
| Noise | |
| Key findings from October 2013 Environmental Appraisal | Background noise measurements were carried out at a number of locations in order to determine suitable noise limits. The procedure for establishing noise limits is set out in the document *ETSU-R-97 Assessment and Rating of Noise from Wind Farms*. Environmental noise predictions were made for a range of wind |

| | |
|---|---|
| | speeds for the proposed wind farm. The predictions found that the most stringent noise limits established by ETSU-R-97 would be satisfied. Operational noise from the wind farm was assessed in accordance with national planning guidance and demonstrated to be within acceptable levels. |
| Potential for material change / significant effects as a result of the Proposed Development | There is potential for changes to the operational noise emission levels of the wind farm from the increased rotor diameter at the nearest noise sensitive receptors. |
| Comment | Further assessment to determine the operational noise effects from the Proposed Development is provided in Section 4. |
| Aviation and Existing Infrastructure | |
| Key findings from October 2013 Environmental Appraisal | Wind turbines can interfere with broadcast transmissions such as radio and television. Consultation was undertaken with those organisations whose transmissions may be affected including mobile telephone service providers, emergency services, television companies etc. From the replies received it was predicted that there would be no disturbance to communications systems.<br><br>Wind turbines have the potential to affect aviation safety both through the interference with radar and navigation systems. A planning condition was proposed to mitigate the effects of the wind farm on Glasgow Prestwick Airport. |
| Potential for material change / significant effects as a result of the Proposed Development | There is not considered to be any potential for material change or any alteration of the assessment of adverse effects. These effects remain unchanged with the longer blades and higher tip height. A suspensive planning condition would continue to safeguard the aviation safety interests of Glasgow Prestwick Airport. |
| Comment | No change is predicted. |
| Socioeconomics, Tourism, Recreation and Land Use | |
| Key findings from October 2013 Environmental Appraisal | The wind farm would have beneficial social and economic effects during the construction, operational and decommissioning phases, specifically in terms of employment, although these would be minimal. There are only a limited number of recreational opportunities within the immediate area and there would be a negligible effect on tourism as a result of the wind farm development. |
| Potential for material change / significant effects as a result of the Proposed Development | There is not considered to be any potential for material change or any alteration of the assessment of adverse effects. These effects remain unchanged with the longer blades and higher tip height. |
| Comment | No change is predicted. |
| Shadow Flicker | |

| | |
|---|---|
| Key findings from October 2013 Environmental Appraisal | Rotating wind turbine blades can cast moving shadows which can affect neighbouring properties. As the blades rotate, there can be alternating light and shadow, an effect known as shadow flicker. The effect occurs inside buildings, where the shadow falls on a window. The impact of shadow flicker was assessed for properties within an arc of 130 degrees either side of north and within 10 rotor diameters (in this case 820 metres) of any turbine position. This assessment quantified the likelihood of shadow flicker effects occurring at nearby properties as a result of the proposed wind farm, along with their times and durations. |
| Potential for material change / significant effects as a result of the Proposed Development | There is potential for increased levels of shadow flicker at nearby receptors owing to the increased turbine dimensions. |
| Comment | Further assessment to determine the operational shadow flicker effects from the Proposed Development is provided in Section 5. |

Table 2.1: Comparative Environmental Appraisal Summary

## Summary

2.3 Three topic areas with the potential for materially different effects from those reported in the October 2013 Environmental Appraisal have been identified. These are:

- Landscape and visual effects;
- Noise effects; and
- Shadow flicker effects

2.4 These topic areas are discussed in turn in the following sections of this Comparative Environmental Appraisal.

# 3 LANDSCAPE AND VISUAL AMENITY

## Introduction

3.1 This Section provides an update of the original Landscape and Visual Impact Assessment (LVIA) set out within the October 2013 Environmental Appraisal to take account of the increased dimensions associated with the Proposed Development. This section has been prepared by Optimised Environments Limited ('OPEN').

3.2 The original planning permission for Sorbie Wind Farm was considered on the basis of unaccompanied site inspections on 22 October and 19 November 2014, hearing sessions on 28 January 2015 and an accompanied site inspection on 29 January 2015 by Dan Jackman BA(Hons) MRTPI, a Reporter appointed by Scottish Ministers. OPEN wrote the LVIA for the October 2013 Environmental Appraisal and presented evidence to the hearing. OPEN's LVIA findings were agreed as 'reasonable' by the Reporter who heard the hearing in January 2015, as noted in his Report:

> *"6.12 As is frequently the case for wind farm development, there is a significant dispute over the conclusions reached in the landscape and visual impact assessment. However, I am not aware of any criticisms of the methodology or the individual assessments regarding the significance of any changes. Having visited most of the viewpoints and driven around the locality, I find the assessment of significant changes to be reasonable."*

3.3 The consented layout consists of three, 2.3 MW wind turbines, each with a hub height of 64m and of a maximum height to blade tip of 104.3 metres and supporting infrastructure, located approximately 1 kilometre north of the edge of Ardrossan on agricultural land mainly used for cattle grazing. The western boundary of the site is formed by the B780. The other boundaries relate to existing field boundaries. Approximately 1.4 kilometres to the north west of the site is the operational Ardrossan Wind Farm, which comprises 12 turbines with a tip height of 100 metres and a further three turbines with a tip height of 106.5 metres.

3.4 In January 2019, OPEN was commissioned by EnergieKontor UK Ltd to undertake a review of the published LVIA for the consented Sorbie Wind Farm, in light of a potential increase in the hub and blade tip height of the turbines in the development, and to identify whether any changes to its findings would result from the proposed alteration to the consented turbine height.

3.5 The proposed revision to the consented layout focussed on an increase to the hub height of these turbines to a hub height of 68m (+4m), with a larger rotor diameter of 114m leading to an increase in blade tip height to 125m (+20.7m), in order to enhance the effectiveness of the wind generation capability of the approved scheme. The proposed turbine locations would remain in the same locations as the consented scheme.

## Scope of Assessment

3.6 This Section describes the implications of the proposed revisions to the consented wind farm in terms of effects on the landscape and visual resource, as previously assessed in the 2013 Environmental Appraisal (Chapter 4) and supporting Figures. As the Application to North Ayrshire Council by Energiekontor UK Ltd seeks to vary an existing consent, as opposed to amounting to a new planning application, this review focusses only on those landscape and visual receptors that were assessed as likely to experience significant environmental effects, as agreed by the Reporter and Scottish Ministers in their decision for the consented scheme. In addition, all 'not significant' effects previously identified by OPEN for the consented scheme have been carefully reviewed in light of the proposed turbine height change and, where relevant, have been included in the table in Annex 1.

3.7 The assessment of the increased hub and blade tip height is supported by four Annexes, which contain the following supporting information:

- Annex 1: Comparative Landscape & Visual Impact Assessment Tables;
- Annex 2: Comparative GIS Figures;
- Annex 3: Comparative Visualisations (to SNH standards); and
- Annex 4: Comparative Cumulative Wirelines.

## Methodology and Approach

3.8 The assessment methodology used in this report to predict effects on landscape and visual receptors is consistent with that used by OPEN in the 2013 LVIA. It should be noted that the 2013 LVIA utilised the methodology described within Guidelines for Landscape and Visual Impact Assessment: Second Edition (The Landscape Institute and Institute of Environmental Management and Assessment 2002) (GLVIA2), which was best practice guidance at that time. In April 2013, around the time of the submission of the 2013 LVIA, the third edition of Guidelines for Landscape and Visual Impact Assessment (GLVIA3) was published, replacing the second edition.

3.9 The principal change in GLVIA 3 relevant to the Proposed Development is that receptor sensitivity comprises two specific considerations of 'value' and 'susceptibility' in GLVIA 3, whereas GLVIA 2 recommended a singular approach when establishing sensitivity. OPEN has reviewed the sensitivity of each of the receptors used in the 2013 LVIA and has concluded that the ratings provided for sensitivity remain an accurate representation of receptor sensitivity.

3.10 This report has considered the landscape and visual effects of the Proposed Development in terms of GLVIA3, which is current best practice guidance. OPEN's current Methodology, which complies with GLVIA3, is provided in Appendix 3.1 to this report.

3.11 The assessment carried out in this Section and Annexes is based on a comparative review of Proposed Development with the consented Sorbie Windfarm. This comparative

approach is considered appropriate in this case because there is no prospect of both wind farms being built. The comparative assessment, figures and visualisations serve to illustrate the differences between the two schemes that would arise through the Proposed Development, given that the principle of a wind farm on the site has already been established through the conditional granting of consent in 2015.

## Illustrative Tools

3.12 Two types of visualisations are included in this Section:

- Figures in Annex 3 comprise comparative visualisations to current SNH standards, based on photography taken in 2019, that show the consented wind farm layout and the Proposed Development in order that a comparison of the visibility of the two schemes can be made. These illustrate the effects at Viewpoints 1, 2, 3, 4, 5, 7 and 18, which are the only viewpoint locations where significant visual effects were identified in 2013.

- Figures in Annex 4 comprise comparative wirelines (with a 90-degree field of view) that show the consented wind farm layout and the Proposed Development on the same sheet in order that a comparison of the visibility of the two schemes can be made. These wirelines have been produced for Viewpoints 1, 2, 3, 4, 5, 7 and 18 and extend around each viewpoint in 90 degree segments where necessary in order to capture the full cumulative baseline evident at each location. The cumulative wind farms shown in the 2019 wirelines reflect the current cumulative context at April 2019.

## North Ayrshire Council Landscape Wind Capacity Study 2018

3.13 The Council published its North Ayrshire Landscape Wind Capacity Study ("the Study") in October 2018, which post-dates the original consent for Sorbie Wind Farm. The Summary to the Study notes the following by way of an Introduction:

> *"This study revises and updates the 2009 and 2013 North Ayrshire Landscape Wind Capacity studies (NALWCS). It aims to inform strategic planning for wind energy development in line with Scottish Planning Policy and to also provide guidance on the appraisal of individual wind farm and wind turbine proposals in North Ayrshire. The study considers the landscape and visual sensitivity of landscape character types within North Ayrshire to a range of wind turbine developments; these principally categorised on the basis of turbine height. This study also considers scope for repowering existing wind farms using larger wind turbines. Potential cumulative issues associated with operational and consented wind farm developments are additionally considered. Guidance on the constraints and opportunities for wind energy development within each landscape character type is set out in the study."*

3.14 This type of sensitivity study is now commonplace across Scotland and is recognised for the strategic guidance it provides to developers and decision makers alike. It does not replace the need for EIA of individual development proposals, which provide a much more detailed and site-specific basis of knowledge to inform decision making. This fact

was recognised by the Reporter in his Report for the Sorbie Wind Farm, where he found at paragraph 6.28:

> *"I accept that the Landscape Capacity Study 2009 states that there is no capacity for an additional wind farm close to the existing Ardrossan Wind Farm. However, I consider that a proposal specific landscape and visual impact assessment is a better basis for reaching a conclusion on the cumulative impacts compared to the generalised assessment contained in a landscape capacity study."*

3.15 Notwithstanding this qualification, the Council's Study does recognise the consented Sorbie Wind Farm as part of the baseline cumulative context, as shown in Figure 2 of the Study and recorded at paragraph 20.1.1: "The operational Ardrossan wind farm is located in this character area. This wind farm comprises 15 turbines, 100 m high. The consented Sorbie Farm turbines (3 turbines, 104m high) also lies at the transition of this landscape with adjacent LCTs 7a and 8c."

3.16 The landscape characterisation within the Study is slightly different to the SNH dataset used in the 2013 LVIA. In the Council's Study, Landscape Character Type 19E: Haupland Moor, in which the Sorbie site is located, is a sub-type of the Rugged Moorland Hills and Valleys LCA so the guidance relates to a smaller part of the overall character area, which was assessed as a whole in 2013.

3.17 In relation to the LCT 19E, Section 20.3 provides Guidance for development within the LCT. Under the heading "20.3.1 Additional new development of larger turbines", the Study identifies no scope "for additional very large, large, medium and small medium typologies (turbines >30m high) to be accommodated in this landscape". This finding assumes that Sorbie Wind Farm is part of the baseline, so this assumption applies to additional development, above and beyond the consented Sorbie scheme.

3.18 Repowering of operational and consented wind turbines within the Haupland Moor LCT is addressed in section 20.3.2, which advises "Turbines substantially above the height of existing turbines (which are around 100m) would overwhelm the relief of the low knolly hills of Haupland Muir. They would also adversely affect the setting of Ardrossan (and potentially also other coastal settlements such as West Kilbride depending on position and height). Cumulative effects could also occur with other operational and consented wind energy developments sited in this and nearby LCT 19d. Annex E provides more detail on scope for repowering" (Note: Sorbie wind farm is not mentioned in Annex E).

3.19 The operational turbines at Ardrossan Wind Farm and consented turbines at Sorbie are approximately 104m in height. The key question that this raises is whether the proposed turbines, at 125m to blade tip, are 'substantially above the height of existing turbines". The Study makes clear elsewhere that 'substantially' larger turbines are 150m or 200m in height (see Planning Statement for further details). The visualisations included within Annexes 3 and 4 demonstrate in OPEN's opinion, that the increase in height of 20 metres is not substantial, but of a more moderate proportion.

3.20 In OPEN's assessment, the Proposed Development would comply with the Study and would not overwhelm the relief or lead to unacceptable cumulative effects.

## Baseline Conditions

3.21 The landscape and visual baseline conditions have not materially altered subsequent to those recorded in the 2013 LVIA and conditions may therefore be assumed to be as described in the previous assessments, and which informed the Reporter's findings.

3.22 As part of this reassessment process, key viewpoints have been revisited in order to establish the degree of change in the intervening timescale. Viewpoint photography was re-taken for viewpoints 1, 2, 3, 4, 5, 7 and 18 which demonstrate the consistency in the appearance of the Site and surrounding area with the conditions that existed in 2015, when the Reporter conducted his site inspections.

3.23 The findings have been incorporated into the viewpoint assessment that is presented in Annex 1 and into the updated visualisations in Annex 3.

## Cumulative Assessment

3.24 There have been few notable alterations to the cumulative situation that prevailed at the time of the 2013 LVIA. The current cumulative context is illustrated in Figure 11 in Annex 2. The relevant changes within a 15km radius of the Site, within which significant cumulative effects are most likely to arise, are described below:

- The change in status of Hunterston and Shewalton Moss wind turbines from consented in 2013 to operational in 2019;
- The removal of the scoping stage Blackshaw Wind Farm from the current cumulative context;
- The addition of the proposed wind turbine at Hunterston II, which is consented, approximately 9km to the north-west of the Proposed Development and located within the existing Hunterston wind farm;
- The addition of two proposed wind turbines at GSK Shewalton, which are at the Application/ Appeal stage, approximately 12.5km to the south-east of the Proposed Development and located adjoining the existing Shewalton Moss/ Glaxo wind farm.

3.25 The changes noted above are illustrated in the comparative cumulative wirelines that are contained within Annex 4 to this Report. Cumulative wind farms (that are not operational) have not been shown in the comparative visualisations.

3.26 The 2013 LVIA found significant cumulative effects only in relation to one receptor, the A78, Prestwick to Greenock road where a sequential effect was identified between West Kilbride and Fairlie with Hunterston Wind Farm. The updated assessment considers that significant cumulative effect would also arise with the Proposed Development.

3.27 No other significant cumulative effects were identified in 2013 and a review of the cumulative context by OPEN has indicated that finding continues to be the case in 2019.

## Landscape and Visual Effects of the Consented Scheme

3.28 The table in Annex 1 presents OPEN's re-assessment of the significant and potentially significant landscape, visual and cumulative receptors and effects that were identified in the 2013 LVIA and undertakes a comparative assessment to determine whether the proposed increase in turbine height of 20 metres is sufficient to increase the magnitude of any of the findings.

3.29 In OPEN's professional opinion, while the increased height and rotor diameter may slightly increase the magnitude of change from some receptors (Viewpoints 1, 3 and 5) the effects at these locations will only marginally increase.

3.30 In OPEN's opinion, no 'new' significant landscape, visual or cumulative effects would arise as a consequence of the increased turbine height and blade length.

## The Reporter's Findings

3.31 In his Report (dated 3rd September 2015), the Reporter sets out his findings and conclusions on the various relevant aspects of Sorbie Wind Farm, including landscape and visual effects and residential amenity. The overall conclusion on landscape and visual effects (paragraph 6.82) notes that:

> *"6.82 For the reasons set out above, I find that the proposal would have acceptable landscape and visual impacts, including cumulative impacts and the impact on nearby residential property."*

3.32 In reaching this overall conclusion, the Reporter formed the following key conclusions relevant to landscape and visual effects (emphasis added by OPEN):

> *"6.13 The extent of the significant landscape and visual impacts are generally illustrated spatially in figures 4.9 and 4.22 of volume 2 of CD 1. These show that any impacts are localised. It has to be recognised that an inevitable consequence of Scottish Government energy policy is that there will be some significant changes to the landscape and views. However, significant change does not necessarily equate to unacceptable or harmful impacts.*
>
> *6.14 Overall, I do not find the proposal in the context of the existing Ardrossan Wind Farm to be excessively prominent or dominant to the point of being inappropriate. I consider it to be in scale with its surroundings.*
>
> *6.16…In my judgement, the increased extent of landscape and visual influences over and above either the Ardrossan Wind Farm or a specifically designed three turbine extension would be marginal. In the context of planning policies supporting wind turbine development, I cannot agree the impacts are unacceptable or harmful in planning terms.*
>
> *6.17 I accept that those people living close to the proposal (such as Mr and Mrs Slater) would experience most frequently the significant landscape and visual impacts described above. However, it has been generally held in previous planning decisions on wind farms that a significant change to a* ***local resident's outlook does not mean the proposal is unacceptable in***

*planning terms. To be unacceptable the wind farm would have to be over bearing and excessively dominant overall.*

*6.18…… Overall, I do not find the proposal to be so visually dominant or overbearing to the residential visual amenities of Tower Lodge as to justify the refusal of planning permission.*

*6.21….. I cannot accept that the addition of three turbines to the existing views would have any significant impact on the landscape and visual qualities of the Clyde Muirshiel Regional Park.*

*6.22 Figure 4.5 shows the various landscape and other designations. The assessment in the environmental appraisal concluded that there would be no unacceptable impacts. As stated above, I found the assessment in the environmental appraisal to be a fair one.*

*6.23 As concluded in the assessment of criterion a), the proposal would have some landscape and visual impacts but such impacts are inevitable for any tall vertical structures. Overall, I do not find the proposal to be out of scale. I conclude that the landscape impacts are proportionate and not unexpected for a three turbine wind farm.*

*6.27 The dominatant cumulative impact is with the operational Ardrossan Wind Farm. For the reasons set out above, I find the cumulative landscape and visual impacts to be acceptable.*

*6.49…. I have concluded in paragraph 6.12 above that the landscape and visual impact assessment submitted for the proposal is fair and that overall the impacts are acceptable."*

3.33 On the basis of its review of the current Proposed Development, OPEN considers that the assessment of landscape and visual effects by the Reporter for the previous Sorbie wind farm remains valid and relevant to the current Proposed Development.

## Summary and Conclusions

3.34 The proposed revision to the blade tip height and blade length of the consented Sorbie Wind Farm has led to a marginal increase in the theoretical extent and magnitude of visibility of the Proposed Development at some locations, as shown on ZTVs and in visualisations. This increase is, however, minor and no new significant landscape, visual and/or cumulative effects are likely to arise.

3.35 Significant landscape effects are likely to arise in localised parts of the following receptors:

- Rugged Moorland: Haupland Muir LCA
- Ayrshire Lowlands LCA
- Raised Beach Coast LCA

3.36 Significant visual effects are likely to arise at the following receptors:

- Viewpoint 1: B780 near site
- Viewpoint 2: Ardrossan, Chapelhill
- Viewpoint 3: A78 Layby
- Viewpoint 4: B780 and B781 Junction
- Viewpoint 5: B714, Muirslaught Farm
- Viewpoint 7: Stevenston, Cambuskeith Road
- Viewpoint 18: Ardrossan Harbour
- A78, Prestwick to Greenock road
- B714, Saltcoats to Dalry road
- B780, Ardrossan to Dalry road
- B781, West Kilbride to Dalry road

3.37 Significant cumulative effects are likely to arise at the following receptors:

- A78, Prestwick to Greenock road

3.38 All of the above significant effects would arise with the consented development too. As with the consented development, there would be no significant effects on landscape-related designated areas.

3.39 Other than in relation to people using the A78 between West Kilbride and Fairlie, there would also be no significant cumulative effects on any landscape character receptors, viewpoints or principal visual receptors when the Proposed Development is added to a cumulative scenario of operational, under construction, consented or application stage wind farms.

3.40 In the process of assessing the Proposed Development, OPEN has been mindful of the Reporter's comments, ensuring that the effects of the revised proposal will continue to be acceptable in relation to key sensitivities of the landscape and visual resource.

3.41 The significant effects of which the Reporter was aware of in reaching his conclusions on the acceptability of the previous development proposal in 2015 will remain and, whilst discernible, the increased magnitude of change will not be significant in its own right.

3.42 In no case will effects that were previously identified as not significant become significant. It is considered by OPEN that the proposed dimension increase of the turbines can be accommodated into the landscape and visual resource without unacceptable impacts arising.

# 4 NOISE

## Introduction

4.1 This Section provides the results of an updated operational noise assessment for the Proposed Development to confirm whether it would be able to operate within the approved noise limits on the original Sorbie Wind Farm consent.

## Legislation and policy context

4.2 The relevant set of reference documentation is provided at Appendix 4.1.

## Assessment Methodology and significance criteria

4.3 The following effects have been assessed:

- Construction noise; and
- Operational noise.

4.4 These are discussed in turn below.

Construction Noise

4.5 The construction noise limits prescribed within BS5228:2009 are designed to offer residents a reasonable level of protection with the regard to the typical short-term duration and typical noise levels associated with construction noise. In this case an assumed 65 dB $L_{Aeq,12hr}$ daytime significance criterion would be adopted for the purposes of the assessment. However, noise associated with construction may be controlled through planning condition or through discussions with the relevant authorities. Due to the temporary nature of construction works, including the excavation and filling works associated with turbine bases, and the typically large distances between turbines and neighbouring receptors, noise levels associated with the erection of wind turbines are relatively low and are rarely a cause for concern.

4.6 Noise associated with heavy goods vehicles (HGV) and site traffic movements along local roads during the construction of the development would cause a temporary increase in noise levels, particularly for dwellings located along the proposed routes to the Proposed Development and given the rural nature of the area. However, even during the most intensive periods of deliveries to the construction site it is unlikely that noise limits (i.e. those specified within BS5228) would be breached, particularly for typical daytime periods, due to the sporadic and intermittent nature of the noise from vehicles passing the neighbouring dwellings and the slow speeds at which HGVs would pass the dwellings. Any planned deliveries during night-time and/or other sensitive hours would have the potential to wake or disturb the residents of neighbouring dwellings. As a result, any such events, if unavoidable, would be agreed with the Environmental Health Officer (EHO) dealing with the development and residents would be kept informed of these activities prior to any night-time deliveries taking place.

4.7 Construction noise from turbine erection, borrow pit extraction, construction compound construction and access track upgrades is highly unlikely to cause significant impacts due to separation distances from dwellings.

Operational Noise

4.8 The assessment has been undertaken in accordance with the guidance contained in the report *ETSU-R-97 The Assessment and Rating of Noise from Wind Farms*[3].

4.9 The ISO 9613-2 model[4] was used to calculate the noise immission levels at the selected nearest residential noise sensitive premises. All noise level predictions have been undertaken using a receiver height of four metres above local ground level, mixed ground (G=0.5) and an air absorption based on a temperature of 10°C and 70% relative humidity. All wind farm noise levels are presented in terms of the $L_{A90,T}$ noise indicator in accordance with the recommendations of the ETSU-R-97 report, obtained by subtracting 2 dB(A) from the calculated $L_{aeq,T}$ noise levels based on the turbine sound power levels.

4.10 This method is consistent with the recommendations of the Institute of Acoustics Good Practice Guide (IOA GPG)[5] which provides agreement on the appropriate approach when predicting wind turbine noise levels. The IOA GPG has been endorsed by the UK Government as current industry good practice.

4.11 Appendix 4.1 describes in detail the methodology used to predict the expected turbine noise resulting from the Proposed Development and its compliance with planning conditions.

## Baseline Conditions

4.12 The 18 Noise Sensitive Receptors (NSRs) that were assessed in the 2013 Environmental Appraisal are listed in the Sorbie Wind Farm noise condition and form the basis of this updated assessment.

## Identification and evaluation of key effects

4.13 This section provides a comparison of the consented noise limits and the predicted turbine noise levels resulting from the introduction of the Proposed Development.

4.14 Tables 4.2 and 4.3 below set out the consented noise limits for Sorbie Wind Farm at nearby noise sensitive receptors.

[3] ETSU-R-97, The Assessment and Rating of Noise from Wind Farms, Final Report for the Department of Trade & Industry, September 1996. The Working Group on Noise from Wind Turbines.

[4] ISO 9613 2:1996 'Acoustics – Attenuation of sound during propagation outdoors – Part 2: General method of calculation', International Standards Organisation, 1996

[5] A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise, M. Cand, R. Davis, C. Jordan, M. Hayes, R. Perkins, Institute of Acoustics, May 2013.

| Property | Standardised Wind Speed (m/s) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Darleith Farm | 34.3 | 31.9 | 30.7 | 35.7 | 39.3 | 43.6 | 45.1 | 47.2 | 49.2 |
| Knockrivoch Farm | 36.2 | 38.6 | 41.3 | 44.5 | 47.6 | 50.7 | 53.5 | 56.0 | 58.0 |
| Meikle Busbie Cottage | 34.8 | 35.5 | 37.5 | 42.6 | 46.7 | 50.7 | 53.2 | 55.7 | 57.8 |
| Sorbie Farm Cottage | 36.1 | 38.4 | 41.2 | 44.4 | 47.6 | 50.7 | 53.4 | 56.0 | 58.0 |
| Tower Lodge | 36.1 | 38.5 | 41.2 | 44.4 | 47.6 | 50.7 | 53.5 | 56.0 | 58.0 |
| Knockrivoch Cottages | 36.2 | 38.6 | 41.4 | 44.5 | 47.6 | 50.7 | 53.5 | 56.0 | 58.0 |
| 1 Mill Farm | 36.1 | 38.3 | 41.1 | 44.3 | 47.5 | 50.7 | 53.4 | 56.0 | 58.0 |
| 2 Bluebell Gardens | 36.1 | 38.5 | 41.2 | 44.4 | 47.6 | 50.7 | 53.5 | 56.0 | 58.0 |
| 12 Millglen Gardens | 36.1 | 38.4 | 41.2 | 44.4 | 47.6 | 50.7 | 53.4 | 56.0 | 58.0 |
| Arran View | 36.2 | 38.6 | 41.4 | 44.5 | 47.6 | 50.7 | 53.5 | 56.0 | 58.0 |
| Little Busbie | 34.5 | 34.6 | 36.1 | 42.1 | 46.5 | 50.6 | 53.1 | 55.7 | 57.8 |
| Little Ittington | 34.6 | 33.5 | 34.3 | 37.5 | 40.3 | 43.6 | 45.5 | 47.6 | 49.4 |
| Meikle Busbie Farm | 34.8 | 35.3 | 37.2 | 42.5 | 46.6 | 50.7 | 53.1 | 55.7 | 57.8 |
| Meikle Ittington | 34.5 | 32.8 | 33.0 | 36.8 | 39.9 | 43.6 | 45.3 | 47.4 | 49.3 |
| Meikle Laught | 36.2 | 38.6 | 41.4 | 44.5 | 47.6 | 50.7 | 53.5 | 56.0 | 58.0 |
| Muirlaught Bungalow | 34.8 | 34.3 | 35.6 | 38.2 | 40.8 | 43.7 | 45.7 | 47.7 | 49.5 |
| Muirlaught Farm | 34.8 | 34.2 | 35.4 | 38.1 | 40.7 | 43.7 | 45.6 | 47.7 | 49.5 |
| Rashley | 35.7 | 37.5 | 40.1 | 43.7 | 47.2 | 50.7 | 53.3 | 55.9 | 57.9 |

Table 4.2 – Consented day-time noise limits for Sorbie Wind Farm (07:00 to 23:00), dB $L_{A90}$

| Property | Standardised Wind Speed (m/s) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Darleith Farm | 42.9 | 42.6 | 42.2 | 42.0 | 41.8 | 42.9 | 44.0 | 43.6 | 43.6 |
| Knockrivoch Farm | 43.0 | 42.9 | 42.8 | 42.8 | 43.6 | 46.3 | 48.1 | 48.1 | 48.1 |
| Meikle Busbie Cottage | 42.7 | 42.0 | 40.5 | 39.7 | 40.6 | 46.2 | 46.9 | 46.3 | 46.3 |
| Sorbie Farm Cottage | 43.0 | 42.9 | 42.7 | 42.6 | 43.5 | 46.3 | 48.0 | 48.0 | 48.0 |
| Tower Lodge | 43.0 | 42.9 | 42.7 | 42.7 | 43.5 | 46.3 | 48.1 | 48.0 | 48.0 |
| Knockrivoch Cottages | 43.0 | 42.9 | 42.8 | 42.8 | 43.6 | 46.3 | 48.1 | 48.1 | 48.1 |
| 1 Mill Farm | 43.0 | 42.8 | 42.6 | 42.5 | 43.4 | 46.3 | 48.0 | 47.9 | 47.9 |
| 2 Bluebell Gardens | 43.0 | 42.9 | 42.7 | 42.7 | 43.5 | 46.3 | 48.0 | 48.0 | 48.0 |
| 12 Millglen Gardens | 43.0 | 42.9 | 42.7 | 42.6 | 43.4 | 46.3 | 48.0 | 48.0 | 48.0 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Arran View | 43.0 | 42.9 | 42.8 | 42.8 | 43.6 | 46.3 | 48.1 | 48.1 | 48.1 |
| Little Busbie | 42.7 | 41.8 | 39.8 | 38.7 | 39.7 | 46.2 | 46.5 | 45.8 | 45.8 |
| Little Ittington | 42.9 | 42.8 | 42.6 | 42.5 | 42.4 | 42.9 | 44.5 | 44.3 | 44.3 |
| Meikle Busbie Farm | 42.7 | 42.0 | 40.3 | 39.5 | 40.4 | 46.2 | 46.8 | 46.2 | 46.2 |
| Meikle Ittington | 42.9 | 42.7 | 42.4 | 42.2 | 42.1 | 42.9 | 44.3 | 44.0 | 44.0 |
| Meikle Laught | 43.0 | 42.9 | 42.8 | 42.8 | 43.6 | 46.3 | 48.1 | 48.1 | 48.1 |
| Muirlaught Bungalow | 43.0 | 42.9 | 42.8 | 42.7 | 42.7 | 43.0 | 44.7 | 44.6 | 44.6 |
| Muirlaught Farm | 43.0 | 42.9 | 42.7 | 42.7 | 42.6 | 43.0 | 44.7 | 44.6 | 44.6 |
| Rashley | 42.9 | 42.6 | 42.0 | 41.7 | 42.5 | 46.2 | 47.6 | 47.4 | 47.4 |

Table 4.2 – Consented night-time noise limits for Sorbie Wind Farm (23:00 to 07:00), dB $L_{A90}$

4.15 Table 4.4 below shows the predicted noise levels from the operation of the Proposed Development, using the methodology described in Appendix 4.1.

| Property | Standardised Wind Speed (m/s) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Darleith Farm | 23.1 | 27.9 | 29.8 | 34.7 | 35.4 | 36.1 | 36.3 | 36.7 | 37 |
| Knockrivoch Farm | 22.4 | 27.2 | 31.3 | 34 | 34.7 | 35.4 | 35.6 | 36 | 36.3 |
| Meikle Busbie Cottage | 26.6 | 31.4 | 35.5 | 38.2 | 38.9 | 39.5 | 39.8 | 40.1 | 40.5 |
| Sorbie Farm Cottage | 27.1 | 31.9 | 36 | 38.7 | 39.4 | 40 | 40.3 | 40.6 | 40.9 |
| Tower Lodge | 23 | 27.8 | 31.9 | 34.6 | 35.3 | 35.9 | 36.2 | 36.5 | 36.9 |
| Knockrivoch Cottages | 11.4 | 16.2 | 20.3 | 23 | 23.7 | 24.4 | 24.6 | 25 | 25.3 |
| 1 Mill Farm | 19.7 | 24.5 | 28.6 | 31.3 | 32 | 32.6 | 32.9 | 33.2 | 33.5 |
| 2 Bluebell Gardens | 17.2 | 22 | 26.1 | 28.8 | 29.5 | 30.1 | 30.4 | 30.7 | 31 |
| 12 Millglen Gardens | 17.4 | 22.2 | 26.3 | 29 | 29.7 | 30.3 | 30.6 | 30.9 | 31.2 |
| Arran View | 22 | 26.9 | 30.9 | 33.6 | 34.3 | 34.9 | 35.2 | 35.5 | 35.9 |
| Little Busbie | 21.6 | 26.4 | 30.5 | 33.2 | 33.9 | 34.5 | 34.8 | 35.1 | 35.4 |
| Little Ittington | 14.2 | 19 | 21.1 | 25.8 | 26.5 | 27.1 | 27.4 | 27.7 | 28 |
| Meikle Busbie Farm | 26.5 | 31.3 | 35.4 | 38.1 | 38.8 | 39.4 | 39.7 | 40 | 40.3 |
| Meikle Ittington | 15.1 | 19.9 | 24 | 26.7 | 27.4 | 28 | 28.3 | 28.6 | 29 |
| Meikle Laught | 19.3 | 24.1 | 28.2 | 30.9 | 31.6 | 32.2 | 32.5 | 32.8 | 33.1 |
| Muirlaught Bungalow | 17.1 | 21.9 | 26 | 28.7 | 29.4 | 30.1 | 30.3 | 30.7 | 31 |
| Muirlaught Farm | 17.2 | 22 | 26.1 | 28.8 | 29.5 | 30.1 | 30.4 | 30.7 | 31 |
| Rashley | 19.5 | 24.3 | 28.4 | 31.1 | 31.8 | 32.4 | 32.7 | 33 | 33.3 |

Table 4.4 – Predicted noise levels (dB $L_{A90,}$) – the Proposed Development

4.16 The comparison provided in Tables 4.5 and 4.6 show predicted noise levels of the Proposed Development against day-time and night-time noise limits. A positive number indicates compliance.

| Property | Standardised Wind Speed (m/s) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Darleith Farm | 11.2 | 4 | 0.9 | 1 | 3.9 | 7.5 | 8.8 | 10.5 | 12.2 |
| Knockrivoch Farm | 13.8 | 11.4 | 10 | 10.5 | 12.9 | 15.3 | 17.9 | 20 | 21.7 |
| Meikle Busbie Cottage | 8.2 | 4.1 | 2 | 4.4 | 7.8 | 11.2 | 13.4 | 15.6 | 17.3 |
| Sorbie Farm Cottage | 9 | 6.5 | 5.2 | 5.7 | 8.2 | 10.7 | 13.1 | 15.4 | 17.1 |
| Tower Lodge | 13.1 | 10.7 | 9.3 | 9.8 | 12.3 | 14.8 | 17.3 | 19.5 | 21.1 |
| Knockrivoch Cottages | 24.8 | 22.4 | 21.1 | 21.5 | 23.9 | 26.3 | 28.9 | 31 | 32.7 |
| 1 Mill Farm | 16.4 | 13.8 | 12.5 | 13 | 15.5 | 18.1 | 20.5 | 22.8 | 24.5 |
| 2 Bluebell Gardens | 18.9 | 16.5 | 15 | 15.5 | 18 | 20.6 | 23 | 25.3 | 27 |
| 12 Millglen Gardens | 18.7 | 16.2 | 14.9 | 15.4 | 17.9 | 20.4 | 22.8 | 25.1 | 26.8 |
| Arran View | 14.2 | 11.7 | 10.5 | 10.9 | 13.3 | 15.8 | 18.3 | 20.5 | 22.1 |
| Little Busbie | 12.9 | 8.2 | 5.6 | 8.9 | 12.6 | 16.1 | 18.3 | 20.6 | 22.4 |
| Little Ittington | 20.4 | 14.5 | 13.2 | 11.7 | 13.8 | 16.5 | 18.1 | 19.9 | 21.4 |
| Meikle Busbie Farm | 8.3 | 4 | 1.8 | 4.4 | 7.8 | 11.3 | 13.4 | 15.7 | 17.5 |
| Meikle Ittington | 19.4 | 12.9 | 9 | 10.1 | 12.5 | 15.6 | 17 | 18.8 | 20.3 |
| Meikle Laught | 16.9 | 14.5 | 13.2 | 13.6 | 16 | 18.5 | 21 | 23.2 | 24.9 |
| Muirlaught Bungalow | 17.7 | 12.4 | 9.6 | 9.5 | 11.4 | 13.6 | 15.4 | 17 | 18.5 |
| Muirlaught Farm | 17.6 | 12.2 | 9.3 | 9.3 | 11.2 | 13.6 | 15.2 | 17 | 18.5 |
| Rashley | 16.2 | 13.2 | 11.7 | 12.6 | 15.4 | 18.3 | 20.6 | 22.9 | 24.6 |

Table 4.5 – Amenity Hours Noise Limits Met by, dB

| Property | Standardised Wind Speed (m/s) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Darleith Farm | 19.8 | 14.7 | 12.4 | 7.3 | 6.4 | 6.8 | 7.7 | 6.9 | 6.6 |
| Knockrivoch Farm | 20.6 | 15.7 | 11.5 | 8.8 | 8.9 | 10.9 | 12.5 | 12.1 | 11.8 |
| Meikle Busbie Cottage | 16.1 | 10.6 | 5 | 1.5 | 1.7 | 6.7 | 7.1 | 6.2 | 5.8 |
| Sorbie Farm Cottage | 15.9 | 11 | 6.7 | 3.9 | 4.1 | 6.3 | 7.7 | 7.4 | 7.1 |
| Tower Lodge | 20 | 15.1 | 10.8 | 8.1 | 8.2 | 10.4 | 11.9 | 11.5 | 11.1 |
| Knockrivoch Cottages | 31.6 | 26.7 | 22.5 | 19.8 | 19.9 | 21.9 | 23.5 | 23.1 | 22.8 |
| 1 Mill Farm | 23.3 | 18.3 | 14 | 11.2 | 11.4 | 13.7 | 15.1 | 14.7 | 14.4 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2 Bluebell Gardens | 25.8 | 20.9 | 16.6 | 13.9 | 14 | 16.2 | 17.6 | 17.3 | 17 |
| 12 Millglen Gardens | 25.6 | 20.7 | 16.4 | 13.6 | 13.7 | 16 | 17.4 | 17.1 | 16.8 |
| Arran View | 21 | 16 | 11.9 | 9.2 | 9.3 | 11.4 | 12.9 | 12.6 | 12.2 |
| Little Busbie | 21.1 | 15.4 | 9.3 | 5.5 | 5.8 | 11.7 | 11.7 | 10.7 | 10.4 |
| Little Ittington | 28.7 | 23.8 | 21.5 | 16.7 | 15.9 | 15.8 | 17.1 | 16.6 | 16.3 |
| Meikle Busbie Farm | 16.2 | 10.7 | 4.9 | 1.4 | 1.6 | 6.8 | 7.1 | 6.2 | 5.9 |
| Meikle Ittington | 27.8 | 22.8 | 18.4 | 15.5 | 14.7 | 14.9 | 16 | 15.4 | 15 |
| Meikle Laught | 23.7 | 18.8 | 14.6 | 11.9 | 12 | 14.1 | 15.6 | 15.3 | 15 |
| Muirlaught Bungalow | 25.9 | 21 | 16.8 | 14 | 13.3 | 12.9 | 14.4 | 13.9 | 13.6 |
| Muirlaught Farm | 25.8 | 20.9 | 16.6 | 13.9 | 13.1 | 12.9 | 14.3 | 13.9 | 13.6 |
| Rashley | 23.4 | 18.3 | 13.6 | 10.6 | 10.7 | 13.8 | 14.9 | 14.4 | 14.1 |

Table 4.6 – Night-time Noise Limits Met by, dB

## Conclusions

4.17 The operational noise assessment has been undertaken in accordance with the recommendations of ETSU-R-97, The Assessment and Rating of Noise from Wind Farms, as referred to within relevant planning guidance, and the Institute of Acoustics document, A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise.

4.18 Background monitoring has been undertaken as part of the noise assessment provided in the 2013 Environmental Appraisal. Planning conditions issued as part of the granting of consent provide the ETSU-R-97 noise limit against which operational noise has been assessed at all relevant NSRs for the Proposed Development.

4.19 Results of the assessment show that noise levels from the Proposed Development are below ETSU-R-97 noise limits at all properties and at all wind speeds. As a result, no mitigation measures are necessary or proposed beyond the noise reduced modes used in the assessment and it is considered that the resulting impacts are not significant.

# 5 SHADOW FLICKER

## Introduction

5.1 This Section provides the results of an updated shadow flicker assessment for the Proposed Development.

## Methodology

5.2 A study[6] on behalf of the Department of Energy and Climate Change drew the following conclusions in relation to shadow flicker effects:

- A study area of 130 degrees north of each turbine position is appropriate;
- There is unlikely to be any significant effects at distances greater than 10 rotor diameters; and
- The frequency of flicker caused by modern wind turbines is unlikely to cause any health effects and nuisance and is not considered a significant risk.

5.3 As outlined in Section 1, this Proposed Development is for three wind turbines with a maximum height to blade tip of 125m. The final choice of turbine would be dependent on the technology available at the time of construction, however, for the purposes of this shadow flicker assessment it has been assumed that the maximum rotor diameter will not exceed 115m in width.

5.4 The 'shadow flicker zone' for the purposes of this assessment extends out to 1,150m from the turbine positions (being 10x the rotor diameter) and 130 degrees either side of north from each turbine position. Within this zone 7 shadow flicker receptors have been identified, although one of these properties (Craigspark) has not been included within the assessment as it is an uninhabited building.

5.5 A recognised computer software package[7] has been used to calculate theoretical specific times and durations of shadow flicker effects for each of the identified shadow flicker receptors. This software creates a mathematical model of the Proposed Development and its surroundings, based on:

- Turbine locations, hub height and rotor diameter;
- Topography (obtained from Ordnance Survey Land-Form Panorama elevation data on a 50m horizontal grid); and
- Latitude and longitude of the Site (used to calculate the position of the sun in relation to time of day and year).

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[6] Parsons Brickerhoff Consultants on behalf of DECC (2010) Update of UK Shadow Flicker Evidence Base

[7] windPRO, Version 3.1.633

5.6 Certain worse-case assumptions are made in the calculation, including:

- Weather conditions are such that shadows are always case during each day of the year, i.e. bright sunshine every day;
- The turbine rotor will always be facing directly towards a given window, maximising the size of the shadow and hence the frequency and duration of the effect;
- The turbines will always be rotating; and
- There will not be any intervening structures or vegetation (other than topography) that may restrict the visibility of a turbine, preventing or reducing the effect.

## Baseline Conditions

5.7 Six shadow flicker receptors properties have been identified within 1,150m and 130 degrees either side of north of the proposed turbine positions. Craigspark has been omitted as it is uninhabited, however, the remaining properties have been assessed below.

| Name | Easting | Northing |
|---|---|---|
| Meikle Busbie Farm Cottage | 223941 | 645709 |
| Meikle Busbie Farm | 223944 | 645734 |
| Darleith Farm | 225061 | 646294 |
| Towerlodge | 225633 | 645299 |
| Little Busbie | 223518 | 645671 |
| Millglen Lodges | 223399 | 644821 |

Table 5.1 – Shadow flicker receptors

## Potential Effects

5.8 Table 5.2 details the results of the shadow flicker calculations carried out for each receptor location. The table details the maximum duration of effects which would theoretically occur throughout the year, along with the predicted likely number of hours of shadow flicker per annum (assuming 30% per annum bright sunshine). It also shows the potential effects from the 2013 Environmental Appraisal for reference.

| | 2013 Environmental Appraisal | | Proposed Development | |
|---|---|---|---|---|
| Name | Theoretical maximum hours per annum | Likely hours per annum | Theoretical maximum hours per annum | Likely hours per annum |
| Meikle Busbie Farm Cottage | 38.3 | 11.49 | 68.8 | 20.6 |
| Meikle Busbie Farm | 38.0 | 11.4 | 85.7 | 25.7 |
| Darleith Farm | 26.9 | 8.1 | 33.6 | 10.1 |

| | | | | |
|---|---|---|---|---|
| Towerlodge | N/A | N/A | 28.6 | 8.6 |
| Little Busbie | N/A | N/A | 24.5 | 7.4 |
| Millglen Lodges | N/A | N/A | 49.5 | 14.9 |

Table 5.2 – Potential shadow flicker effects

5.9 The likely predicted hours of effect set out in Table 5.2 are considered to be not significant in line with the guidance set out above.

5.10 Notwithstanding that these effects are considered to be not significant, control measures would be implemented in order to prevent shadow flicker from occurring at these shadow flicker receptors. Shadow flicker effects can be avoided completely by programming individual wind turbines to shut down at specified times when shadow flicker effects could occur.

5.11 In the event that reports or complaints of shadow flicker are received by the Applicant or local authority, and an appropriate investigation confirms the occurrence, these measures could be used to prevent re-occurrence to ensure that residential amenities at the properties are not unacceptably affected by shadow flicker effects. Planning condition 15 of the original Sorbie Wind Farm consent already provides a mechanism for this.

## Conclusions

5.12 Six properties have been identified as being within the shadow flicker zone. Mitigation measures would be implemented to minimise the effect of shadow flicker and ensure that there is no unacceptable effect as a result of the Proposed Development.

# 6 CONCLUSIONS

## Introduction

6.1 This Comparative Environmental Report is submitted in support of a planning application by Energiekontor UK Ltd ("the Applicant") to North Ayrshire Council ("the Council") for a variation of the consented Sorbie Wind Farm to increase the tip height from 104.3m to 125m.

## Comparative Environmental Appraisal

6.2 Three topic areas with the potential for materially different effects from those reported in the 2013 Environmental Appraisal have been identified. These are:

- Landscape and visual effects;
- Noise effects; and
- Shadow flicker effects

## Landscape and Visual Effects

6.3 In the process of assessing the landscape and visual effects of the Proposed Development, OPEN has been mindful of the Reporter's comments, ensuring that the effects of the revised proposal will continue to be acceptable in relation to key sensitivities of the landscape and visual resource.

6.4 The significant effects of which the Reporter was aware of in reaching his conclusions on the acceptability of the previous development proposal in 2015 will remain and, whilst discernible, the increased magnitude of change will not be significant in its own right.

6.5 In no case will effects that were previously identified as not significant become significant. It is considered by OPEN that the proposed dimension increase of the turbines can be accommodated into the landscape and visual resource without unacceptable impacts arising.

## Noise Effects

6.6 Planning conditions issued as part of the granting of the original Sorbie Wind Farm consent provide the noise limits within which the Proposed Development would need to operate.

6.7 An operational noise assessment has been carried out for all relevant noise sensitive receptors for the Proposed Development. The results of the assessment show that noise levels from the Proposed Development are below ETSU-R-97 noise limits at all properties and at all wind speeds. As a result, no mitigation measures are necessary or proposed beyond the noise reduced modes used in the assessment and it is considered that the resulting impacts are not significant.

## Shadow Flicker Effects

6.8 Six properties have been identified as being within the shadow flicker zone. Mitigation measures would be implemented to minimise the effect of shadow flicker and ensure that there is no unacceptable effect as a result of the Proposed Development.

## Overall

6.9 In summary it is considered that the Proposed Development is an acceptable variation to the original Sorbie Wind Farm consent. Whilst the proposed changes would be discernible in some respects, the overall character of the development would not change and no unacceptable effects would occur as a result of the proposals.

# Appendix 3.1

**OPEN's methodology for assessing landscape and visual effects of wind farms**

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## Methodology for assessing Landscape and Visual effects of wind farms

### 1.1 Introduction

1.1.1 This appendix describes in detail the methodology that OPEN uses to carry out Landscape and Visual Impact Assessment (LVIA) for wind farm development. This Appendix is structured as follows:

- Categories of effects;
- Assessment of effects;
- Assessment of physical landscape effects;
- Assessment of effects on landscape character;
- Assessment of effects on views;
- Assessment of cumulative effects;
- Nature of effects; and
- Duration and reversibility of effects.

1.1.2 The following sources have been used in the formulation of methodology for the assessment:

- Assessing the Cumulative Impact of Onshore Wind Energy Developments (SNH, 2012);
- Guidelines for Landscape and Visual Impact Assessment: Third Edition (Landscape Institute and IEMA, 2013) (GLVIA3); and
- Visual Representation of Wind Farms Version 2.2 (SNH, February 2017).

### 1.2 Categories of Effects

1.2.1 For the purpose of assessment, the potential effects on the landscape and visual resource are grouped into five categories:

1.2.2 Physical effects are restricted to the area within the proposed development site boundary and are the direct effects on the existing fabric of the site, such as alteration to ground cover. This category of effects is made up of landscape elements, which are the components of the landscape such as rough grassland/moorland that may be directly and physically affected by the proposed development.

1.2.3 Effects on landscape character: landscape character is the distinct and recognisable pattern of elements that occurs consistently in a particular type of landscape, and the way that this pattern is perceived. Effects on landscape character arise either through the introduction of new elements that physically alter this pattern of elements, or through visibility of the proposed development, which may alter the way in which the pattern of elements is perceived. This category of effects is made up of landscape character

receptors, which fall into two groups: landscape character types and landscape-related designated areas.

1.2.4 Effects on views: the assessment of effects on views is an assessment of how the introduction of the proposed development will affect views throughout the study area. The assessment of effects on views is carried out in two parts:

- An assessment of the effects that the proposed development will have on a series of viewpoints around the study area; and
- An assessment of the effects that the proposed development will have on views from principal visual receptors, which are relevant settlements, routes and tourism features found throughout the study area.

1.2.5 Cumulative effects arise where the study areas for two or more wind farms overlap so that both/all of the wind farms are experienced at a proximity where they may have a greater incremental effect, or where wind farms may combine to have a sequential effect. In accordance with GLVIA3 and SNH guidance (SNH, 2012), the LVIA assesses the effect arising from the addition of the proposed development to the cumulative situation, and not the overall effect of multiple wind farms.

## 1.3 Assessment of Effects

1.3.1 The objective of the assessment of the proposed development is to predict the likely significant effects on the landscape and visual resource. In accordance with the Environmental Impact Assessment (Scotland) Regulations 2017, the LVIA effects are assessed to be either significant or not significant. The LVIA does not define intermediate levels of significance as the EIA Regulations do not provide for these.

1.3.2 The broad principles used in the assessment of the significance of effects on categories listed above (with the exception of the assessment of effects on wild land) are the same and are described below. The detailed methodology for the assessment of significance does, however, vary for each category, and the specific criteria used are described in this Appendix.

1.3.3 The significance of effects is assessed through a combination of two considerations; the sensitivity of the landscape receptor or view and the magnitude of change that will result from the addition of the proposed development. The way that these two criteria are combined to result in a significant or not significant effect is shown in Table 1 below.

1.3.4 Sensitivity is an expression of the ability of a landscape receptor or view to accommodate the proposed development. Sensitivity is determined through a combination of the value of the receptor and its susceptibility to the proposed development.

1.3.5 Magnitude of change is an expression of the extent of the effect on landscape receptors and views that will result from the introduction of the proposed development. The magnitude of change is assessed in terms of a number of variables, including the size and scale of the impact and the geographical extent of the affected area.

Assessing Significance of Effects

1.3.6 The significance of effects is assessed through a combination of the sensitivity of the landscape receptor or view and the magnitude of change that will result from the

addition of the proposed development. While this methodology is not reliant on the use of a matrix to arrive at the conclusion of a significant or not significant effect, a matrix is included below to illustrate how combinations of sensitivity and magnitude of change ratings can give rise to significant effects. The matrix also gives an understanding of the threshold at which significant effects may arise.

Table 1 – Illustrative Significance Matrix

| **Magnitude**<br><br>**Sensitivity** | **High** | **Medium-High** | **Medium** | **Medium-Low** | **Low** | **Negligible** |
|---|---|---|---|---|---|---|
| **High** | Significant | Significant | Significant | Significant/ Not Significant | Not Significant | Not Significant |
| **Medium-High** | Significant | Significant | Significant/ Not Significant | Significant/ Not Significant | Not Significant | Not Significant |
| **Medium** | Significant | Significant/ Not Significant | Significant/ Not Significant | Not Significant | Not Significant | Not Significant |
| **Medium-Low** | Significant/ Not Significant | Significant/ Not Significant | Not Significant | Not Significant | Not Significant | Not Significant |
| **Low** | Significant/ Not Significant | Not Significant | Not Significant | Not Significant | Not Significant | Not Significant |

1.3.7 Effects within the dark grey boxes in the matrix are considered to be significant in terms of the EIA Regulations. Effects within the light grey boxes may be significant or not significant depending on the specific relevant factors that arise at a particular landscape or visual receptor. In accordance with GLVIA3, experienced professional judgement is applied to the assessment of all effects and reasoned justification is presented in respect of the findings of each case.

1.3.8 A significant effect occurs where the proposed development will provide a defining influence on a landscape element, landscape character receptor or view. A not significant effect occurs where the effect of the proposed development is not material, and the baseline characteristics of the landscape element, landscape character receptor, view or visual receptor continue to provide the definitive influence. In this instance the proposed development may have an influence but this influence will not be definitive. A significant cumulative effect occurs where the additional effect of the proposed development, when combined with other existing and/or proposed wind farms, will result in a landscape character or view that is defined by the presence of more than one wind farm and is characterised primarily by wind farms.

1.3.9 This assessment assumes clear weather and optimum viewing conditions. This means that effects that are assessed to be significant may be not significant under different, less clear conditions.

## 1.4 Assessment of Physical Landscape Effects

1.4.1 Physical effects are the direct effects on the fabric of the site such as the removal of trees and alteration to ground cover and are restricted to the area of the site. The objective of the assessment of physical effects is to determine which landscape elements will be affected and whether these effects will be significant or not significant. The variables considered in the sensitivity of landscape elements, and the magnitude of change upon them, are described below.

Sensitivity of Landscape Elements

1.4.2 The sensitivity of a landscape element is an expression of its ability to accommodate the proposed development. This is dependent on the value of the landscape element and its susceptibility to the change that will arise from the addition of the proposed development.

- The value of a landscape element is a reflection of its importance in the pattern of elements which constitute the landscape character of the area. For example, the value of woodland is likely to be increased if it provides an important component of the local landscape character. If a landscape element is particularly rare - as a remnant of a historic landscape layout for example - its value is likely to be increased; and
- The susceptibility of a landscape element is a reflection of the degree to which the element can be restored, replaced or substituted. For example, it may be possible to restore ground cover following the excavation required for the building of turbine foundations, and this would reduce the susceptibility of this element.

1.4.3 The sensitivity of each receptor is a product of the specific combination of value and susceptibility to the proposed development as evaluated by professional judgement. The evaluation of sensitivity is described for each receptor in the assessment, and levels of sensitivity - high, medium or low - are applied. Interim levels of sensitivity – medium-high and medium-low - may also be applied where appropriate for the combination of value and susceptibility.

Magnitude of Change on Landscape Elements

1.4.4 The magnitude of change on landscape elements is quantifiable and is expressed in terms of the degree to which a landscape element will be removed or altered by the proposed development. Definitions of magnitude of change are applied in order that the process of assessment is made clear. These are:

- High, where the proposed development will result in the complete removal of a landscape element or substantial alteration to a key landscape element;
- Medium, where the proposed development will result in the removal of a notable part of a landscape element or a notable alteration to a key landscape element;
- Low, where the proposed development will result in the removal of a minor part of a landscape element or a minor alteration to a key landscape element; and

- Negligible, where the alteration to the landscape element is barely discernible.

1.4.5 There may also be intermediate levels of magnitude of change – medium-high and medium-low - where the change falls between two of the definitions.

Significance of Effects on Landscape Elements

1.4.6 The significance of the effect on landscape elements is dependent on all of the factors considered in the sensitivity of the receptor and the magnitude of change upon it. A significant effect will occur where the degree of removal or alteration of the landscape element is such that the form of the element will be redefined. If the landscape element is of a high sensitivity, a significant effect can occur with a relatively limited degree of removal or alteration. A not significant effect will occur where the form of the landscape element is not redefined as a result of the proposed development. If the landscape element is of lower sensitivity, it may undergo a higher level of removal or alteration yet remain as a not significant effect.

## 1.5 Assessment of Effects on Landscape Character

1.5.1 Landscape character is the distinct and recognisable pattern of elements that occurs consistently in a particular type of landscape, and the way that this pattern is perceived. Effects on landscape character arise through the introduction of new elements that physically alter this pattern of elements, the removal of characterising elements, or through visibility of the proposed development, which may alter the way in which the pattern of elements is perceived. This category of effects is made up of landscape character receptors, which fall into two groups; landscape character types and designated areas.

1.5.2 The objective of the assessment of effects on landscape character is to determine which landscape character receptors will be affected by the proposed development, and whether these effects will be significant or not significant. The assessment of effects on landscape character involves an evaluation of sensitivity and magnitude of change, and the resultant assessment of significance.

Sensitivity of Landscape Character Receptors

1.5.3 The sensitivity of a landscape character receptor is an expression of its ability to accommodate the proposed development as part of its own character or as part of the visual setting or context to the character receptor. This is dependent on the value of the landscape receptor and its susceptibility to change.

<u>Value of Landscape Character Receptors</u>

1.5.4 The value of a landscape character receptor is a reflection of the value that is attached to that landscape. The landscape value is classified as high, medium or low, and the basis for this evaluation is determined through the application of professional judgement to the following factors:

- Landscape designations: a receptor that lies within a recognised landscape-related planning designation will generally have an increased value, depending on the proportion of the receptor that is covered and the level of importance of the designation (international, national, regional or local). It is important to note that the absence of designations does not preclude local resource value, as an

undesignated landscape character receptor may be important as a resource in the local or immediate environment, particularly when experienced in comparison with other nearby landscapes;

- Landscape quality: the quality of a landscape character receptor is a reflection of its attributes, such as scenic quality, sense of place, rarity and representativeness and the extent to which these attributes have remained intact. A landscape with consistent, intact and well-defined, distinctive attributes is generally considered to be of higher quality and, in turn, higher value, than a landscape where the introduction of inappropriate elements has detracted from its inherent attributes; and
- Landscape experience: the experience of the landscape character receptor can add to its value and relates to a number of factors including the perceptual responses it evokes, the cultural associations that may exist in literature or history, or the iconic status of the landscape in its own right, the recreational value of the landscape for outdoor pursuits, and the contribution of other values relating to the nature conservation or archaeology of the area.

Susceptibility to Change of Landscape Character Receptors

1.5.5 The susceptibility of a landscape character receptor to change is a reflection of its ability to accommodate the changes that will occur as a result of the addition of the proposed development. The assessment of the susceptibility of the landscape receptor to change is classified as high, medium or low, as determined through the application of professional judgement to the following factors:

- The specific nature of the proposed development: the susceptibility of landscape receptors is specific to the change arising from the particular development that is proposed, including its individual components and features, and its size, scale, location, context and characteristics;
- Landscape character: the key characteristics of the existing landscape character of the receptor are considered in the evaluation of susceptibility as they determine the degree to which the receptor may accommodate the influence of the proposed development. For example, a landscape that is of a particularly wild and remote character may have a high susceptibility to the influence of the proposed development due to the contrast that it would have with the landscape, whereas a developed landscape where built elements and structures are already part of the landscape character may have a lower susceptibility. However, there are instances when the quality of a landscape may have been degraded to an extent whereby it is considered to be in a fragile state and therefore a degraded landscape may have a higher susceptibility to the proposed development; and
- Landscape association: the extent to which the proposed development will influence the character of the landscape receptors across the study area also relates to the associations that exist between the landscape within which the proposed development is located and the landscape receptor from which the proposed development is being experienced. This association will be most important where the landscapes are directly related; for example, if the proposed development is located in an upland landscape that has a strong enclosing influence on an adjacent valley landscape. Elsewhere, the association may be less important; for example, where the proposed development lies inland of a coastal landscape that has its main focus outwards over the sea.

Levels of Sensitivity

1.5.6 The sensitivity of each receptor is a product of the specific combination of value and susceptibility to the proposed development as evaluated by professional judgement. The sensitivity of the landscape receptor is evaluated as high, medium or low. Interim levels of sensitivity – medium-high and medium-low - may also be applied where appropriate.

Magnitude of Change on Landscape Character Receptors

1.5.7 The magnitude of change that the proposed development will have on landscape receptors is assessed in terms of the size or scale of the change, the geographical extent of the area influenced and its duration and reversibility. The key elements of the proposed development that will influence the level of change on landscape character are the movement, form, material, colour and scale of the turbines, although infrastructure is also considered.

Size or Scale

1.5.8 This criterion relates to the size or scale of change to the landscape that will arise as a result of the addition of the proposed development, based on the following factors:

- The degree to which the pattern of elements that makes up the landscape character will be altered by the proposed development, through removal or addition of elements in the landscape. The magnitude of change will generally be higher if key features that make up the landscape character are extensively removed or altered, and if many new components are added to the landscape;
- The extent to which the proposed development will change - physically or perceptually - the characteristics that may be important in the creation of the distinctive character of the landscape. This may include the scale of the landform, its relative simplicity or irregularity, the nature of the landscape context, the grain or orientation of the landscape, the degree to which the receptor is influenced by external features and the juxtaposition of the proposed development with these key characteristics;
- The distance between the landscape character receptor and the proposed development. Generally, the greater the distance, the lower the scale of change as the proposed development will constitute a less apparent influence on the landscape character; and
- The extent of the proposed development that will be seen from the landscape receptor. Visibility of the proposed development may range from one turbine blade tip to all of the turbines, and generally the greater the extent of the proposed development that can be seen, the greater the change.

Geographical Extent

1.5.9 The geographic area over which the landscape effects will be experienced is also evaluated. The extent of the effect will vary depending on the specific nature of the proposed development and is principally a reflection of the extent of the landscape receptor that will be affected by visibility of the proposed development.

Duration and Reversibility

1.5.10 The duration and reversibility of landscape effects are based on the period over which the proposed development is likely to exist and the extent to which the proposed

development will be removed and its effects reversed at the end of that period. Duration and reversibility are not always incorporated into the overall magnitude of change, and may be stated separately.

Levels of Magnitude of Change

1.5.11 An evaluation of the magnitude of change on landscape receptors is made by combining the considerations of size or scale of change, geographical extent and, where relevant, duration and reversibility. The magnitude of change is assessed as high, medium, low or negligible according to the following definitions:

- High, where the proposed development will result in a major alteration to the baseline character of the landscape, providing a prevailing influence and/or introducing elements that are substantially uncharacteristic in the receiving landscape;
- Medium, where the proposed development will result in a moderate alteration to the baseline character of the landscape, providing a readily apparent influence and/or introducing elements that may be prominent but are not uncharacteristic in the receiving landscape;
- Low, where the proposed development will result in a minor alteration to the baseline character of the landscape, providing a slightly apparent influence and/or introducing elements that are characteristic in the receiving landscape; and
- Negligible, where the alteration to landscape character is barely discernible.

1.5.12 There may also be intermediate levels of magnitude of change – medium-high and medium-low - where the change falls between two of the definitions.

Significance of Effects on Landscape Character Receptors

1.5.13 The significance of the effect on each landscape character receptor is dependent on the factors that are considered in the sensitivity of the receptor and the magnitude of change upon it. These factors are combined using professional judgement to arrive at an overall assessment as to whether the proposed development will have a significant or not significant effect on the receptor. The matrix shown in Table 1 above is also used to inform the threshold of significance when combining sensitivity and magnitude of change.

1.5.14 A significant effect will occur where the combination of the variables results in the proposed development having a defining effect on the receptor. A not significant effect will occur where the effect of the proposed development is not definitive, and the landscape character of the receptor continues to be characterised principally by its baseline characteristics. In this instance, a not significant effect would indicate that the proposed development may have an influence on the landscape character of the receptor, but this influence will not be a defining one.

1.6 Assessment of Effects on Views

1.6.1 The assessment of effects on views evaluates how the introduction of the proposed development will affect views and visual amenity. The assessment of visual effects is carried out in two parts:

- An assessment of the effects that the proposed development will have on a series of viewpoints around the study area; and

- An assessment of the effects that the proposed development will have on views from principal visual receptors, which are relevant settlements, routes and tourism features found throughout the study area.

1.6.2 The objective of the assessment of effects on visual receptors is to determine what the likely effects of the proposed development will be on views across the study area, and whether these effects will be significant or not significant. The assessment of effects on views involves an evaluation of sensitivity and magnitude of change, and the resultant assessment of significance.

Sensitivity of Visual Receptors

1.6.3 The sensitivity of views and visual receptors is determined by a combination of the value of the view and the susceptibility of the viewer or visual receptor to the proposed development.

Value of Views

1.6.4 The value of a view is a reflection of the recognition and the importance attached formally through identification as a viewpoint on mapping, by signposting or through planning designation; or informally through the value which society attaches to the view. The value of a view is classified as high, medium or low, based on the following factors:

- Formal recognition: the value of views can be formally recognised through their identification on maps as formal viewpoints, are signposted and provide facilities to facilitate the enjoyment of the view such as parking, seating and interpretation boards. Specific views may be afforded protection in local planning policy, where they are recognised as valued views. Specific views can also be cited as being of importance in relation to landscape or heritage planning designations; for example the value of a view may be increased if it presents an important vista from a designed landscape or lies within or overlooks a designated area such as a National Scenic Area (NSA), which implies a greater value to the visible landscape;
- Informal recognition: views that are well-known at a local level or have particular scenic qualities can have an increased value, even if there is no formal recognition or designation. Views or viewpoints are sometimes informally recognised through references in art or literature and this can also add to their value; and
- Scenic quality: the value of the view is a reflection of the scenic qualities gained in the view. This relates to the content and composition of the landscape, whereby certain patterns and features can increase the scenic quality while others may reduce the scenic quality.

Susceptibility to Change

1.6.5 Susceptibility relates to the nature of the viewer and how susceptible they are to the potential effects of the proposed development. This is determined by the nature of the viewer, which is the occupation or activity in which the viewer is engaged at the viewpoint, and is classified as high, medium or low. The most common groups of viewers considered in the visual assessment include residents, road-users, workers and walkers.

1.6.6 Viewers whose attention is focussed on the landscape – walkers or cyclists on recognised walking or cycling routes, for example - are likely to have a high susceptibility, as will residents of properties that gain views of the proposed development.

1.6.7 Viewers travelling in cars or on trains will tend to have a medium susceptibility as their view is transient and moving. However, people travelling in cars on a national tourist route can have a heightened susceptibility as they are likely to have an awareness of the surrounding landscape.

1.6.8 The least sensitive viewers, with a low susceptibility, are usually people at their place of work as they are often less sensitive to changes in the view, although this depends on the nature of their work.

Levels of Sensitivity

1.6.9 The sensitivity of each receptor is a product of the specific combination of value and susceptibility to the proposed development as evaluated by professional judgement. The sensitivity of the view or visual receptor is evaluated as high, medium or low by combining the value and susceptibility to change. Interim levels of sensitivity – medium-high and medium-low - may also be applied where appropriate for the combination of value and susceptibility.

Magnitude of Change on Views

1.6.10 The magnitude of change on visual receptors and views is assessed in terms of the size or scale of the change, the geographical extent of the visual effect and, in some situations, its duration and reversibility. The key elements of the proposed development that will influence the level of change on views are the movement, form, material, colour and scale of the turbines, although infrastructure is also considered.

Size or Scale

1.6.11 This criterion relates to the size or scale of change to the view that will arise as a result of the proposed development, based on the following factors:

- The scale of the change in the view, with respect to the loss or addition of features in the view and changes in its composition;
- The distance between the visual receptor and the proposed development. Generally, the greater the distance, the lower the magnitude of change as the proposed development will constitute a smaller-scale component of the view;
- The proportion of the proposed development that will be seen. Visibility may range from one blade tip to all of the turbines. Generally, the more of the proposed development that can be seen, the higher the magnitude of change;
- The field of view available and the proportion of the view that is affected by the proposed development. Generally, the more of a view that is affected, the higher the magnitude of change will be. If the proposed development extends across the whole of the open part of the outlook, the magnitude of change will generally be higher. Conversely, if the proposed development covers just a part of an open, expansive and wide view, the magnitude of change is likely to be reduced as the proposed development will not affect the whole open part of the outlook;
- The scale and character of the context within which the proposed development will be seen and the degree of contrast or integration of any new features with existing landscape elements, in terms of scale, form, mass, line, height, colour and texture. The scale of the landform and the patterns of the landscape, the existing land use and vegetation cover, and the degree and type of development and settlement seen in the view will be relevant; and

- The consistency of the appearance of the proposed development. If the proposed development appears in a similar setting and form, and from a similar angle each time it is apparent, it will appear as a single, familiar site, and this can reduce the magnitude of change. If, on the other hand, it appears from a different angle and is seen in a different form and setting, the magnitude of change is likely to be higher.

Geographical Extent

1.6.12 The extent of effects on views is based on the following factors:

- The extent of a receptor (a road, footpath or settlement, for example) from which the proposed development may be seen. If the proposed development is visible from extensive areas, the overall magnitude of change is likely to be higher than if it is visible from a limited part of a receptor;
- The extent to which the change would affect views; whether this is unique to a particular viewpoint or if similar visual changes occur over a wider area represented by the viewpoint; and
- The position of the proposed development in relation to the principal orientation of the view and activity of the receptor. If the proposed development is seen in a specific, directional vista, the magnitude of change will generally be greater than if it were seen in a glimpsed view at an oblique angle of view.

Duration and Reversibility

1.6.13 The duration and reversibility of effects on views are based on the period over which the proposed development is likely to exist and the extent to which it will be removed and its effects reversed at the end of that period. Duration and reversibility are not always incorporated into the overall magnitude of change, and may be stated separately.

Levels of Magnitude of Change

1.6.14 The magnitude of change on views and visual receptors is evaluated by combining the considerations of size or scale of change, geographical extent and, where relevant, duration and reversibility. The magnitude of change is assessed as high, medium, low or negligible according to the following definitions:

- High, where the proposed development will result in a major alteration to the baseline view, providing a prevailing influence and/or introducing elements that are substantially uncharacteristic in the view;
- Medium, where the proposed development will result in a moderate alteration to the baseline view, providing a readily apparent influence and/or introducing elements that may be prominent but are not uncharacteristic in the view;
- Low, where the proposed development will result in a minor alteration to the baseline view, providing a slightly apparent influence and/or introducing elements that are characteristic in the view; and
- Negligible, where the alteration to the view is barely discernible.

1.6.15 There may also be intermediate levels of magnitude of change – medium-high and medium-low - where the change falls between two of the definitions.

Significance of Effects on Views

1.6.16 The significance of the effect on each view or visual receptor is dependent on the factors that are considered in the sensitivity of the view or receptor and the magnitude

of change upon it. These factors are combined using professional judgement to arrive at an overall assessment as to whether the proposed development will have a significant or not significant effect on the view or visual receptor. The matrix shown in Table 1 above is also used to inform the threshold of significance when combining sensitivity and magnitude of change.

1.6.17 A significant effect will occur where the combination of the variables results in the proposed development having a defining effect on the view or visual receptor. A not significant effect will occur where the effect of the proposed development is not definitive, and the view continues to be characterised principally by its baseline characteristics. In this instance, a not significant effect would indicate that the proposed development may have an influence on the view, but this influence will not be a defining one.

## 1.7 Assessment of Cumulative Effects

### Introduction

1.7.1 Cumulative effects are the incremental effects that arise through the interaction of two or more developments within the landscape and visual baseline context. Cumulative effects arise where the study areas for two or more wind energy developments (or other relevant development) overlap so that both are experienced at a proximity where they may have a greater incremental effect, or where wind energy developments may combine to have a sequential effect irrespective of any overlap in study areas. The cumulative effect assessed is that which will arise from the addition of the proposed development to the existing or predicted cumulative situation, and not the overall effect of multiple wind farms.

### Types of Cumulative Effect

1.7.2 Cumulative effects on landscape character arise when the influence of two or more wind farms becomes a characteristic of a landscape receptor. This can occur to varying extents.

1.7.3 Cumulative effects on views consist of combined visibility and sequential effects. Combined visibility occurs where the observer is able to see two or more developments from one viewpoint. Combined visibility may either be 'in combination', where several wind farms are within the observer's main angle of view at the same time, or 'in succession', where the observer has to turn to see the various wind farms. Sequential effects occur when the observer has to move to another viewpoint to see different developments, and may arise assessed on roads, railway lines and footpaths.

1.7.4 The significance of cumulative effects is determined through a combination of the sensitivity of the landscape receptor or visual receptor/view and the cumulative magnitude of change arising from the addition of the proposed development. The sensitivity of landscape receptors and visual receptors/views is taken from the main assessment, while the cumulative magnitude of change is evaluated according to additional criteria, described below.

Cumulative Magnitude of Change

1.7.5 The cumulative magnitude of change is an expression of the degree to which landscape character receptors and visual receptors/views will be changed by the addition of the proposed development to wind farm developments that are already operational, consented or at application stage. The cumulative magnitude of change is assessed based on a number of criteria, as follows:

- The location of the proposed development in relation to other wind farm developments. If the proposed development is seen in a part of the view or setting to a landscape receptor that is not affected by other wind farm development, this will generally increase the cumulative magnitude of change as it will extend wind farm influence into an area that is currently unaffected. Conversely, if the proposed development is seen in the context of other sites, the cumulative magnitude of change may be lower as wind farm influence is not being extended to otherwise undeveloped parts of the outlook or setting. This is particularly true where the scale and layout of the proposed development is similar to that of the other sites as where there is a high level of integration and cohesion with an existing wind farm site the various developments may appear as a single site;
- The extent of the developed skyline. If the proposed development will add notably to the developed skyline in a view, the cumulative magnitude of change will tend to be higher as skyline development can have a particular influence on both views and landscape receptors;
- The number and scale of wind farm developments seen simultaneously or sequentially. Generally, the greater the number of clearly separate developments that are visible, the higher the cumulative magnitude of change will be. The addition of the proposed development to a view or landscape where a number of smaller developments are apparent will usually have a higher cumulative magnitude of change than one or two large developments as this can lead to the impression of a less co-ordinated or strategic approach;
- The scale comparison between wind farm developments. If the proposed development is of a similar scale to other visible wind farms, particularly those seen in closest proximity to it, the cumulative magnitude of change will generally be lower as it will have more integration with the other sites and will be less apparent as an addition to the cumulative situation;
- The consistency of image of the proposed development in relation to other wind farm developments. The cumulative magnitude of change of the proposed development is likely to be lower if its turbine height, arrangement and layout design are broadly similar to other wind farms in the landscape, as they are more likely to appear as relatively simple and logical components of the landscape;
- The context in which the wind farm developments are seen. If developments are seen in a similar landscape context, the cumulative magnitude of change is likely to be lower due to visual integration and cohesion between the sites. If developments are seen in a variety of different landscape settings, this can lead to a perception that wind farm development is unplanned and uncoordinated, affecting a wide range of landscape characters and blurring the distinction between them; and
- The magnitude of change of the proposed development as assessed in the main assessment. The lower this is assessed to be, the lower the cumulative magnitude of change is likely to be. Where the proposed development itself is assessed to

have a negligible magnitude of change on a view or receptor there will not be a cumulative effect as the contribution of the proposed development will equate to the 'no change' situation.

1.7.6 Definitions of cumulative magnitude of change are applied in order that the process of assessment is made clear. These are:

- High, the addition of the proposed development to other wind energy developments in the landscape or view will result in a major change to the cumulative wind farm situation;
- Medium, the addition of the proposed development to other wind energy developments in the landscape or view will result in a moderate change to the cumulative wind farm situation;
- Low, the addition of the proposed development to other wind energy developments in the landscape or view will result in a minor change to the cumulative situation; and
- Negligible, where the alteration to the cumulative situation is barely discernible, or there may be 'no change'.

1.7.7 There may also be intermediate levels of cumulative magnitude of change – medium-high and medium-low - where the change falls between two of the definitions.

Significance of Cumulative Effects

1.7.8 Significant cumulative landscape and visual effects arise where a 'wind farm' landscape is created as a result of the addition of the proposed development to other existing or proposed wind farms, which results in wind turbines becoming so prolific that they become a prevailing landscape and visual characteristic. The creation of a wind farm landscape may evolve as follows:

- A small-scale, single wind farm will often be perceived as a new or 'one-off' landscape feature or landmark within the landscape. Except at a local site level, it will not usually change the overall existing landscape character, or become a new characteristic element of a wider landscape;
- With the addition of further wind farm development, wind farms can become a characteristic element of the landscape, as the wind farms appear as repeated landscape elements. Providing there is sufficient separation, physically, visually and perceptually, between each development, coalescence is avoided and the wind farms are likely to appear as a series of wind farms within the landscape, without becoming the dominant or defining characteristic of the landscape; and
- The next stage is to consider larger commercial wind farms or an increase in the number of wind farms that appear to physically, visually and perceptually coalesce. This may lead to a 'wind farm landscape' where multiple wind farms are the prevailing or defining characteristic of the landscape. A wind farm landscape may already exist as part of the baseline landscape context.

1.7.9 In this context, the addition of the proposed development may lead to the final step of a landscape or view becoming defined by the presence of wind farms, so that other patterns and components are no longer definitive. In this case, the cumulative effect would be assessed as significant. In some cases, significant cumulative effects may arise where the proposed development lies in close proximity to other developments, but with notable differences between them in terms of scale and setting. However, provided that the proposed development is designed to achieve a high level of visual integration with adjacent or nearby wind farms, these effects would be reduced.

1.7.10 Significant cumulative effects may also result from the creation of a situation where wind farms have some geographical separation but remain highly inter-visible, potentially resulting in a proliferation of wind farm development on the skyline, or the creation of multiple discrete wind farm landscapes.

1.7.11 It is important to remember that the objective of the cumulative assessment is different from the assessment of effects of the proposed development itself. In the cumulative assessment, the intention is to establish whether or not the addition of the proposed development, in combination with other relevant existing and proposed wind farms, may lead to a landscape character or view that is characterised primarily by wind farms so that other patterns and components are no longer definitive. The assessment of the effects of the proposed development itself focusses on the effect that the proposed development will have on the viewpoints, principal visual receptors and landscape character receptors, taking baseline wind farms into consideration but not assessing the contribution of the proposed development to the cumulative situation. Baseline (operational, under construction and consented) cumulative wind farms are taken into consideration in both the assessment of the proposed development itself and the cumulative assessment, while application-stage wind farms are considered only in the cumulative assessment.

## 1.8 The Nature of Effects

1.8.1 The 'nature of effects' relates to whether the effects of the proposed development are positive/beneficial or negative/adverse. Guidance provided in GLVIA3 states that "*thought must be given to whether the likely significant landscape and visual effects are judged to be positive (beneficial) or negative (adverse) in their consequences for landscape or for views and visual amenity*", but does not provide an indication as to how that may be established in practice. The nature of effect is therefore one that requires interpretation and reasoned professional opinion.

1.8.2 In relation to many forms of development, the ES will identify positive and negative effects under the term 'nature of effect'. The landscape and visual effects of wind farms are difficult to categorise as either positive or negative as, unlike other disciplines, there are no definitive criteria by which these effects can be measured as being categorically positive or negative. For example, in disciplines such as noise or ecology it is possible to identify the nature of the effect of a wind farm by objectively quantifying its effect and assessing the nature of that effect in prescriptive terms. However, this is not the case with landscape and visual effects, where the approach combines quantitative and qualitative assessment.

1.8.3 In this assessment, positive, neutral and negative effects are defined as follows:

- Positive effects contribute to the landscape and visual resource through the enhancement of desirable characteristics or the introduction of new, beneficial attributes. The removal of undesirable existing elements or characteristics can also be beneficial, as can their replacement with more appropriate components;
- Neutral effects occur where the proposed development neither contributes to nor detracts from the landscape and visual resource and is accommodated with neither beneficial nor adverse effects, or where the effects are so limited that the change is hardly noticeable. A change to the landscape and visual resource is

not considered to be adverse simply because it constitutes an alteration to the existing situation; and

- Negative effects are those that detract from or weaken the landscape and visual resource through the introduction of elements that contrast, in a detrimental way, with the existing characteristics of the landscape and visual resource, or through the removal of elements that are key in its characterisation.

1.8.4 A precautionary approach has been adopted which assumes that significant landscape and visual effects will be weighed on the negative side of the planning balance, although positive or neutral effects may arise in certain situations. Unless it is stated otherwise, the effects on the landscape and visual amenity of the proposed development are therefore considered to be negative.

1.9 Duration and Reversibility of Effects

1.9.1 The effects of the proposed development are of variable duration, and are assessed as short-term or long-term, and permanent or reversible. It is anticipated that the operational life of the proposed development will be 25 years. The turbines, site access tracks, hardstandings and substation building will be apparent during this time, and these effects are considered to be long-term.

1.9.2 Other infrastructure and operations such as the construction processes and plant, and construction and storage compounds will be apparent only during the initial construction period of the proposed development and are considered to be short-term effects. Borrow pit excavation will also be short-term as borrow pits will be restored at the end of the construction process, although a permanently altered ground profile may remain evident.

1.9.3 The reversibility of effects is variable. The most apparent effects on the landscape and visual resource, which arise from the presence of the turbines, are reversible as the turbines will be removed on decommissioning. The effects of the tall cranes and heavy machinery used during the construction and decommissioning periods are also reversible.

1.9.4 It is anticipated that access tracks will remain at decommissioning. Turbine foundations and underground cabling will be left in-situ below ground with no residual landscape and visual effects.

# Appendix 4.1

Operational noise assessment methodology

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## Introduction

This appendix to chapter 4 sets out the methodology used for the operational noise assessment.

## Legislation & Policy Context

The relevant set of reference documentation is set out below.

### *Planning Advice Note PAN1/2011, Planning and Noise*

PAN1/2011 identifies two sources of noise from wind turbines; mechanical noise and aerodynamic noise. It states that "*good acoustical design and siting of turbines is essential to minimise the potential to generate noise*". It refers to the 'web based planning advice' on renewables technologies for onshore wind turbines.

### *Scottish Government 2014, Web Based Planning Advice, Onshore Wind Turbines*

The web based planning advice on onshore wind turbines states that the sources of noise are "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" and that "there has been significant reduction in the mechanical noise generated by wind turbines through improved turbine design". It states that "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". It notes that "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". The document goes on to reference the GPG document discussed below in terms of assessing noise associated with wind turbine developments.

### *ETSU-R-97, The Assessment and Rating of Noise from Wind Farms*

ETSU-R-97, *The Assessment and Rating of Noise from Wind Farms*, presents the recommendations of the Working Group on Noise from Wind Turbines, set up in 1993 by the Department of Trade and Industry (DTI) as a result of difficulties experienced in applying the noise guidelines existing at the time to wind farm noise assessments. The group comprised independent experts on wind turbine noise, wind farm developers, DTI personnel and local authority Environmental Health Officers. In September 1996 the

Working Group published its findings by way of report ETSU-R-97. This document describes a framework for the measurement of wind farm noise and contains suggested noise limits, which were derived with reference to existing standards and guidance relating to noise emission from various sources.

ETSU-R-97 recommends that, although noise limits should be set relative to existing background and should reflect the variation of both turbine and background noise with wind speed, this can imply very low noise limits in particularly quiet areas, in which case '*it is not necessary to use a margin above background in such low-noise environments. This would be unduly restrictive on developments which are recognised as having wider global benefits. Such low limits are, in any event, not necessary in order to offer a reasonable degree of protection to the wind farm neighbour.*'

For day-time periods, the noise limit is between 35-40 dB $L_{A90}$ or 5 dB(A) above the 'quiet daytime hours' prevailing background noise, whichever is the greater. The actual value within the 35-40 dB $L_{A90}$ range depends on the number of dwellings in the vicinity; the effect of the limit on the number of kWh generated; and the duration of the level of exposure.

For night-time periods the noise limit is 43 dB $L_{A90}$ or 5 dB(A) above the prevailing night-time hours background noise, whichever is the greater. The 43 dB(A) lower limit is based on a sleep disturbance criteria of 35 dB(A) with an allowance of 10 dB(A) for attenuation through an open window and 2 dB(A) subtracted to account for the use of $L_{A90}$ rather the $L_{Aeq}$ (see Paragraph 10.13).

Where the occupier of a property has some financial involvement with the proposal, the day and night-time lower noise limits are increased to 45 dB $L_{A90}$ and consideration can be given to increasing the permissible margin above background. These limits are applicable up to a wind speed of 12 m/s measured at 10 m height on the site.

Quiet day-time periods are defined as evenings from 18:00-23:00 plus Saturday afternoons from 13:00-18:00 and Sundays from 0700-1800. Night-time is defined as 23:00-07:00. The prevailing background noise level is set by calculation of a best fit curve through values of background noise plotted against wind speed as measured during the appropriate time period with background noise measured in terms of $L_{A90,t}$. The $L_{A90,t}$ is the noise level which is exceeded for 90% of the measurement period 't'. It is recommended that at least 1 weeks' worth of measurements is required.

Where predicted noise levels are low at the nearest residential properties a simplified noise limit can be applied, such that noise is restricted to the minimum ETSU-R-97 level of 35 dB $L_{A90}$ for wind speeds up to 10 m/s at 10 m height. This removes the need for extensive background noise measurements for smaller or more remote schemes.

It is stated that the $L_{A90,10min}$ noise descriptor should be adopted for both background and wind farm noise levels and that, for the wind farm noise, this is likely to be between 1.5 and 2.5 dB less than the $L_{Aeq}$ measured over the same period. The $L_{Aeq,t}$ is the equivalent continuous 'A' weighted sound pressure level occurring over the measurement period t. It is often used as a description of the average noise level. Use of the $L_{A90}$ descriptor for

wind farm noise allows reliable measurements to be made without corruption from relatively loud, transitory noise events from other sources.

ETSU-R-97 also specifies that a penalty should be added to the predicted noise levels, where any tonal component is present. The level of this penalty is described and is related to the level by which any tonal components exceed audibility.

With regard to multiple wind farms in a given area, ETSU-R-97 specifies that the absolute noise limits and margins above background should relate to the cumulative effect of all wind turbines in the area contributing to the noise received at the properties in question. Existing wind farms should therefore be included in cumulative predictions of noise level for proposed wind turbines and not considered as part of the prevailing background noise.

## *Institute of Acoustics, A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise*

In May 2013, the Institute of Acoustics (IoA) published A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise. This was subsequently endorsed by the Secretary of State for Energy and Climate Change and by the Scottish Ministers. The publication of the Good Practice Guide (GPG) followed a review of current practice carried out for the Department of Energy and Climate Change (DECC) and an IoA discussion document which preceded the GPG.

The GPG includes sections on Context; Background Data Collection; Data Analysis and Noise Limit Derivation; Noise Predictions; Cumulative Issues; Reporting; and Other Matters including Planning Conditions; Amplitude Modulation; Post Completion Measurements; and Supplementary Guidance Notes. The Context section states that the guide '*presents current good practice in the application of the ETSU-R-97 assessment methodology for all wind turbine development above 50 kW, reflecting the original principles within ETSU-R-97, and the results of research carried out and experience gained since ETSU-R-97 was published*'. It adds that '*the noise limits in ETSU-R-97 have not been examined as these are a matter for Government*'.

As well as expanding on and, in some areas, clarifying issues which are already referred to in ETSU-R-97, additional guidance is provided on noise prediction and a preferred methodology for dealing with wind shear. These are referred to in the relevant sections below.

### *Blade Swish (Amplitude Modulation of Aerodynamic Noise)*

The variation in noise level associated with turbine operation, at the rate at which turbine blades pass any fixed point of their rotation (the blade passing frequency), is often referred to as blade swish and amplitude or aerodynamic modulation (AM) and is an inherent feature of wind turbine noise. This affect is identified within ETSU-R-97, where it is envisaged that '*... modulation of blade noise may result in variation of the overall A-Weighted noise level by as much as 3 dB(A) (peak to trough) when measured close to a wind turbine...* ' and that at distances further from the turbine where there are '*... more*

*than two hard, reflective surfaces, then the increase in modulation depth may be as much as 6 dB(A) (peak to trough)'*.

It has been noted that complaints about wind farm noise have, in many cases, been specifically concerned with amplitude modulation. This is also apparent from ETSU-R-97, where it is noted that *'it is the regular variation of the noise with time that, in some circumstances, enables the listener to distinguish the noise of the turbines from the surrounding noise'*. The modulation of noise may affect perceived annoyance for sounds with the same overall sound pressure level.

RenewableUK (RUK), the main renewable energy trade association in the UK, completed research into the causes and subjective effects of AM following various reports of increased levels of AM being experienced at dwellings neighbouring some wind turbine sites. This has concluded that the predominant cause is likely to be from individual blades going in and out of stall as they pass through regions of higher wind speed at the top of their rotation under high wind shear conditions. Subjective tests carried out by Salford University, using loudness matching techniques, have demonstrated the extent to which higher levels of modulation depth result in increased perceived loudness.

This resulted in the inclusion of a mechanism to assess and regulate AM effects in the standard form of a condition, frequently applied to wind farm developments as included in the IoA GPG. The IoA reviewed this mechanism and released a discussion document which reviews several different methods for rating amplitude modulation in wind turbine noise and subsequently released a recommended method by which to characterise the peak to trough level in any given 10 minute period.

Although this document provides a definitive approach for the quantification of amplitude modulation, it does not provide any comment on what could be defined as an unacceptable level of AM nor any kind of penalty scheme, such as for tonal content, by which the overall turbine noise level should be corrected to account for its presence. This has subsequently been covered by a DECC-commissioned project looking at human response to the amplitude modulated component of wind turbine noise; results were presented, prior to the publication of the final report, at the IoA Acoustics 2016 conference.

The combination of these two documents provides both a method of quantification of the level of amplitude modulation over a given 10 minute period and the appropriate penalty to apply where necessary. It should be noted that this is in addition to any penalty for tonal noise.

However, there are no standard or agreed methods by which to predict, with any certainty, the likelihood of amplitude modulation occurring at a level requiring a penalty at a particular development, only some indicators such as relatively high wind shear conditions under certain circumstances or particular turbine designs and/or dimensions for example.

*Wind Shear*

Wind shear, or more specifically vertical wind shear, is the rate at which wind speed increases with height above ground level. This has particular significance to wind turbine noise assessment where background noise measurements are referenced to measurements of wind speed at 10 metres height, which is suggested as appropriate by ETSU-R-97, but which is not representative of wind at hub-height, which is what affects the noise generated by the turbines.

The preferred method of accounting for wind shear in noise assessments is by referencing background noise measurements to hub height wind speed. Hub height wind speed may be determined directly by using a tall mast or remote sensing technology (eg. LiDAR or SoDAR) or indirectly from measurements at a number of heights below hub height in order to calculate the hub height wind speed during the background noise survey period, as described in the GPG. The hub height wind speeds are then converted to 'standardised 10 m wind speeds', assuming standardised conditions as used by turbine manufacturers when specifying turbine sound power levels.

*Tonal Noise*

ETSU-R-97 notes that, at the time the report was written, where complaints had been made over noise from existing wind farms, the tonal character of the noise from machinery in the nacelle had been the feature that had caused greatest annoyance. The recommendation was, therefore, that any assessment carried out should include a correction to the predicted noise levels according to the level of any tonal components in the noise. A specific tonal assessment methodology is described in the report which is based on the well-established Joint Nordic Method for the Evaluation of Tones in Broadband Noise which has now been superseded by a revised version although this revision makes no substantive difference to the ETSU-R-97 methodology. A scale of corrections for tonal noise is included where the penalty is increased as the tone level increases above audibility to a maximum of 5 dB. The necessity of minimising tonal components in the noise output from the turbines is well understood by the turbine manufacturers and a guarantee should always be sought that any tonal noise will be below that requiring a penalty under the ETSU-R-97 scheme.

*Infra-sound*

Infra-sound is noise occurring at frequencies below that at which sound is normally audible, i.e. at less than about 20 Hz, due to the significantly reduced sensitivity of the ear at such frequencies. In this frequency range, infra-sound has to be very high in amplitude for sound to be perceptible and it is generally considered that when such sounds are perceptible then they can cause considerable annoyance.

Wind turbines have been cited by some as producers of infra-sound. This has, however, been due to the high levels of such noise, as well as audible low frequency thumping noise, occurring on older 'downwind' turbines of which many were installed in the USA prior to the large scale take up of wind power production in the UK. Downwind turbines are configured with the blades downwind of the tower such that the blades pass through the wake left in the wind stream by the tower resulting in a regular audible thump, with

infra-sonic components, each time a blade passes the tower. Virtually all modern larger turbines are of the upwind design; that is with the blades upwind of the tower, such that this effect is eliminated.

A study into low frequency noise from wind farms concluded that 'infrasound noise emissions from wind turbines are significantly below the recognised threshold of perception for acoustic energy within this frequency range. Even assuming that the most sensitive members of the population have a hearing threshold which is 12 dB lower than the median hearing threshold, measured infrasound levels are well below this criterion'. It goes on to state that, based on information from the World Health Organisation, 'there is no reliable evidence that infrasound below the hearing threshold produce physiological or psychological effects' and that 'it may therefore be concluded that infrasound associated with modern wind turbines is not a source which may be injurious to the health of a wind farm neighbour'.

A considerable amount of research has been conducted in regards to the levels of infrasound that wind turbines emit. All reliable evidence suggests that at typical residential distances (e.g. at 500 m or more), the levels of infrasound from a wind farm are well below accepted thresholds of perception. Even when measured in close proximity to a wind turbine, the measured levels of infrasound are below accepted thresholds of perception. This suggests that infrasound is not an issue for neighbours in the vicinity of wind turbines.

*Low Frequency Noise*

Noise from modern wind turbines is essentially broad band in nature in that it contains similar amounts of noise energy in all frequency bands from low to high frequency. As the distance from a wind farm site increases, the noise level decreases as a result of the spreading out of the sound energy and also due to air absorption which increases with increasing sound frequency. This means that, although the energy across the whole frequency range is reduced, higher frequencies are reduced more than lower frequencies with the effect that as distance from the site increases the ratio of low to high frequencies also increases. This effect is not specific to wind turbines and may be observed with road traffic noise or natural sources, such as the sea, where higher frequency components are diminished relative to lower frequency components at long distances. At such distances, where residential properties are typically located in relation to wind farm developments, the overall noise level is so low, such that any bias in the frequency spectrum is insignificant.

*Vibration*

An ETSU study found that vibration from wind turbines, as measured at 100 m from the nearest machine, was well below the BS6472-1:2008 criteria recommended for human exposure in critical working areas such as precision laboratories. At greater distances from turbines vibration levels are even lower. This has been confirmed through a study by Keele University study, which showed vibration levels of around $10^{-8}$ $m.s^{-2}$ at a distance of 2.4 km from the Dun Law Wind Farm site under high wind conditions, orders of magnitude lower than the criteria referred to above which specify levels in the region of 0.005 $m.s^{-2}$.

*Audibility*

The potential audibility of noise from the proposed wind turbines depends to a large extent on the amount by which the predicted turbine noise level exceeds the noise from other sources (the baseline or background noise level) and the presence of any acoustical 'features' which distinguish it. Such other noise may be steady and unchanging, but is more likely to be continuously variable depending on time of day and other factors including, particularly in rural areas, wind speed. The potential audibility of wind turbine noise, for the quiet day-time and night-time hours and for worst case downwind propagation towards the various measurement locations, can be determined by comparing the predicted turbine noise with the measured background noise level for each 10 minute measurement period. Where predicted noise levels are around the same level as the background noise this suggests that the noise source may be just audible, with perceived audibility increasing with margin above background and also when taking into account any significant acoustic features such as tonality or amplitude modulation. Similarly, where predicted noise levels are lower than the existing background noise levels, audibility decreases with margin below other background noise. Background monitoring has been undertaken at many of the NSRs under assessement for the Proposed Development, although no monitoring has been undertaken by the Applicant.

*Sleep Disturbance*

The potential for sleep disturbance depends on the average and maximum levels of noise in sleeping areas during the night time period. The night-time noise limits in ETSU-R-97 aim to protect against sleep disturbance by limiting the amount of turbine noise external to dwellings assuming a worst case of inhabitants sleeping with the windows open for ventilation. The internal noise levels in such circumstances can be calculated by assuming a 10 - 15 dB reduction in noise from outside to inside. The World Health Organisation (WHO) published recommendations in 1999 to the effect that average night-time noise levels in sleeping areas should not exceed 30 dB $L_{Aeq}$. Although this figure relates to overall noise level in sleeping areas, the potential for sleep disturbance specifically from turbine noise, for worst case downwind propagation with windows open, can be evaluated for each dwelling by subtracting 10-15 dB from the predicted turbine noise level and comparing with this criterion, after also adding 2 dB to convert the predicted turbine noise level to an $L_{Aeq}$ value.

It should be noted that the latest guidance from the WHO on night noise levels is in the form of the Night Noise Guidelines for Europe, published in 2009, which recommends that the population is not exposed to average external night-time noise levels, over a whole year, of more than 40 dB $L_{Aeq}$. This average yearly noise level will depend on the variation in wind speed, wind direction and noise from other sources over each year period.

It should also be noted that potential difficulty in getting to sleep, either at the start of the night or once awoken by other sources, may be more related to audibility indoors under specific circumstances (see above) than by average noise level.

### *BS 5228: 2009 Code of Practice for Noise and Vibration Control on Construction and Open Sites*

This document provides example criteria for the assessment of the significance of construction noise effects and a method for the prediction of noise levels from construction activities. Two example methods are provided for assessing significance.

The first is based on the use of criteria defined in Department of the Environment Advisory Leaflet (AL) 72, Noise Control On Building Sites which sets a fixed limit of 70 dB(A) in rural suburban and urban areas away from main roads and traffic. Noise levels are generally taken as façade $L_{Aeq}$ values with free-field levels taken to be 3 dB lower giving an equivalent noise criterion of 67 dB $L_{Aeq}$.

The second is based on noise change but applies minimum criteria of 45, 55 and 65 dB $L_{Aeq}$ for night-time (23:00-07:00), evening and weekends (19:00-23:00 weekdays, 13:00-23:00 Saturdays and 07:00-23:00 Sundays), and daytime (07:00-19:00) including Saturdays (07:00-13:00) respectively, applicable when existing noise levels are low, which they would be at this location, and subject to a duration of one month or more. It should be noted that the time period to which each limit applies also defines the time averaging period for the calculated $L_{Aeq}$.

## Operational Noise Assessment Methodology

Noise predictions have been carried out using International Standard ISO 9613, Acoustics - Attenuation of Sound During Propagation Outdoors, as referred to within the GPG. The propagation model described in Part 2 of this standard provides for the prediction of sound pressure levels based on either short-term downwind (i.e. worst case) conditions or long term overall averages.

The ISO propagation model calculates the predicted sound pressure level by taking the source sound power level for each turbine in separate octave bands and subtracting a number of attenuation factors according to the following:

$$\text{Predicted Octave Band Noise Level} = L_W + D - A_{geo} - A_{atm} - A_{gr} - A_{bar} - A_{misc}$$

These factors are discussed in detail below. The predicted octave band levels from the turbine are summed together to give the overall 'A' weighted predicted sound level.

### *$L_W$ - Source Sound Power Level*

The sound power level of a noise source is normally expressed in dB re:1pW. Noise predictions for the Proposed Development are based on the stated apparent sound power levels for Nordex turbines of varying dimensions and capacity. The turbine locations and candidate turbine models for installation are shown at Table 1.

Table 1: Turbine Locations & Details

| Turbine | Easting | Northing | Hub-Height (m) | Model | Capacity (MW) |
|---|---|---|---|---|---|
| T1 | 224654 | 645574 | 67.5 | E115 | 4.0 |

| Turbine | Easting | Northing | Hub-Height (m) | Model | Capacity (MW) |
|---|---|---|---|---|---|
| T2 | 224406 | 645286 | 67.5 | E115 | 4.0 |
| T3 | 224770 | 645236 | 67.5 | E115 | 4.0 |

Table 1 above shows that the candidate turbine for the purposes of this assessment is the Enercon E115 4.0 MW model with serrated blade technology. The stated apparent source noise levels have been taken from specification documents provided by Enercon, with 2 dB added to the levels in order to account for uncertainty. This approach follows the guidance within with the GPG.

Where source noise levels are not available for the specific hub-height of turbine stated above, data associated with a taller hub height has been assumed. This provides a marginally more conservative basis for the assessment.

Tables 2-7 below provide the source noise levels to which a 2 dB uncertainty has been added.

The octave band noise spectrum used for the noise predictions are provided at Tables 3, 5 and 7. These data are taken from available specification data for the turbine models considered here, and shown normalised to the sound power level for a standardised 10 m height wind speed of 10 m/s. Windpro noise modelling software is used for inter/extrapolation across the range of wind speeds assessed.

Table 2: Enercon E115 4.0 MW Turbine Source Sound Power Levels, dB $L_{WA}$

| Standardised 10 m Height Wind Speed (m/s) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 87.6 | 92.8 | 97.6 | 101.7 | 104.4 | 105.1 | 105.7 | 106 | 106 | 106 |

Table 3: Enercon E115 4.0MW Octave Band Noise Spectra - Standardised 10 m Height Wind Speed

| 10m height wind speed (m/s) | Overall, dB $L_{WA}$ | Octave Band Centre Frequency (Hz) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 31.5 | 63 | 125 | 250 | 500 | 1k | 2k | 4k | 8k |
| 9.5 | 97.8 | 77.7 | 89.2 | 95.0 | 98.0 | 100.3 | 100.2 | 98.3 | 91.7 | 76.8 |

T1 is proposed to operate in noise reduced mode de-rated to 500 KW at 6 m/s. The source noise levels and octave band noise spectrum data for this noise reduced mode are provided below:

Table 4: Enercon E115 500 KW Noise Reduction Mode Turbine Source Sound Power Levels, dB $L_{WA}$

| Standardised 10 m Height Wind Speed (m/s) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 85.3 | 92.8 | 94.8 | 94.8 | 94.8 | 94.8 | 94.8 | 94.8 | 94.8 | 94.8 |

Table 5: Enercon E115 500 KW Noise Reduction Mode Octave Band Noise Spectra - Standardised 10 m Height Wind Speed

| 10m height wind speed (m/s) | Overall, dB $L_{WA}$ | Octave Band Centre Frequency (Hz) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 31.5 | 63 | 125 | 250 | 500 | 1k | 2k | 4k | 8k |
| 4.5 | 94.8 | 68.1 | 78.7 | 84.4 | 87.5 | 89.3 | 88.6 | 86.4 | 79.4 | 63.7 |

T3 is proposed to operate in noise reduced mode de-rated to 1 MW at 6 m/s. The source noise levels and octave band noise spectrum data for this noise reduced mode are provided below:

Table 6: Enercon E115 1 MW Noise Reduction Mode Turbine Source Sound Power Levels, dB $L_{WA}$

| Standardised 10 m Height Wind Speed (m/s) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 85.3 | 92.8 | 97.6 | 99.2 | 99.2 | 99.2 | 99.2 | 99.2 | 99.2 | 99.2 |

Table 7: Enercon E115 1 MW Noise Reduction Mode Octave Band Noise Spectra - Standardised 10 m Height Wind Speed

| 10m height wind speed (m/s) | Overall, dB $L_{WA}$ | Octave Band Centre Frequency (Hz) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 31.5 | 63 | 125 | 250 | 500 | 1k | 2k | 4k | 8k |
| 5.5 | 99.2 | 71.7 | 82.6 | 88.5 | 91.7 | 93.7 | 93.2 | 90.9 | 84.1 | 68.6 |

Table 8: Sorbie wind farm operational modes used for noise assessment

| Turbine number | Wind speed (m/s) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 1 | 4 MW | 4 MW | 500 KW | 4 MW | 4 MW | 4 MW | 4 MW | 4 MW | 4 MW |
| 2 | 4 MW | 4 MW | 4 MW | 4 MW | 4 MW | 4 MW | 4 MW | 4 MW | 4 MW |
| 3 | 4 MW | 4 MW | 1000 KW | 4 MW | 4 MW | 4 MW | 4 MW | 4 MW | 4 MW |

The ETSU-R-97 noise limits assume that the wind turbine noise contains no audible tones. Where tones are present, a correction should be added to the measured or predicted noise level before comparison with the recommended limits. The audibility of any tones can be assessed by comparing the narrow band level of such tones with the masking level contained in a band of frequencies around the tone called the critical band. The ETSU-R-97 recommendations suggest a tone correction, which depends on the amount by which the tone exceeds the audibility threshold. A warranty should be sought from the supplier of turbines for the Proposed Development to ensure that no tonal penalty site would be required in practice.

*D - Directivity Factor*

The directivity factor allows for an adjustment to be made where the sound radiated in the direction of interest is higher than that for which the sound power level is specified. In this case the sound power level is measured in a downwind direction, corresponding to the worst case propagation conditions considered here and needs no further adjustment.

*$A_{geo}$ - Geometrical Divergence*

The geometrical divergence accounts for spherical spreading in the free-field from a point sound source resulting in an attenuation which depends on distance, according to:

$$A_{geo} = 20 \times \log(d) + 11$$

where, d = distance from the turbine

The wind turbine may be considered as a point source beyond distances corresponding to one rotor diameter.

*$A_{atm}$ - Atmospheric Absorption*

The atmospheric absorption accounts for the frequency dependant linear attenuation with distance over the frequency spectrum according to:

$$A_{atm} = d \times a$$

where, a = the atmospheric absorption coefficient for the relevant frequency band

Published values of 'a' from ISO9613 Part 1 have been used, corresponding to a temperature of 10°C and a relative humidity of 70%, which give relatively low levels of atmospheric attenuation, as given at Table 6 and according to the requirements of the GPG.

Table 6: Atmospheric Absorption Coefficients

| Octave Band Centre Frequency (Hz) | 63 | 125 | 250 | 500 | 1k | 2k | 4k | 8k |
|---|---|---|---|---|---|---|---|---|
| Atmospheric Absorption Coefficient (dB/m) | 0.0001 | 0.0004 | 0.0010 | 0.0019 | 0.0037 | 0.0097 | 0.0328 | 0.1170 |

*$A_{gr}$ - Ground Effect*

Ground effect is the interference of sound reflected by the ground interfering with the sound propagating directly from source to receiver. The prediction of ground effects are inherently complex and depend on the source height, receiver height, propagation height between the source and receiver and the ground conditions. The ground conditions are described according to a variable G which varies between 0 for 'hard' ground (includes paving, water, ice, concrete and any sites with low porosity) and 1 for 'soft' ground (includes ground covered by grass, trees or other vegetation). The GPG recommends that the use of G = 0.5 and a receptor height of 4 m in rural areas are

appropriate assumptions for the determination of noise emission levels at receptor locations downwind of wind turbines, provided that an appropriate margin for uncertainty has been included within the source levels for the proposed turbine. Accordingly, predictions in this report are based on G = 0.5 with a receptor height of 4 m due to the apparent conservatism in the sound power levels assumed here.

### $A_{bar}$ - Barrier Attenuation

The effect of any barrier between the noise source and the receiver position is that noise will be reduced according to the relative heights of the source, receiver and barrier and the frequency spectrum of the noise. The barrier attenuations predicted by the ISO 9613 model have, however, been shown to be significantly greater than that measured in practice under downwind conditions. The results of a study of propagation of noise from wind farm sites carried out for ETSU concludes that an attenuation of just 2 dB(A) should be allowed where the direct line of site between the source and receiver is just interrupted and that 10 dB(A) should be allowed where a barrier lies within 5 m of a receiver and provides a significant interruption to the line of site. The effect of barrier attenuation, including the for effects of increased distance from the turbine to surrounding dwellings as a result of the surrounding topography as compared with a 'flat-earth' model, has been included within the prediction model.

The potential attenuation of noise due to the topography of the site has been determined through the inclusion of a terrain map within the prediction model. The resultant attenuation due to the topographical barriers has been calculated using VDI 2720 Noise Control by Barriers Outdoors. The relevant inputs, C1, C2 and C3, account for the proportional attenuation effects associated with line of sight between the source and receiver, the relative path difference and the presence of any localised reflections near the barrier respectively. These factors have been calibrated, minimising the overall effect of each such that the resultant attenuation due to topography at neighbouring residences is limited to approximately 2 dB where there is clearly no line of site between a turbine and the receptor, 5 dB in situations where there is a significant topographical barrier between a particular turbine and a receptor and 10 dB in exceptional situations where receptors are located relatively close to particularly large barriers such as tall cliff faces that obstruct any view from the wind farm site.

An assessment of topography between the Proposed Development and each NSR confirms there will be no barrier attenuation.

### $A_{misc}$ - Miscellaneous Other Effects

ISO 9613 includes effects of propagation through foliage and industrial plants as additional attenuation effects. The attenuation due to foliage has not been included here and any such effects are unlikely to significantly reduce noise levels below those predicted.

### Concave Ground Profile

Studies have shown that sound propagation across a valley or 'concave ground profile' can result in noise levels which are higher than predicted due to a reduced ground

effect and/or the focussing effect of the ground shape. Calculating the precise effect of this phenomenon is particularly difficult. However, a simplified approach to allow for it has been suggested in the GPG. Paragraph 4.3.9 in the GPG states that 'A further correction of +3 dB (or +1.5 dB if using G=0.0) should be added to the calculated overall A-weighted noise level for propagation "across a valley", i.e. a concave ground profile, or where the ground falls away significantly, between the turbine and the receiver location. The following criterion of application is recommended:

$$h_m \geq 1.5.(\text{abs}\ (h_s - h_r)/2)$$

where, $h_m$ is the mean height above the ground of the direct line of sight from the receiver to the source (as defined in ISO 9613-2, Figure 3), and $h_s$ and $h_r$ are the heights above local ground level of the source and receiver respectively.'

It should be noted that 'Care needs to be exercised when evaluating this condition, as small changes in distances and height may trigger (or not) the criterion when the actual situation has not changed significantly'. It is also evident that the criterion may also be triggered in situations where there is more than one valley between a particular source and receiver, where, in reality, the stated causes of the 'concave ground profile' effect could not occur.

An analysis of the ground profile between each NSR and the proposed turbines indicates that the above criteria would not be triggered.

# SORBIE WIND FARM TIP HEIGHT EXTENSION
## Comparative Environmental Appraisal: LVIA Annexes

**Energiekontor UK Ltd**
April 2019

April 2019

Sorbie Repowering Wind Farm

# ANNEX 1: Updated Landscape & Visual Impact Assessment Tables

**Sorbie Repowering Wind Farm**

**Landscape and Visual Impact Assessment Table**

| Category of Effect | Receptor Type | Receptor Name | 2013 LVIA Findings for Consented Project | | | 2019 Re-assessment Findings | |
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| | | | **Sensitivity** | **Magnitude** | **Significance** | **Magnitude** | **Significance** |
| Physical effects | Residual Landscape Effects | Arable and Semi-improved grassland | **Low**<br>The most important consideration that reduces the sensitivity is the fact that the **arable and semi-improved grassland are grown as a commercial crop**, with the intention that it would be cropped at an appropriate time. It is **not indigenous or naturalised and does not contribute to the integrity of the landscape or typify its inherent character.**<br><br>It does, however, have some value as it has become a **notable characteristic of the area.** | **Low**<br>The **area of arable and semi-improved grassland to be removed in the course of the Development is very limited in relation to the total area of this landscape element within the Development site boundary** and elsewhere within the Rugged Moorland: Haupland Moor LCA. | **Construction**<br>**Not Significant**<br>The landscape element has **a low sensitivity to change and the extent of removal will not constitute a redefinition of the arable and semi-improved grassland** ground cover within the Development site boundary.<br><br>**Development**<br>**Not Significant**<br>Temporary, but long term effect, as the **arable and semi-improved grassland will be either fully or partially reinstated following the operational phase (25 years) of the Development**. | No material increase in the magnitude of effect. | Construction:<br>**Not Significant**<br><br>Development:<br>**Not Significant** |
| Landscape effects | Landscape Character Areas | Rugged Moorland: Haupland Muir | **Medium**<br>Ardrossan Windfarm forms a single windfarm feature and a characteristic element of this LCT. **The Development will increase the influence of the wind farm element of the existing landscape character**, such that windfarms appear as repeating components. | **Operation**<br>**Medium-High**<br>Localised area of Rugged Moorland: Haupland Muir LCA within –1.5 km of the Development in the area to the east of the B780<br><br>**Low to negligible**<br>Wider Rugged Moorland: Haupland Muir LCA<br><br>The Development contributes to increase **the influence of wind turbines in a limited area of the southern part of this LCT, where it is visible, with much of the LCT to the north of Ardossan Windfarm having no visibility of the Development.**<br><br>Ardrossan Windfarm forms a single windfarm feature and a characteristic element of this LCT. **The Development will increase the influence of the wind farm element of the existing landscape character, such that windfarms appear as repeating components.**<br><br>**Construction and decommissioning:**<br>**Medium-High** | **Operation**<br>**Significant**<br>Localised area of LCA within 1.5 km:<br><br>**Not Significant**<br>Wider LCA<br><br>**Construction and decommissioning:**<br>**Significant**<br>Localised area of LCA within 1.5 km of the Development<br><br>**Not Significant**<br>Wider LCA | No material increase in the magnitude of effect. | **Operation:**<br>**Significant**<br>Localised area of LCA within 1.5 km:<br><br>**Not Significant**<br>Wider LCA<br><br>**Construction and decommissioning**:<br>**Significant**<br>Localised area of LCA within 1.5 km of the Development<br><br>**Not Significant**<br>Wider LCA |

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| | | | | Localised area of LCA within 1.5 km of the Development in the area to the east of the B780:<br><br>**Low to negligible**<br>Wider LCA | | | |
| Landscape effects | Landscape Character Areas | Ayrshire Lowlands | **Medium** | **<u>Operation</u>**<br>**Medium-high**<br>Localised area of LCA within 3 km<br><br>**Influence of the Development on the landscape character of the Ayrshire Lowlands will be greatest on this localised western part of the LCA, where the Ayrshire lowlands rise to meet the Rugged Moorlands, and there is visibility of the proposed Development at distances within 4 km**.<br><br>**The Development will increase the cumulative influence of windfarms on this localised part of the Ayrshire Lowlands LCA**, in addition to existing windfarm groups at Ardrossan and Dalry/Kelburn/Millour Hill in the adjacent Rugged Moorlands that provide part of the landscape context of this transitional LCT.<br><br>**Low**<br>Wider Ayrshire Lowlands LCT<br><br>Wider areas of the Ayrshire Lowlands are located over 5 km to the east, extending to the outer edges of the study area and have intermittent, more distant visibility of the Development.<br><br>**<u>Construction and Decommissioning</u>**<br><br>**Medium-High**<br>Localised area of LCA within 3 km<br><br>**Low**<br>Wider LCT | **<u>Operation</u>**<br>**Significant**<br>Localised area of Ayrshire Lowlands LCA within 3 km.<br><br>**Low**<br>Wider Ayrshire Lowlands LCT<br><br>**<u>Construction and decommissioning:</u>**<br><br>**Not Significant**<br>Localised area of Ayrshire Lowlands LCA within 3 km.<br><br>**Not Significant**<br>Wider Ayrshire Lowlands LCT. | No material increase in the magnitude of effect. | **<u>Operation:</u>**<br>**Significant**<br>Localised area of Ayrshire Lowlands LCA within 3 km.<br><br>**Low**<br>Wider Ayrshire Lowlands LCT<br><br>**<u>Construction and decommissioning:</u>**<br><br>**Not Significant**<br>Localised area of Ayrshire Lowlands LCA within 3 km.<br><br>**Not Significant**<br>Wider Ayrshire Lowlands LCT. |
| Landscape effects | Landscape Character Areas | Raised Beach Coast | **Medium** | **<u>Operation</u>**<br>**Medium-High**<br>Localised area of Raised Beach Coast LCA within 2 km<br><br>**Low to negligible**<br>Wider LCT<br><br>**<u>Construction and Decommissioning</u>**<br>**Medium-High**<br>Localised area of LCA within 2 km<br><br>**Low to negligible**<br>Wider LCT | **<u>Operation</u>**<br>**Significant**<br>Localised area of Raised Beach Coast LCA within 2 km<br><br>**Low to negligible**<br>Wider Raised Beach Coast LCT<br><br>**<u>Construction and Decommissioning</u>**<br>**Not Significant**<br>Localised area of Raised Beach Coast LCA within 2 km<br><br>**Not Significant**<br>Wider Raised Beach Coast LCT. | No material increase in the magnitude of effect. | **<u>Operation:</u>**<br>**Significant**<br>Localised area of Raised Beach Coast LCA within 2 km<br><br>**Low to negligible**<br>Wider Raised Beach Coast LCT<br><br>**<u>Construction and Decommissioning:</u>**<br>**Not Significant**<br>Localised area of Raised Beach Coast LCA within 2 km<br><br>**Not Significant**<br>Wider Raised Beach Coast LCT. |

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| Landscape effects | Gardens and Designed Landscape (GDL) | Blair Estate | **High** | **Low**<br><br>Mature woodland around the boundary blocks the majority of views to the landscape beyond, such that **the Development will not be visible from the lower lying areas of the GDL and the main house, only becoming partially visible from the slightly more elevated areas near the eastern boundary of the GDL.** | **<u>Operation</u>**<br>**Not Significant**<br><br>**<u>Construction and Decommissioning</u>**<br>**Not Significant** | No material increase in the magnitude of effect. | **<u>Operation:</u>**<br>**Not Significant**<br><br>**<u>Construction and Decommissioning:</u>**<br>**Not Significant** |
| Landscape effects | Gardens and Designed Landscape (GDL) | Eglington Castle | **High** | **Low**<br>The Country Park occupies a low lying position along the Lugton Water. Although the ZTV indicates theoretical visibility of up to 3 turbines for much of the GDL, **actual views from the Country Park are restricted by both mature woodlands within the GDL and intervening settlement at Kilwinning.**<br><br>Most views towards the Development occur along the northern edge of the GDL and along the B785 – a relatively open area where the distant hills are visible above the surrounding treeline and settlement of Kilwinning. | **<u>Operation</u>**<br>**Not Significant**<br><br>**<u>Construction and Decommissioning</u>**<br>**Not Significant** | No material increase in the magnitude of effect. | **<u>Operation:</u>**<br>**Not Significant**<br><br>**<u>Construction and Decommissioning:</u>**<br>**Not Significant** |
| Landscape effects | Gardens and Designed Landscape (GDL) | Kelburn Castle | **High** | **None**<br>There will be **no visibility of the Development from Kelburn Castle GDL, which is outside the ZTV for the Development** | **<u>Operation</u>**<br>**Not Significant**<br><br>**<u>Construction and Decommissioning</u>**<br>**Not Significant** | No material increase in the magnitude of effect. | **<u>Operation:</u>**<br>**Not Significant**<br><br>**<u>Construction and Decommissioning:</u>**<br>**Not Significant** |
| Landscape effects | Gardens and Designed Landscape (GDL) | Annick Lodge | **High** | **Low**<br>The ZTV indicates theoretical visibility of up to 3 turbines from the southern edge of the GDL, but **actual views from the GDL are restricted by mature woodlands within the GDL.** | **<u>Operation</u>**<br>**Not Significant**<br><br>**<u>Construction and Decommissioning</u>**<br>**Not Significant** | No material increase in the magnitude of effect. | **<u>Operation:</u>**<br>**Not Significant**<br><br>**<u>Construction and Decommissioning:</u>**<br>**Not Significant** |
| Landscape effects | Sensitive Landscape Area (SLA) | Clyde Muirshiel Regional Park and North Ayrshire | **Medium-Medium-High** | **<u>Operation</u>**<br>**Medium**<br>Localised area of CMRP and SLA within the Haupland Muir LCA<br><br>Overall visibility of the Development from the CMRP and SLA is limited, with **the large majority of the central and northern parts of the CMRP and SLA having no visibility of the Development**<br><br>**Visibility of the Development is limited to the southern and eastern hill slopes of the CMRP and SLA: parts of the Knockewart Hills and Crosbie Hills; the central hills of the CMRP extending from Blaeloch Hill and Kaim Hill to Cock Law and Cockrobin Hill; and the** | **<u>Operation</u>**<br>**Not Significant**<br><br>**<u>Construction and Decommissioning</u>**<br>**Not Significant** | No material increase in the magnitude of effect.<br><br>Marginal increase in theoretical visibility in central areas to the North of Kilbirnie. | **<u>Operation:</u>**<br>**Not Significant**<br><br>**<u>Construction and Decommissioning:</u>**<br>**Not Significant** |

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| | | | | **north eastern hills around Greenside Hill and Ladyland Moor**.<br><br>**Low to negligibl**e<br>Wider CMRP and SLA<br><br>The southern part of the CMRP and SLA are **already very much influenced in character terms by Ardrossan Windfarm and Dalry/Kelburn/Millour Hill Windfarm Group and the resulting change will only be through additional visibility of the Development in a landscape in which windfarms are a characteristic**.<br><br>**<u>Construction and Decommissioning</u>**<br>**Medium**<br>Localised area of CMRP and SLA within the Haupland Muir LCA<br><br>**Low to Negligible**<br>Wider CMRP and SLA | | | |
| **Category of Effect** | **Receptor Type** | **Receptor Name** | **2013 LVIA Findings for Consented Project** | | | **2019 Re-assessment Findings** | |
| | | | **Sensitivity** | **Magnitude** | **Significance** | **Magnitude** | **Significance** |
| Visual effects | Viewpoint 1 | B780 near site | **Medium**<br>Open view over agricultural fields (mixture of arable and improved grassland / grazing).<br><br>Ardrossan Windfarm is visible in the main orientation of the view along the road travelling north.<br><br>Pylons and telegraph poles form vertical elements in the middle ground and on the skyline in the view. | **<u>Operation</u>**<br>**High**<br>Most of the Development will be seen in the view, including 3 turbines to blade tip height, although turbine 1 will be partially screened behind broadleaf woodland.<br><br>The Development will form a separate windfarm feature in the view from Ardrossan Windfarm on the opposite site of the road.<br><br>**The Development will form a smaller three turbine cluster than the larger Ardrossan Windfarm. The turbine heights are of a similar scale, but the Development turbines appear larger in this view due to their closer proximity.**<br><br>**<u>Construction and Decommissioning</u>**<br>**High** | **<u>Operation</u>**<br>**Significant**<br><br>**<u>Construction and Decommissioning</u>**<br>**Significant** | No material increase in the magnitude of effect.<br><br>The increased rotor diameter and blade length is discernible in the comparative wirelines but would not alter the finding of significance. | **<u>Operation:</u>**<br>**Significant**<br><br>**<u>Construction and Decommissioning</u>**<br>**Significant:** |
| Visual effects | Viewpoint 2 | Ardrossan, Chapelhill | **Medium-High**<br>Representative of views obtained by residents on the northern edge of Ardrossan, however such views are less elevated and generally have some degree of foreground screening/filtering of views | **<u>Operation</u>**<br>**High**<br>**The Development will form a separate windfarm feature in the view from Ardrossan and Dalry / Millour Hill Windfarms.**<br><br>The turbine heights are of a similar scale, but the **Development turbines appear** | **<u>Operation</u>**<br>**Significant**<br><br>**<u>Construction and Decommissioning</u>**<br>**Significant** | No material increase in the magnitude of effect. | **<u>Operation:</u>**<br>**Significant**<br><br>**<u>Construction and Decommissioning:</u>**<br>**Significant** |

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| | | | Ardrossan Windfarm is visible on the skyline of the view on the Rowanside Hills to the north.<br><br>Pylons, street lighting and telegraph poles form vertical elements in the view.<br><br>The landscape in the view towards the Development is not designated, but the wider view includes Arran and the Isle of Bute which are designated as NSA/APQ. | **larger in this view due to their closer proximity to the viewpoint / settlement.**<br><br>**<u>Construction and Decommissioning</u>**<br><br>**High** | | | |
| Visual effects | Viewpoint 3 | A78 Layby | **Medium**<br>Ardrossan Windfarm is visible on the skyline of the view on the Rowanside Hills to the north.<br><br>Pylons and telegraph poles form vertical elements in the view. Pylons seen on the skyline to the north west of the view.<br><br>The landscape in the view towards the Development is not designated. | **<u>Operation</u>**<br>**High to medium**<br>The Development will be seen in the context of smaller scale features of large farmstead and broadleaf woodland in the foreground, which form a recognisable scale comparison<br><br>The **Development would be oblique to the principle orientation of the view** (along the line of the road to the west).<br><br>The scale comparison between the Development and Ardrossan Windfarm is very evident; **the turbine heights are of a similar scale, but the Development turbines appear larger in this view due to their closer proximity to the viewpoint.**<br><br>The **angle of view is such that the Development and Ardrossan Windfarm visually relate to each other. The Development draws the extent of turbines across the skyline of the view – the scale difference prevents it being viewed as an extension, although it does occupy a similar part of the views from this location.**<br><br>**<u>Construction and Decommissioning</u>**<br><br>**High to Medium** | **<u>Operation</u>**<br>**Significant**<br><br>**<u>Construction and Decommissioning</u>**<br>**Significant** | **<u>Operation:</u>**<br>**High**<br><br>**<u>Construction and Decommissioning:</u>**<br><br>**High** | **<u>Operation:</u>**<br>**Significant**<br><br>**<u>Construction and Decommissioning:</u>**<br>**Significant** |
| Visual effects | Viewpoint 4 | B780 and B781 Junction | **Medium to High**<br>View shows the transition of the landscape character from the Knockewart Hills in the south west to the gently undulating farmland to the south and south east.<br><br>Landscape features in the immediate landscape include | **<u>Operation</u>**<br><br>**Medium-High**<br>The Development is seen in the context of the lowlands landscape in the view - visually relating to the farmed landscape. This is in contrast to Ardrossan Windfarm which visually relates to the rugged moorland landscape in the view. | **<u>Operation</u>**<br>**Significant**<br><br>**<u>Construction and Decommissioning</u>**<br>**Significant** | No material increase in the magnitude of effect. | **<u>Operation:</u>**<br>**Significant**<br><br>**<u>Construction and Decommissioning:</u>**<br>**Significant** |

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| | | | Munnoch Reservoir with fence and stone wall boundaries.<br><br>Viewpoint situated **near the eastern edge of the Clyde Murshiel Regional Park and the North Ayrshire Sensitive Landscape Area** (seen in views to the west and southwest and not in the direction of the windfarm).<br><br>Ardrossan Windfarm is visible on the skyline of the view beyond the Knockwart Hills and there is built form seen on the lower lying areas in the form of farmsteads and individual properties | The Development is not within the designated 'valued' part of the view which relates more to the rugged moorland landscape.<br><br>**Designated part of the view (the Clyde Muirshiel Regional Park and the North Ayrshire Sensitive Landscape Area) is already influenced by windfarm development.**<br><br>The **position of the Development on the skyline interrupts the transition in the view from a more rugged landscape to the smoother rolling landscape of the Ayrshire lowlands**.<br><br>**The Development will form a separate windfarm feature in the view from Ardrossan Windfarm due to the degree of separation between the two, thus extending the influence of windfarms across a greater field of view.**<br><br>The Development will appear slightly smaller in scale in comparison to Ardrossan Windfarm turbines.<br><br>**<u>Construction and Decommissioning</u>**<br><br>**Medium-High** | | | |
| Visual effects | Viewpoint 5 | B714, Muirslaught Farm | **Medium to Low**<br>Ardrossan Windfarm is visible on the skyline of the view beyond the Knockwart Hills. Dalry/Kelburn/Millour Hill Windfarm Group are visible on the skyline at the Braidland Hills to the north.<br><br>Pylons are features on the skyline and in the landscape to the west and north. Telegraph poles are also features on the skyline looking towards the Development to the southwest.<br>None of the view in the direction of the Development is designated due to landscape value.<br><br>The landscape in the view towards the Development is not designated, but the wider view to the north includes the | **<u>Operation</u>**<br><br>**Medium-High**<br>**The Development will form a separate windfarm feature in the view from Ardrossan Windfarm due to the degree of separation between the two.**<br><br>The **Development will visually draw windfarm development further into the agricultural lowland landscape in the view**, in which Ardrossan Windfarm appears to be partially located in this view.<br><br>**The scale comparison between the Development and Ardrossan Windfarm is very evident; the turbine heights are of a similar scale, but the Development turbines appear larger in this view due to their closer proximity to the viewpoint.**<br><br>**<u>Construction and Decommissioning</u>**<br><br>**Medium-High** | **<u>Operation</u>**<br>**Significant**<br><br>**<u>Construction and Decommissioning</u>**<br>**Significant** | **<u>Operation:</u>**<br>**High**<br><br>**<u>Construction and Decommissioning:</u>**<br><br>**High** | **<u>Operation:</u>**<br>**Significant**<br><br>**<u>Construction and Decommissioning</u>**<br>**Significant:** |

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| | | | southern edges of the CMRP. | | | | |
| Visual effects | Viewpoint 7 | Stevenston, Cambuskeith Road | **Medium-High**<br>View is from the northern edge of the settlement and is **more representative of a localised northern part of the settlement rather than all of it.**<br><br>Properties are orientated with their gable end towards the Development with **no direct view from their principal orientation**.<br><br>Grassland used for grazing in the foreground. Shelterbelt woodland and mature riparian woodland along Stevenson Burn is visible in the mid-ground of the view with the woodland at Knockrivoch and Craigspark visible on the skyline.<br><br>Ardrossan Windfarm turbines are seen on the skyline of the view, visible mainly at hub height.<br><br>Shelterbelt planting to the north blocks theoretical views to the Dalry/Kelburn/Millour Hill Windfarm Group.<br><br>The landscape in the view towards the Development is not designated. | **<u>Operation</u>**<br>**Medium**<br><br>View towards the Development is across grassland, but is broken up by intervening broadleaf woodland blocks. The **development is partially screened by the woodland such that one turbine is only visible as blades and two as upper rotor / blades.**<br><br>The Development turbines in the view are seen in the context of Ardrossan Windfarm but the scale comparison between the two is very evident; the turbine heights are of a similar scale, but the **Development turbines appear approximately twice the size in this view due to their closer proximity to the viewpoint.**<br><br>The angle of view is such that the Development and Ardrossan Windfarm visually relate to each other with the **Development appearing as an extension to Ardrossan Windfarm**. This increases the presence of windfarm development in the settled areas around Stevenston and appears to bring windfarm development closer to Stevenson.<br><br>**<u>Construction and Decommissioning</u>**<br><br>**Low** | **<u>Operation</u>**<br>**Significant**<br><br>**<u>Construction and Decommissioning</u>**<br>**Not Significant** | No material increase in the magnitude of effect. | **<u>Operation:</u>**<br>**Significant**<br><br>**<u>Construction and Decommissioning:</u>**<br>**Not Significant** |
| Visual effects | Viewpoint 18 | Ardrossan Harbour | **Medium-High**<br>View taken from the northern edge of the marina looking across a small harbour area. Situated adjacent to dwellings / apartments and representative of views experienced by residents in this part of Ardrossan.<br><br>The view shows the undulating hill formations to the north and west of the settlement of Ardrossan.<br><br>Hill formations visible include the Rowanside Hills to the north of the view and the | **<u>Operation</u>**<br>**High**<br>**The Development would be an additional influence of windfarm development on the backdrop to the settlement.**<br><br>Turbines appear larger in scale than other existing turbines in the view at Ardrossan Windfarm.<br><br>**The view shows an inconsistency of image between the development spacing and the larger cluster formed by Ardrossan Windfarm combined with Dalry and Millour Hill windfarms.** | **<u>Operation</u>**<br>**Significant**<br><br>**<u>Construction and Decommissioning</u>**<br>**Significant** | No material increase in the magnitude of effect. | **<u>Operation:</u>**<br>**Significant**<br><br>**<u>Construction and Decommissioning:</u>**<br>**Significant** |

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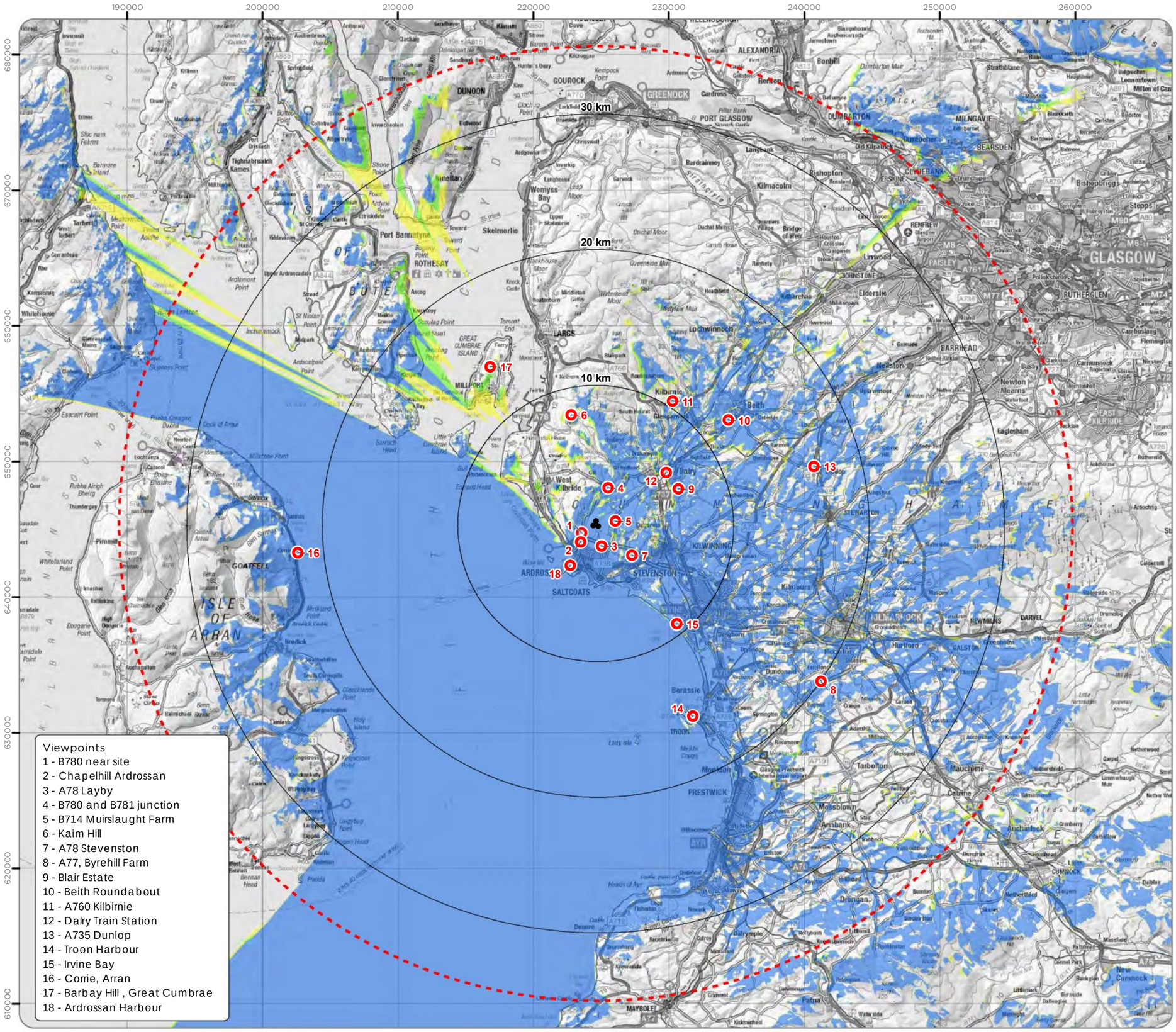
| | | | minor Craigspark Hill to the north east.<br><br>The muted tones of the fields and hills in the background give a contrast to the colourful urban environment. Where the settlement appears to reach to the skyline at the dip between hill formations this draws the eye to this low point<br><br>The landscape in the foreground of the view towards the Development is not designated, but the upland skyline further north is designated within the CMRP and SLA. | **The Development will introduce a new focal point and compete with the broadleaf woodland on the skyline of the hill as the focal point of this part of the view**.<br><br>The eye will continue to be drawn to the colour and variety of urban form in the foreground and the wider view across the harbour to the Firth of Clyde.<br><br>The Development will to some degree, provide some visual balance to Ardrossan Windfarm in the view, with turbines appearing on rising hill formations behind the urban form.<br><br>**<u>Construction and Decommissioning</u>**<br>**High** | | | |
| Visual effects | Road Corridors | A78, Prestwick to Greenock | | **High**<br>Between Stevenston (A738 Junction) and Ardrossan (A738 Junction).<br>**Medium to low**<br>Between Prestwick and Stevenston (A738 Junction).<br>**None**<br>Between Ardrossan (A738 Junction) and Greenock.<br><br>On the southbound journey on the A78, the Development will be behind the direction of travel or not visible for almost all of the route, with the exception of a short stretch past Ardrossan. | **Significant**<br>Between Stevenston (A738 Junction) and Ardrossan (A738 Junction). This occurs between the A738 junction to the east Stevenson and a location perpendicular to the Development when travelling west and between the A738 junction in Ardrossan to perpendicular to the site when travelling east.<br><br>**Not significant**<br>Between Prestwick and Stevenston (A738 Junction) and between Ardrossan (A738 Junction) and Greenock. | No material increase in the magnitude of effect. | **Significant**<br>Between Stevenston (A738 Junction) and Ardrossan (A738 Junction). This occurs between the A738 junction to the east Stevenson and a location perpendicular to the Development when travelling west and between the A738 junction in Ardrossan to perpendicular to the site when travelling east.<br><br>**Not significant**<br>Between Prestwick and Stevenston (A738 Junction) and between Ardrossan (A738 Junction) and Greenock. |
| | | B714, Saltcoats to Dalry | | **High**<br>Between northern edge of Saltcoats and southern edge of Dalry. | **Significant**<br>Between northern edge of Saltcoats and southern edge of Dalry. | No material increase in the magnitude of effect. | **Significant**<br>Between northern edge of Saltcoats and southern edge of Dalry. |
| | | B780, Ardrossan to Dalry | | **High to medium-high**<br>Between Ardrossan and B781. | **Significant**<br>Between Ardrossan and B781 | No material increase in the magnitude of effect. | **Significant**<br>Between Ardrossan and B781 |
| | | B781, West Kilbride to Dalry | | **High**<br>Between Dalry and Munnoch (Knockewart Hills).<br>**None**<br>Between Munnoch (Knockewart Hills) and West Kilbride. | **Significant**<br>Between Dalry and Munnoch (Knockewart Hills).<br>**Not significant**<br>between Munnoch (Knockewart Hills) and West Kilbride. | No material increase in the magnitude of effect. | **Significant**<br>Between Dalry and Munnoch (Knockewart Hills).<br>**Not significant**<br>between Munnoch (Knockewart Hills) and West Kilbride. |
| Cumulative effects | Assessment of Cumulative Visual Effects on Road Corridors | A78, Prestwick to Greenock | | **<u>Consented</u>**<br>**Medium**<br>Between Prestwick and Stevenston (A738 Junction) as a result of Shewalton Moss Windfarm.<br>**High**<br>Sequential change between West Kilbride and Fairlie with Hunterston Windfarm.<br><br>**<u>Application</u>**<br>**Low**<br>Between Prestwick and Stevenston (A738 Junction). | **<u>Consented</u>**<br>**Significant**<br>Sequential effect between West Kilbride and Fairlie with Hunterston Windfarm.<br>**Not significant**<br>Between Prestwick and Stevenston (A738 Junction) and between Fairlie and Greenock.<br><br>**<u>Application</u>**<br>**Not significant** | No material change to the cumulative context within 15km since 2013.<br><br>Hunterston II (single turbine) has been consented next to Hunterston at 9km distance.<br><br>GSK Shewalton (2 turbines) application stage next to Shewalton Moss at 13km distance. | **<u>Consented:</u>**<br>**Significant**<br>Sequential effect between West Kilbride and Fairlie with Hunterston Windfarm.<br><br>**Not significant**<br>Between Prestwick and Stevenston (A738 Junction) and between Fairlie and Greenock.<br><br>**<u>Application:</u>**<br>**Not significant** |

April 2019

Sorbie Repowering Wind Farm

# ANNEX 2: GIS Figures

## Supporting Updated Landscape & Visual Impact Assessment Tables




Legend

- Consented Turbine Location (105m tip)
- 10km Turbine Radii
- 35km Study Area
- Viewpoint Location

Blade Tip ZTV

No. of Turbines Theoretically Visible

- 1
- 2
- 3

| | | | |
|---|---|---|---|
| Blade Tip: | 105m | Observer height: | 2m |
| DTM: | OS T5 OS T50 | Surface features: | Excluded |
| DTM resolution: | 10m | Earth curvature: | Included |

0 2.5 5 10 km

SORBIE REPOWERING WIND FARM

Figure 1
Blade Tip ZTV for Consented Sorbie Wind Farm to 35km and Viewpoints

| | | | | | |
|---|---|---|---|---|---|
| Ref No: | 191307 | Created By: | JM | Rev No: | 1 |
| Scale: | 1:285,000 | Drawing Size: | A3 | Date: | 28/03/2019 |

Coordinate System: BNG OS GB 1936 Datum

EnergieKontor

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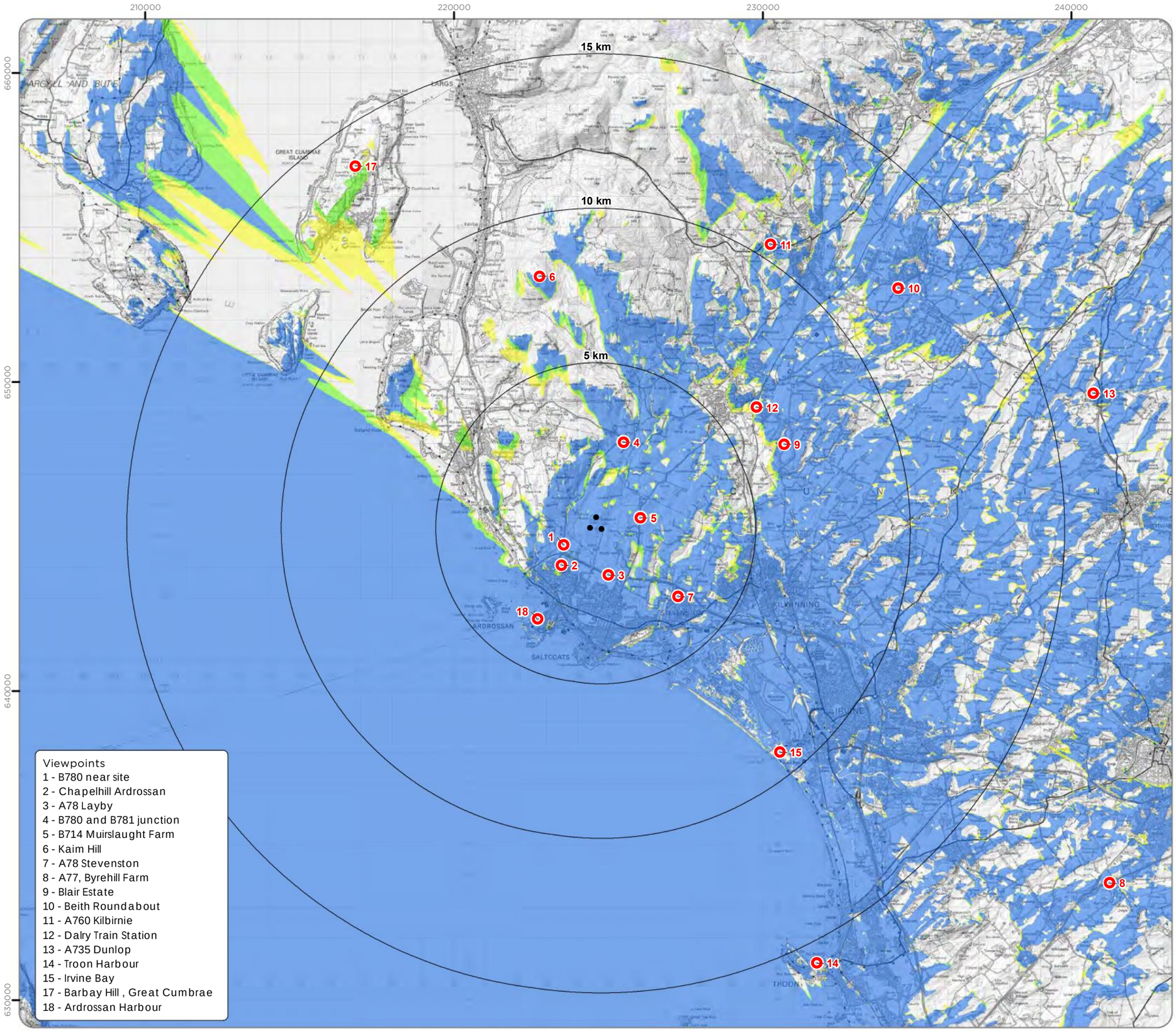


Legend

- Consented Turbine Location (105m tip)
- 5km Turbine Radii
- Viewpoint Location

Blade Tip ZTV

No. of Turbines Theoretically Visible

- 1
- 2
- 3

| | | | |
|---|---|---|---|
| Blade Tip: | 105m | Observer height: | 2m |
| DTM: | OS T5 OS T50 | Surface features: | Excluded |
| DTM resolution: | 10m | Earth curvature: | Included |

0 1.25 2.5 5 km

SORBIE REPOWERING WIND FARM

Figure 2
Blade Tip ZTV for Consented Sorbie Wind Farm to 15km and Viewpoints

| | | | | | |
|---|---|---|---|---|---|
| Ref No: | 191307 | Created By: | JM | Rev No: | 1 |
| Scale: | 1:125,000 | Drawing Size: | A3 | Date: | 28/03/2019 |

Coordinate System: BNG OS GB 1936 Datum

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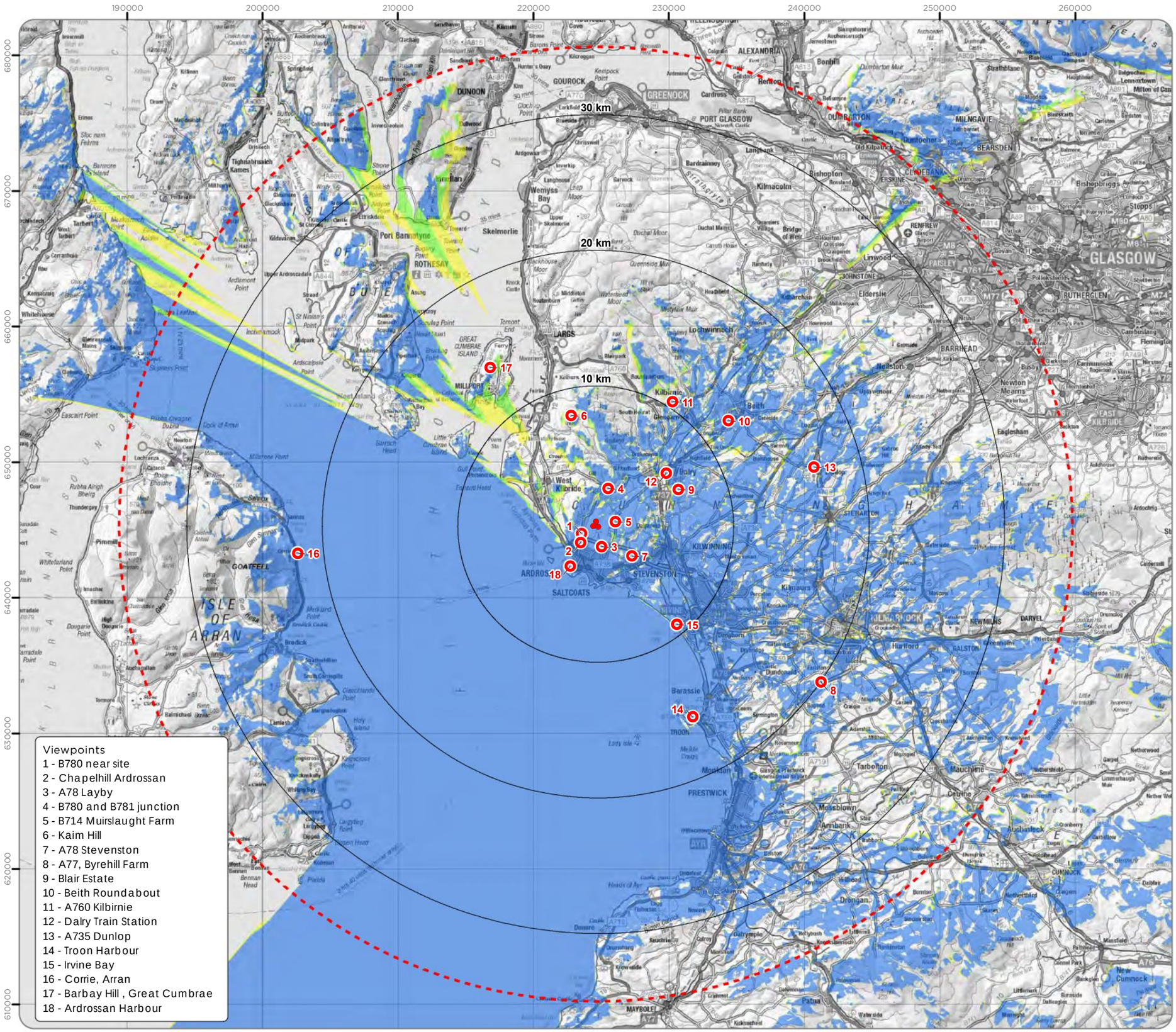
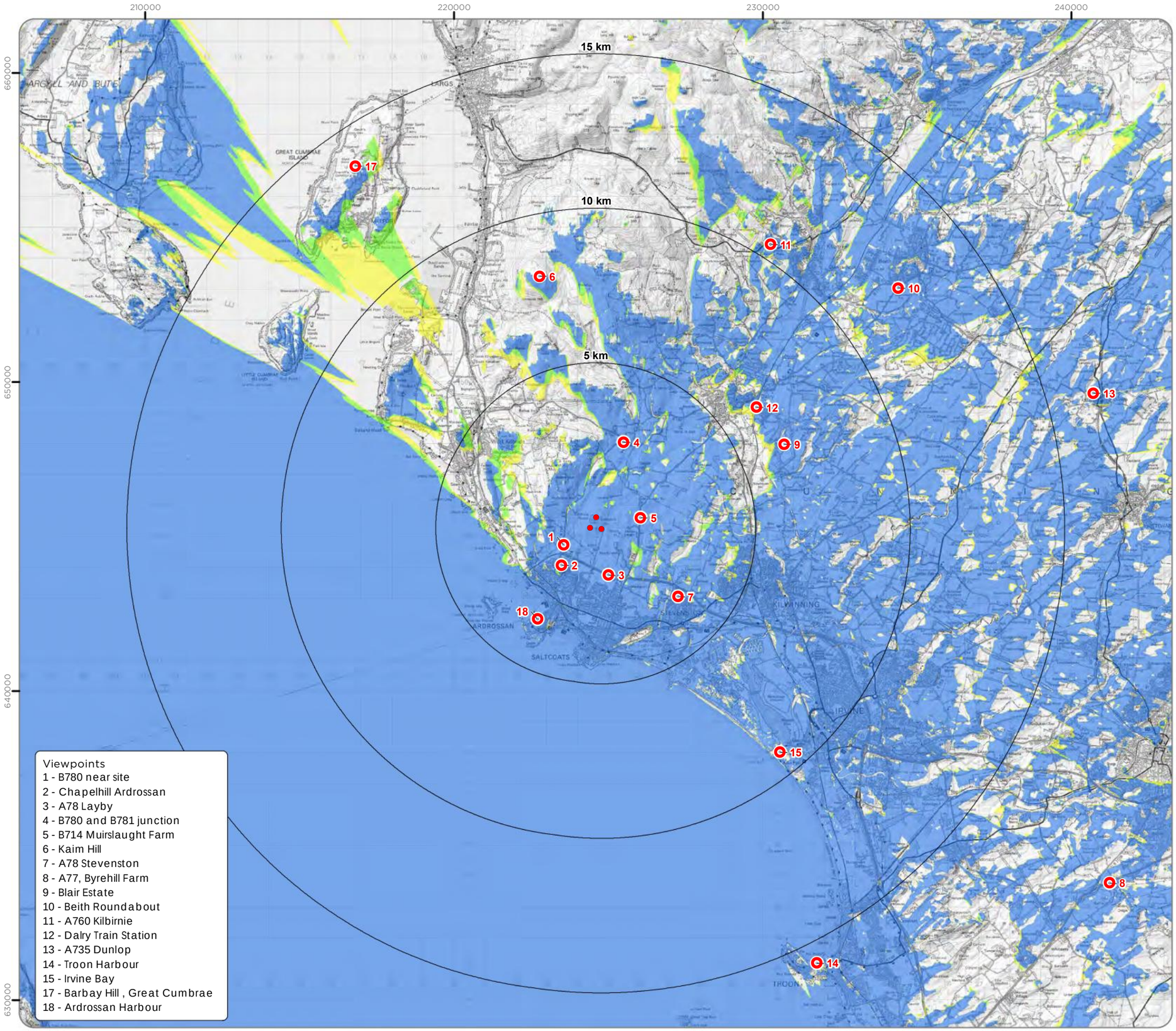

190000
200000
210000
220000
230000
240000
250000
260000
680000
670000
660000
650000
640000
630000
620000
610000
30 km
20 km
10 km
GREENOCK
GOUROCK
DUNOON
PORT GLASGOW
ALEXANDRIA
DUMBARTON
MILNGAVIE
BEARSDEN
CLYDEBANK
ERSKINE
RENFREW
PAISLEY
GLASGOW
BUTHERGLEN
BARRHEAD
JOHNSTONE
Elderslie
Linwood
Kilmacolm
Bishopton
Bishopbriggs
Stepps
Wemyss Bay
Skelmorlie
Port Bannatyne
ROTHESAY
BUTE
LARGS
MILLPORT
GREAT CUMBRAE ISLAND
Lochwinnoch
Kilbirnie
Beith
Dalry
West Kilbride
KILWINNING
STEVENSTON
ARDROSSAN
SALTCOATS
ISLE OF ARRAN
GOATFELL
Brodick
Lamlash
Whiting Bay
Pirnmill
Lochranza
Barassie
TROON
PRESTWICK
Monkton
Mossblown
Tarbolton
Mauchline
Catrine
Auchinleck
CUMNOCK
Drongan
Dalmellington
Patna
MAYBOLE
Dunoon
Eaglesham
Newton Mearns
Busby
EAST KILBRIDE
Stewarton
Kilmarnock
Hurlford
Kilmaurs
Dundonald
NEWMILNS
DARVEL
GALSTON
Ardrossan
Saltcoats
Troon
Prestwick
Ayr
Girvan
Dunoon
Rothesay
Largs
Millport
Brodick
Lamlash
Whiting Bay
Pirnmill
Lochranza
Campbeltown
Tarbert
Inveraray
Oban
Rhubha Airigh Bheirg
Rhubha Cragaig
Dubhail
Eascairt Point
Ardmore Point
Ardlamont Point
Skipness Point
Kilbrannan Sound
Firth of Clyde
Firth of Lorn
Firth of Forth
Firth of Tay
Firth of Lorne
Firth of Clyde




Legend

- Proposed Turbine Location (125m tip)
- 5km Turbine Radii
- Viewpoint Location

Blade Tip ZTV

No. of Turbines Theoretically Visible

- 1
- 2
- 3

| | | | |
|---|---|---|---|
| Blade Tip: | 125m | Observer height: | 2m |
| DTM: | OS T5 OS T50 | Surface features: | Excluded |
| DTM resolution: | 10m | Earth curvature: | Included |

0 1.25 2.5 5 km

SORBIE REPOWERING WIND FARM

Figure 4
Blade Tip ZTV for s42 Application Sorbie Wind Farm to 15km and Viewpoints

| | | | | | |
|---|---|---|---|---|---|
| Ref No: | 191307 | Created By: | JM | Rev No: | 1 |
| Scale: | 1:125,000 | Drawing Size: | A3 | Date: | 28/03/2019 |

Coordinate System: BNG OS GB 1936 Datum

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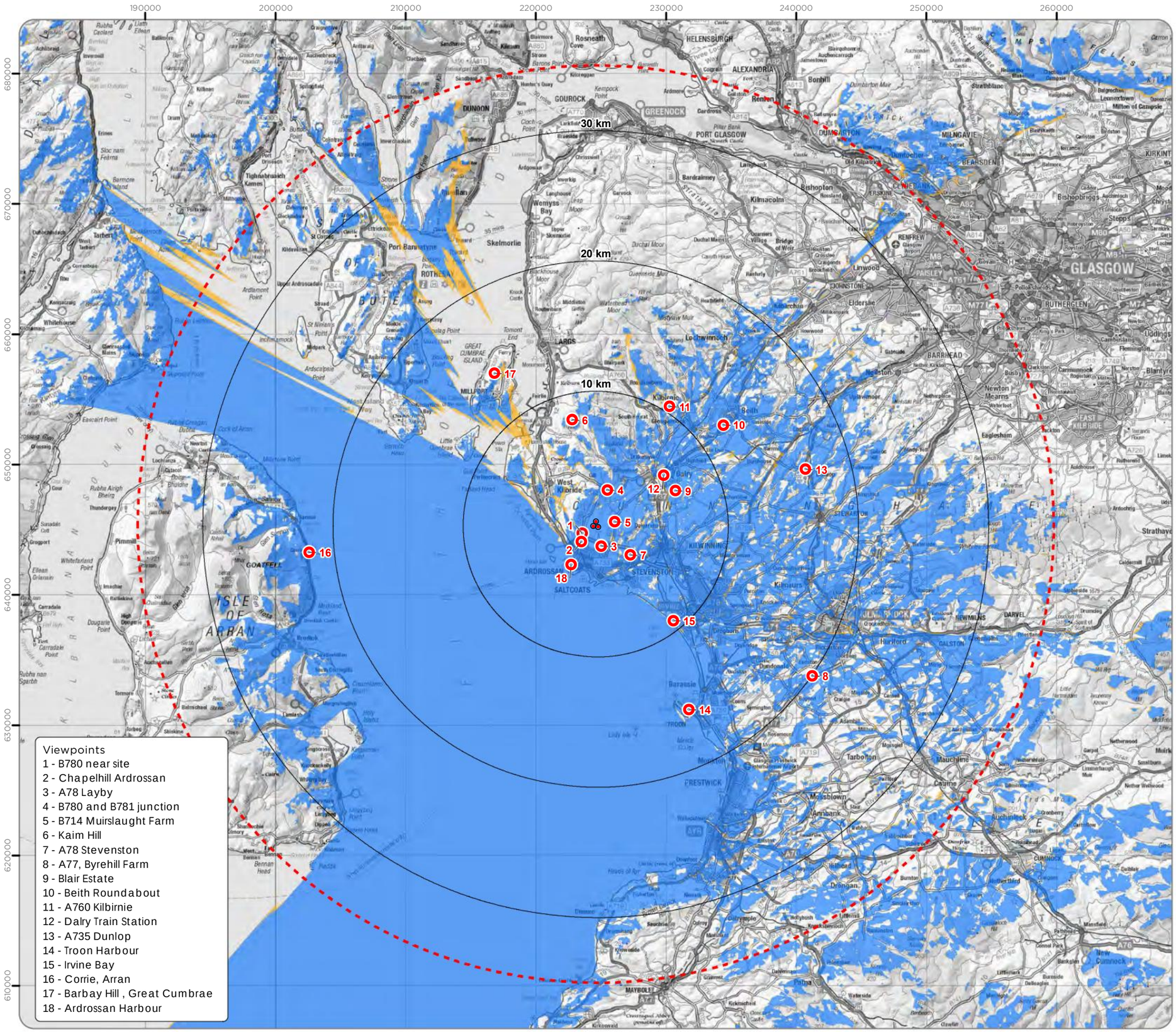


Legend

- Proposed Turbine Location (125m tip)
- Consented Turbine Location (105m tip)
- 10km Turbine Radii
- 35km Study Area
- Viewpoint Location
- only s42 Application Layout Theoretical Visibilty
- both Consented and s42 Application Layouts Theoretical Visibilty

| | | | |
|---|---|---|---|
| Blade Tip: | 105m 125m | Observer height: | 2m |
| DTM: | OS T5 OS T50 | Surface features: | Excluded |
| DTM resolution: | 10m | Earth curvature: | Included |

0 2.5 5 10 km

SORBIE REPOWERING WIND FARM

Figure 5
Comparative Blade Tip ZTV - Consented and s42 Application to 35km

| | | | | | |
|---|---|---|---|---|---|
| Ref No: | 191307 | Created By: | JM | Rev No: | 1 |
| Scale: | 1:296,154 | Drawing Size: | A3 | Date: | 28/03/2019 |

Coordinate System: BNG OS GB 1936 Datum

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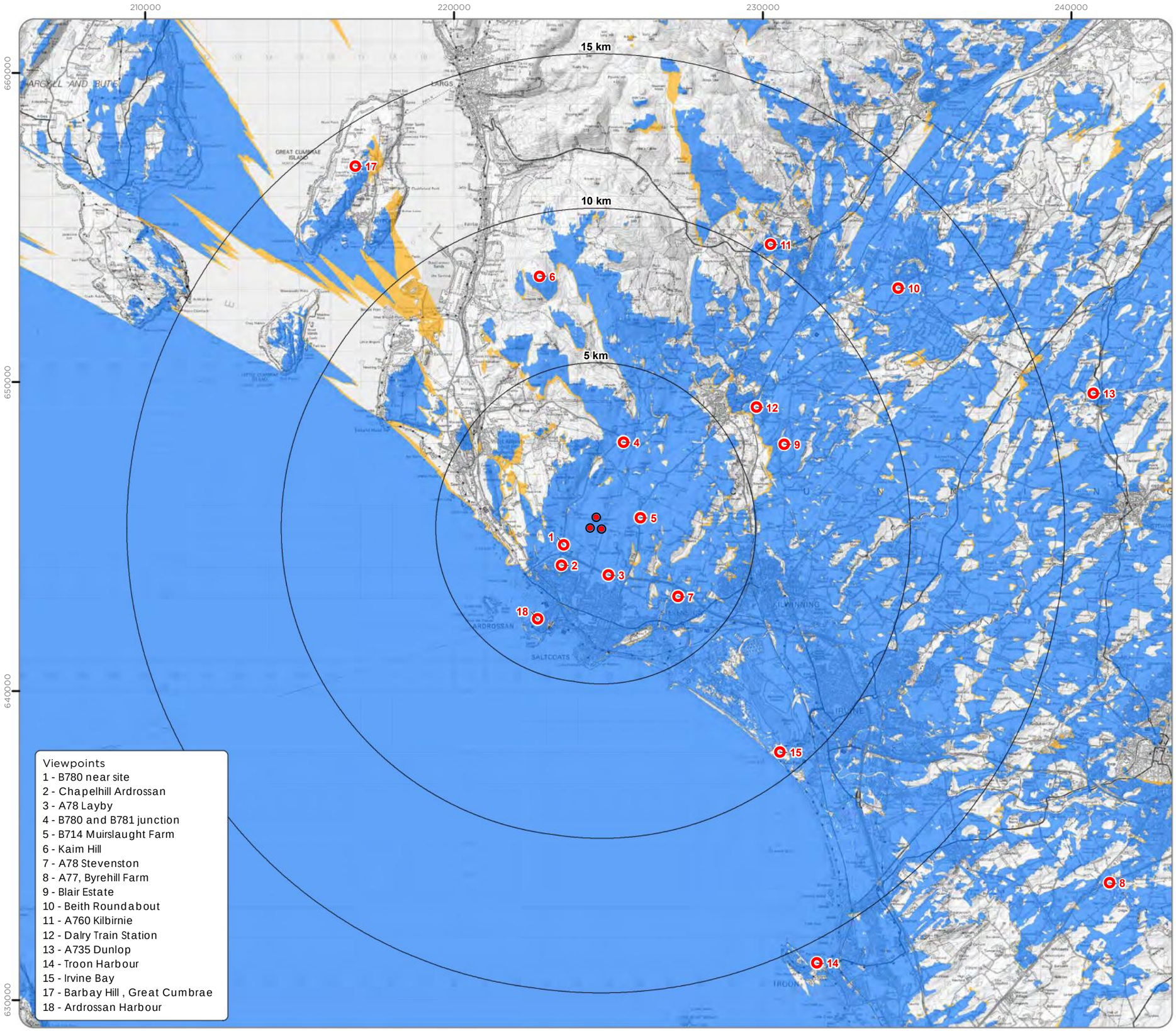


Legend

- Proposed Turbine Location (125m tip)
- Consented Turbine Location (105m tip)
- 5km Turbine Radii
- Viewpoint Location
- only s42 Application Layout Theoretical Visibilty
- both Consented and s42 Application Layouts Theoretical Visibilty

| | | | |
|---|---|---|---|
| Blade Tip: | 105m<br>125m | Observer height: | 2m |
| DTM: | OS T5<br>OS T50 | Surface features: | Excluded |
| DTM resolution: | 10m | Earth curvature: | Included |

0 1.25 2.5 5 km

SORBIE REPOWERING WIND FARM

Figure 6
Comparative Blade Tip ZTV - Consented and s42 Application to 15km

| | | | | | |
|---|---|---|---|---|---|
| Ref No: | 191307 | Created By: | JM | Rev No: | 1 |
| Scale: | 1:125,000 | Drawing Size: | A3 | Date: | 28/03/2019 |

Coordinate System: BNG OS GB 1936 Datum

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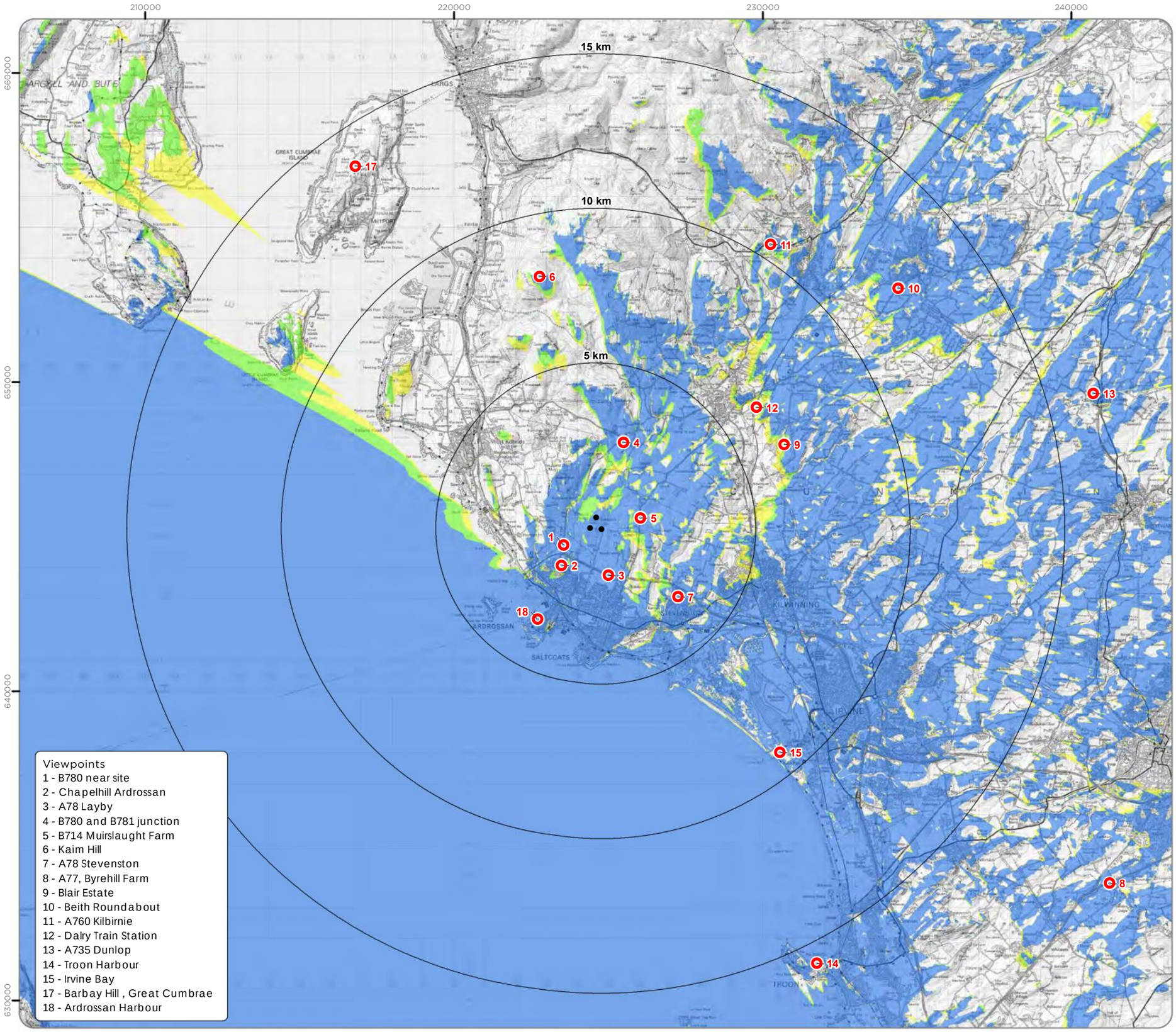


Legend

- Consented Turbine Location (64m tip)
- 5km Turbine Radii
- Viewpoint Location

Hub Height ZTV

No. of Turbines Theoretically Visible

- 1
- 2
- 3

| | | | |
|---|---|---|---|
| Hub Height: | 64m | Observer height: | 2m |
| DTM: | OS T5 OS T50 | Surface features: | Excluded |
| DTM resolution: | 10m | Earth curvature: | Included |

0 1.25 2.5 5 km

SORBIE REPOWERING WIND FARM

Figure 7
Hub Height ZTV for Consented Sorbie Wind Farm to 15km and Viewpoints

| | | | | | |
|---|---|---|---|---|---|
| Ref No: | 191307 | Created By: | JM | Rev No: | 1 |
| Scale: | 1:125,000 | Drawing Size: | A3 | Date: | 28/03/2019 |

Coordinate System: BNG OS GB 1936 Datum

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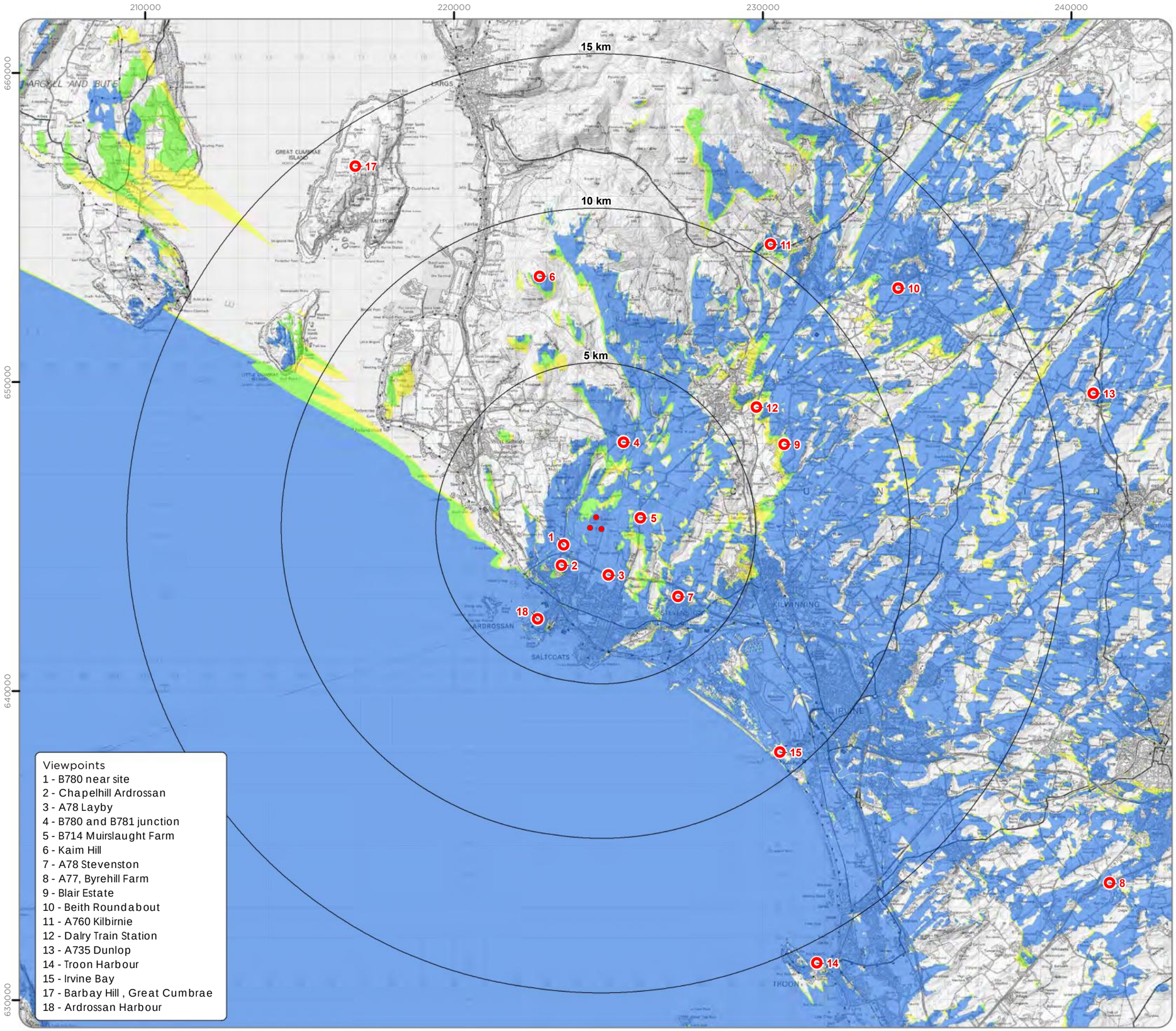


Legend

- Proposed Turbine Location (68m hub)
- 5km Turbine Radii
- Viewpoint Location

Hub Height ZTV

No. of Turbines Theoretically Visible

- 1
- 2
- 3

| | | | |
|---|---|---|---|
| Hub Height: | 68m | Observer height: | 2m |
| DTM: | OS T5 OS T50 | Surface features: | Excluded |
| DTM resolution: | 10m | Earth curvature: | Included |

0 1.25 2.5 5 km

SORBIE REPOWERING WIND FARM

Figure 8
Hub Height ZTV for s42 Application Sorbie Wind Farm to 15km and Viewpoints

| | | | | | |
|---|---|---|---|---|---|
| Ref No: | 191307 | Created By: | JM | Rev No: | 1 |
| Scale: | 1:125,000 | Drawing Size: | A3 | Date: | 28/03/2019 |

Coordinate System: BNG OS GB 1936 Datum

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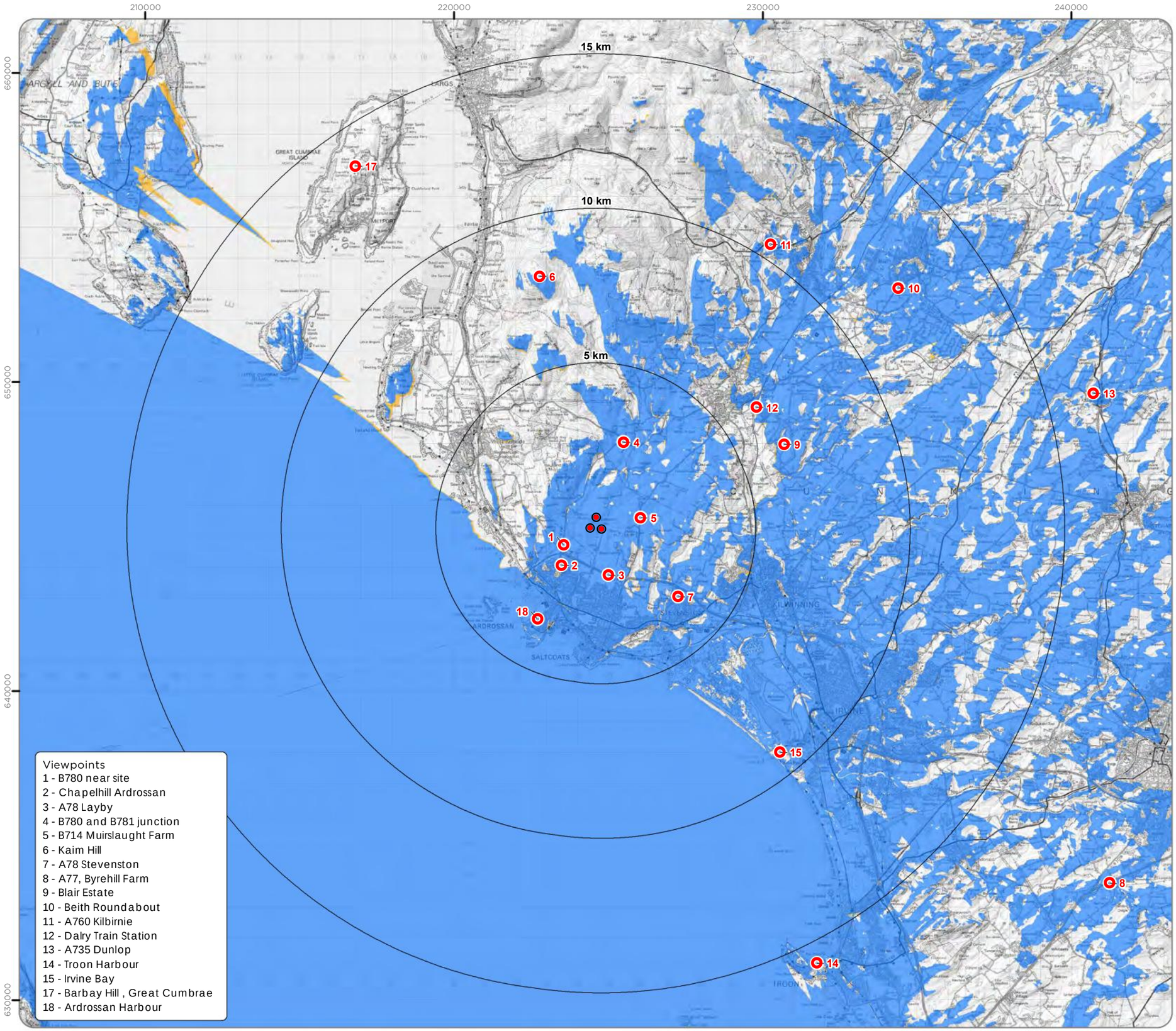


Legend

- Proposed Turbine Location (68m hub)
- Consented Turbine Location (64m hub)
- 5km Turbine Radii
- Viewpoint Location
- only s42 Application Layout Theoretical Visibilty
- both Consented and s42 Application Layouts Theoretical Visibilty

| | | | |
|---|---|---|---|
| Hub height: | 64m<br>68m | Observer height: | 2m |
| DTM: | OS T5<br>OS T50 | Surface features: | Excluded |
| DTM resolution: | 10m | Earth curvature: | Included |

0 1.25 2.5 5 km

SORBIE REPOWERING WIND FARM

Figure 9
Comparative Hub Height ZTV - Consented and s42 Application to 15km

| | | | | | |
|---|---|---|---|---|---|
| Ref No: | 191307 | Created By: | JM | Rev No: | 1 |
| Scale: | 1:125,000 | Drawing Size: | A3 | Date: | 28/03/2019 |

Coordinate System: BNG OS GB 1936 Datum

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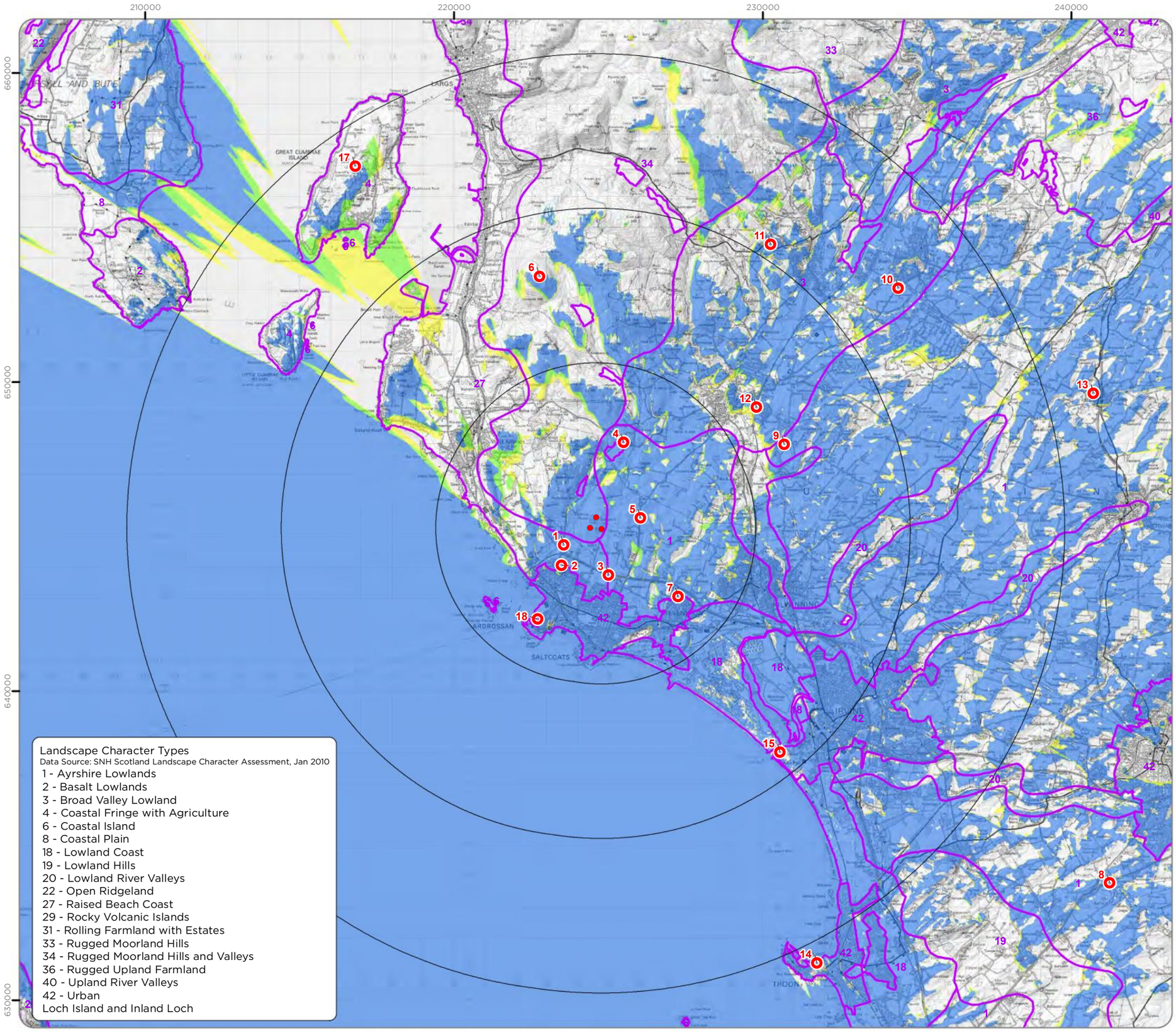


Legend

- Proposed Turbine Location (125m tip)
- 5km Turbine Radii
- Viewpoint Location
- Landscape Character Types

Blade Tip ZTV

No. of Turbines Theoretically Visible

- 1
- 2
- 3

| | | | |
|---|---|---|---|
| Blade Tip: | 125m | Observer height: | 2m |
| DTM: | OS T5<br>OS T50 | Surface features: | Excluded |
| DTM resolution: | 10m | Earth curvature: | Included |

0 1.25 2.5 5 km

SORBIE REPOWERING WIND FARM

Figure 10a
Blade Tip ZTV for s42 Application Sorbie Wind Farm and Landscape Character

| | | | | | |
|---|---|---|---|---|---|
| Ref No: | 191307 | Created By: | JM | Rev No: | 1 |
| Scale: | 1:125,000 | Drawing Size: | A3 | Date: | 28/03/2019 |

Coordinate System: BNG OS GB 1936 Datum

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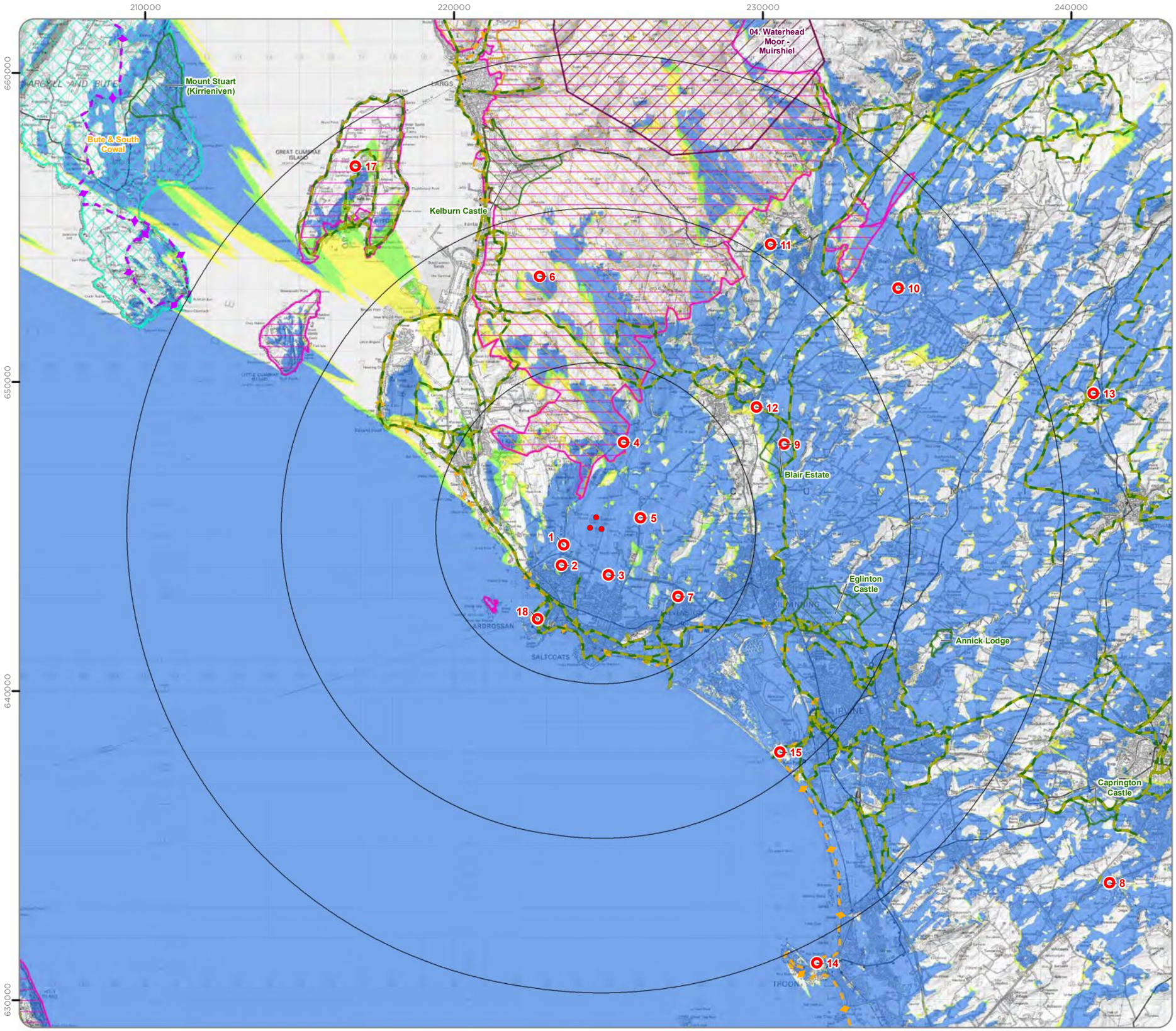


Legend

- Proposed Turbine Location (125m tip)
- 5km Turbine Radii
- Viewpoint Location
- Corepaths
- Ayrshire Coastal Path
- The West Island Way
- Wild Land Area
- Garden & Designed Landscape
- Special Landscape Area
- Area of Panoramic Quality
- Clyde Muirshiel Regional Park

Blade Tip ZTV

No. of Turbines Theoretically Visible

- 1
- 2
- 3

| | | | |
|---|---|---|---|
| Blade Tip: | 125m | Observer height: | 2m |
| DTM: | OS T5 OS T50 | Surface features: | Excluded |
| DTM resolution: | 10m | Earth curvature: | Included |

0 1.25 2.5 5 km

SORBIE REPOWERING WIND FARM

Figure 10b
Blade Tip ZTV for s42 Application Sorbie Wind Farm and Landscape Designations

| | | | | | |
|---|---|---|---|---|---|
| Ref No: | 191307 | Created By: | JM | Rev No: | 1 |
| Scale: | 1:125,000 | Drawing Size: | A3 | Date: | 28/03/2019 |

Coordinate System: BNG OS GB 1936 Datum

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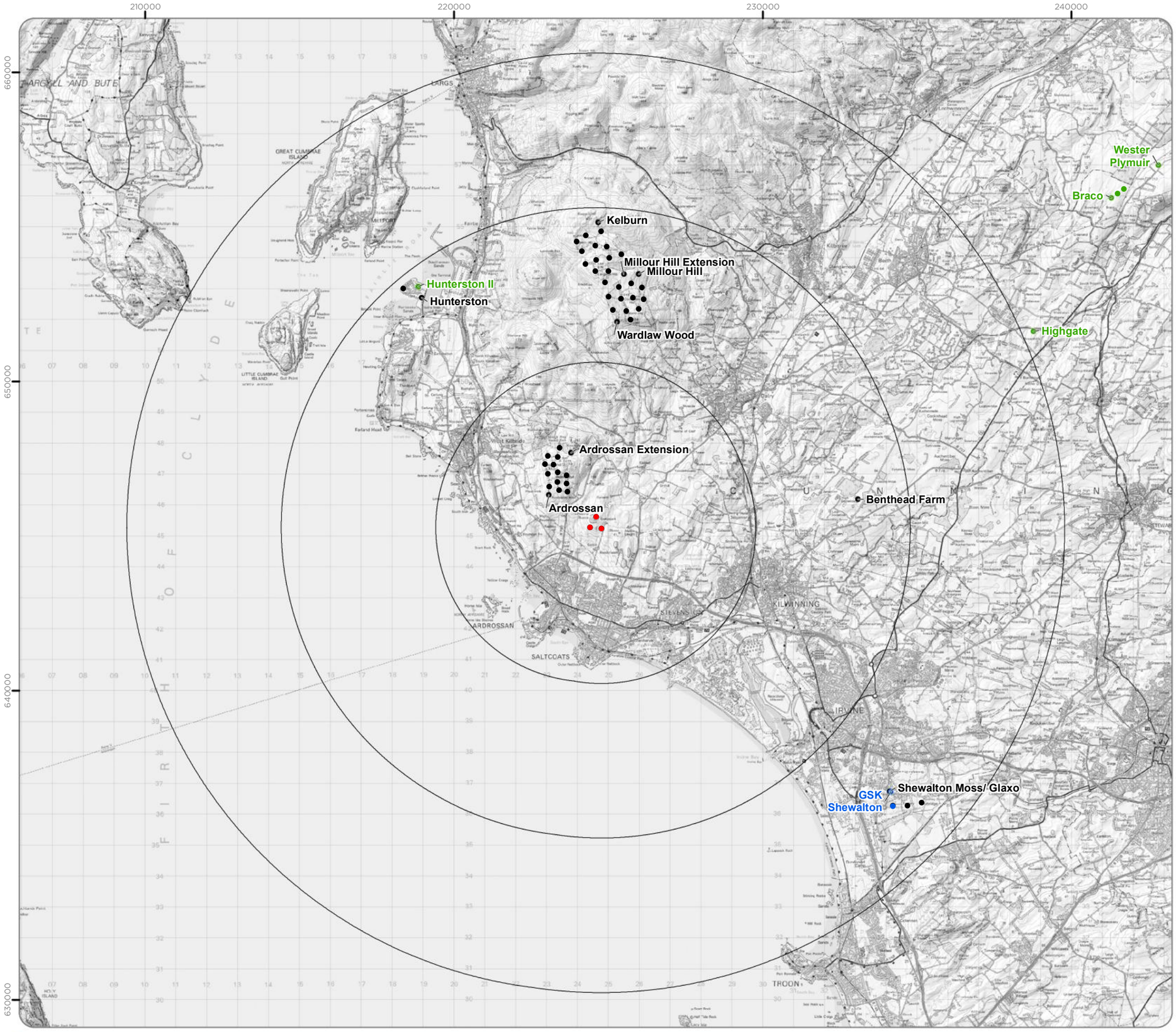


Legend

- Proposed Turbine Location (125m tip)
- 5km Turbine Radii
- 35 km Study Area

Cumulative Windfarm Status

- Operational
- Consented
- Appeal / Application

0 1.25 2.5 5 km

SORBIE REPOWERING WIND FARM

Figure 11
Cumulative Wind Farms within 15km radius

| | | | | | |
|---|---|---|---|---|---|
| Ref No: | 191307 | Created By: | JM | Rev No: | 1 |
| Scale: | 1:125,000 | Drawing Size: | A3 | Date: | 28/03/2019 |

Coordinate System: BNG OS GB 1936 Datum

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April 2019

Sorbie Repowering Wind Farm

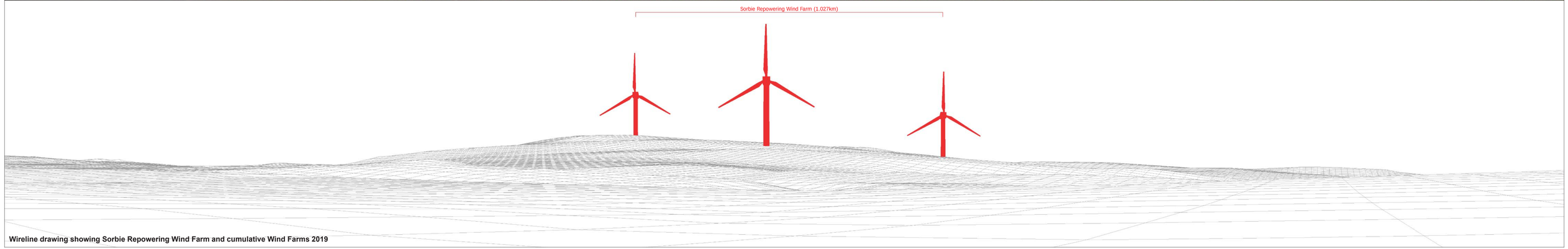
# ANNEX 3: SNH Visualisations

## Supporting Updated Landscape & Visual Impact Assessment Tables

**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**

| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 223535 E 644741 N | | 90° (cylindrical projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 57.61 m AOD | **Principal distance** | 522 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 59.00° | | | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 1.027 km | | | **Date and time:** | 27/03/19, 14:44 |

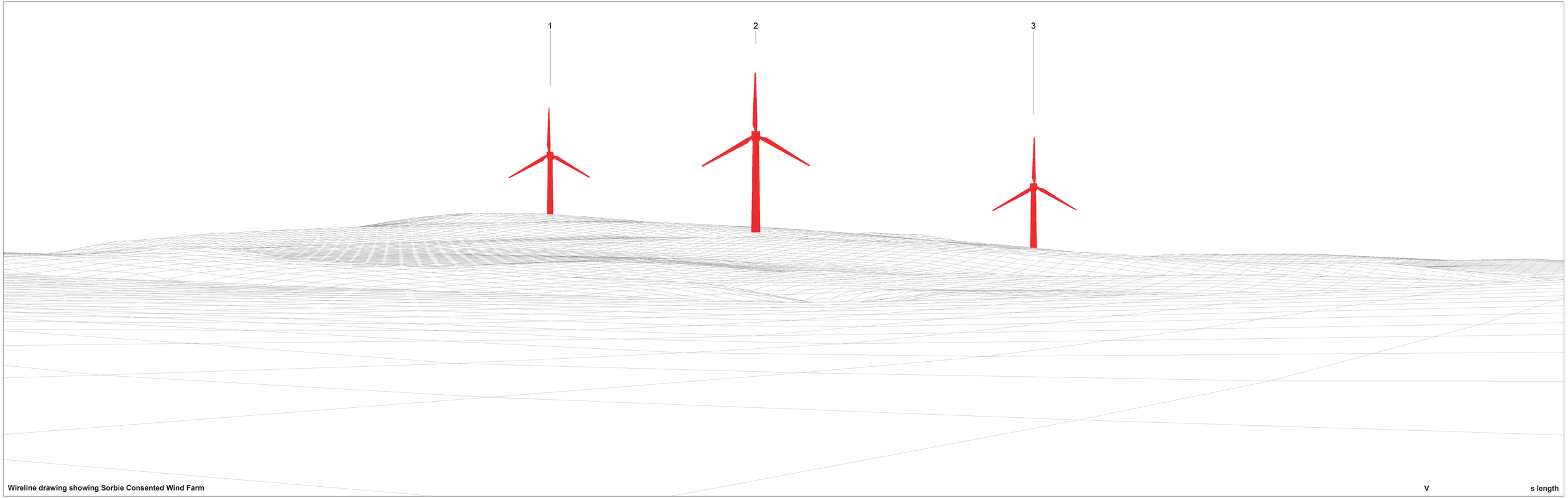
**Figure: 12b**
**Viewpoint 1: B780 near site**




**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

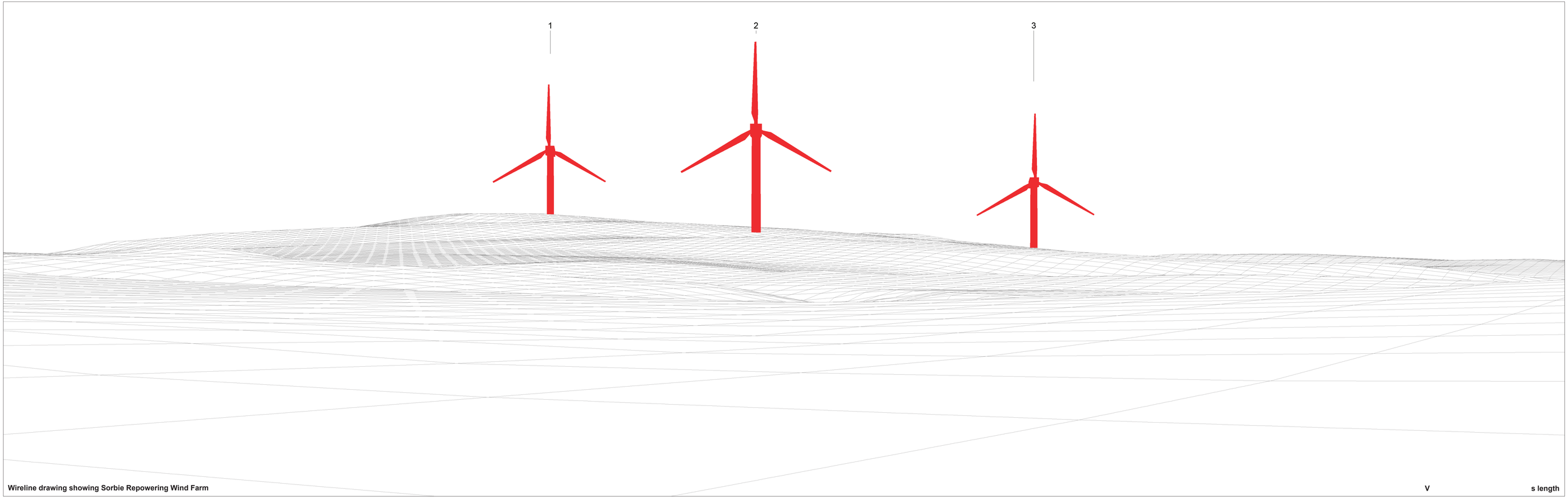
| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 223535 E 644741 N | | 90° (cylindrical projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 57.61 m AOD | **Principal distance** | 522 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 59.00° | | | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 1.027 km | | | **Date and time:** | 27/03/19, 14:44 |

**Figure: 12c**
**Viewpoint 1: B780 near site**




| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 223535 E 644741 N | | 53.5° (planar projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 57.61 m AOD | **Principal distance** | 812.5 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 59.00° | **Paper size:** | 841 x 297 mm (half A1) | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 1.027 km | **Correct printed image size:** | 820 x 260 mm | **Date and time:** | 27/03/19, 14:44 |

**Figure: 12d**
**Viewpoint 1: B780 near site**




| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 223535 E 644741 N | | 53.5° (planar projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 57.61 m AOD | **Principal distance** | 812.5 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 59.00° | **Paper size:** | 841 x 297 mm (half A1) | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 1.027 km | **Correct printed image size:** | 820 x 260 mm | **Date and time:** | 27/03/19, 14:44 |

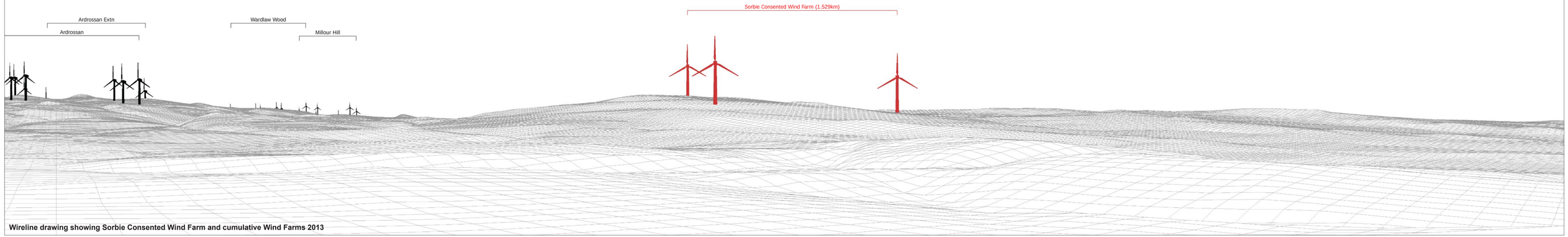
**Figure: 12e**
**Viewpoint 1: B780 near site**

| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 223535 E 644741 N | | 53.5° (planar projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 57.61 m AOD | **Principal distance** | 812.5 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 59.00° | **Paper size:** | 841 x 297 mm (half A1) | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 1.027 km | **Correct printed image size:** | 820 x 260 mm | **Date and time:** | 27/03/19, 14:44 |

**Figure: 12f**
**Viewpoint 1: B780 near site**

| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 223535 E 644741 N | | 53.5° (planar projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 57.61 m AOD | **Principal distance** | 812.5 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 59.00° | **Paper size:** | 841 x 297 mm (half A1) | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 1.027 km | **Correct printed image size:** | 820 x 260 mm | **Date and time:** | 27/03/19, 14:44 |

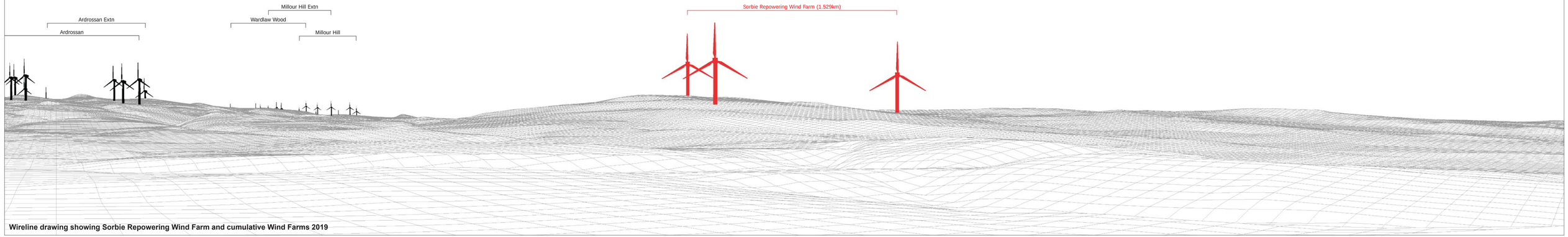
**Figure: 12g**
**Viewpoint 1: B780 near site**




**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**

| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 223464 E 644081 N | | 90° (cylindrical projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 60.25 m AOD | **Principal distance** | 522 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 42.00° | | | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 1.529 km | | | **Date and time:** | 27/03/19, 15:01 |

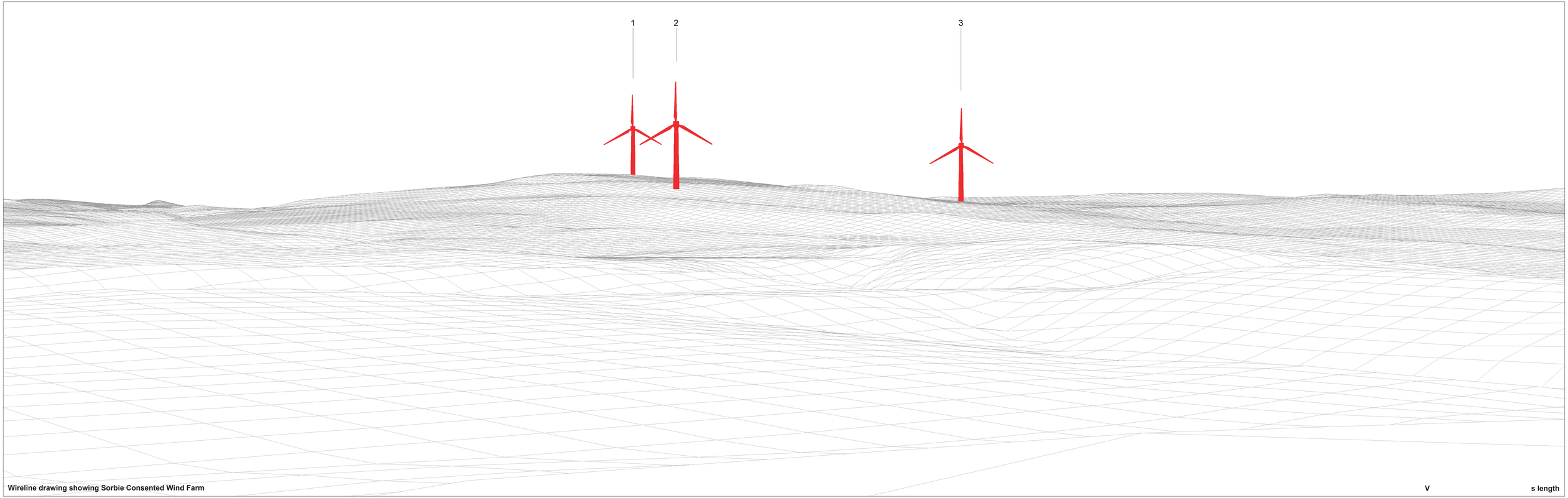
**Figure: 13b**
**Viewpoint 2: Chapelhill Ardrossan**




**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

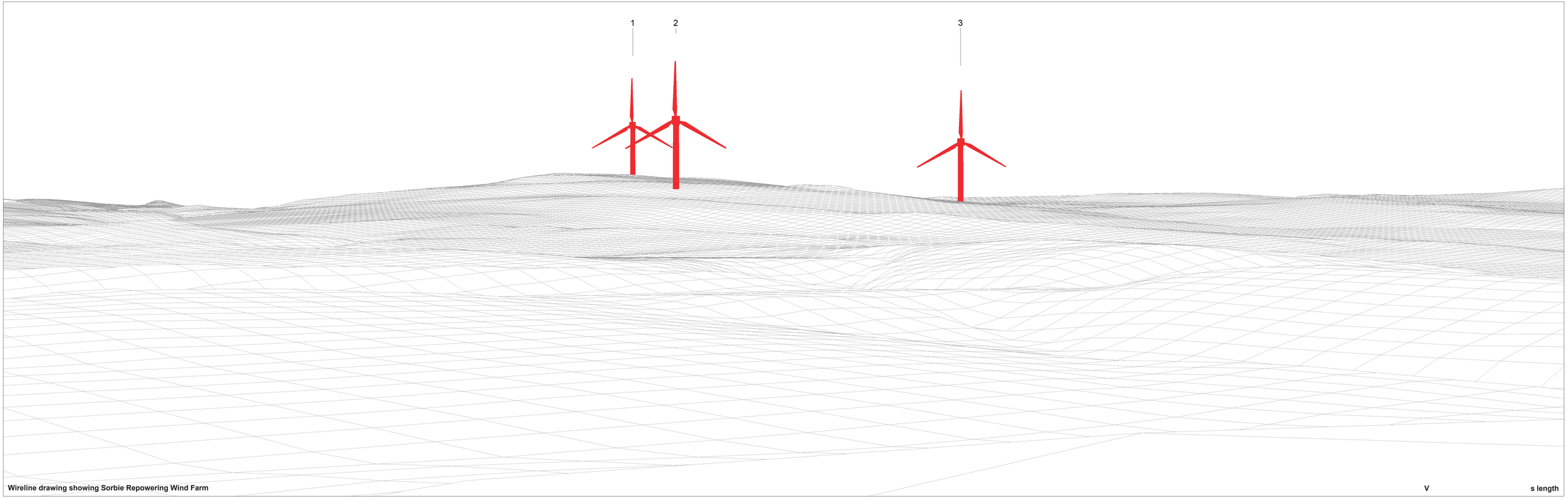
| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 223464 E 644081 N | | 90° (cylindrical projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 60.25 m AOD | **Principal distance** | 522 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 42.00° | | | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 1.529 km | | | **Date and time:** | 27/03/19, 15:01 |

**Figure: 13c**
**Viewpoint 2: Chapelhill Ardrossan**




| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 223464 E 644081 N | | 53.5° (planar projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 60.25 m AOD | **Principal distance** | 812.5 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 42.00° | **Paper size:** | 841 x 297 mm (half A1) | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 1.529 km | **Correct printed image size:** | 820 x 260 mm | **Date and time:** | 27/03/19, 15:01 |

**Figure: 13d**
**Viewpoint 2: Chapelhill Ardrossan**




| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 223464 E 644081 N | | 53.5° (planar projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 60.25 m AOD | **Principal distance** | 812.5 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 42.00° | **Paper size:** | 841 x 297 mm (half A1) | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 1.529 km | **Correct printed image size:** | 820 x 260 mm | **Date and time:** | 27/03/19, 15:01 |

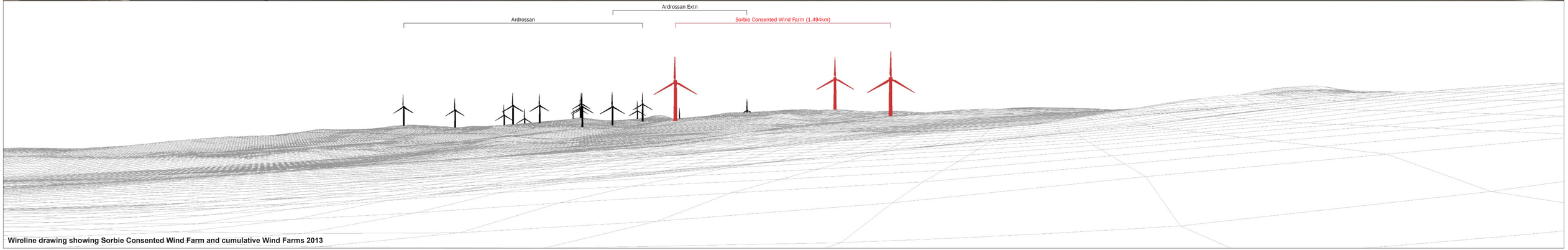
**Figure: 13e**
**Viewpoint 2: Chapelhill Ardrossan**

| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 223464 E 644081 N | | 53.5° (planar projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 60.25 m AOD | **Principal distance** | 812.5 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 42.00° | **Paper size:** | 841 x 297 mm (half A1) | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 1.529 km | **Correct printed image size:** | 820 x 260 mm | **Date and time:** | 27/03/19, 15:01 |

**Figure: 13f**
**Viewpoint 2: Chapelhill Ardrossan**

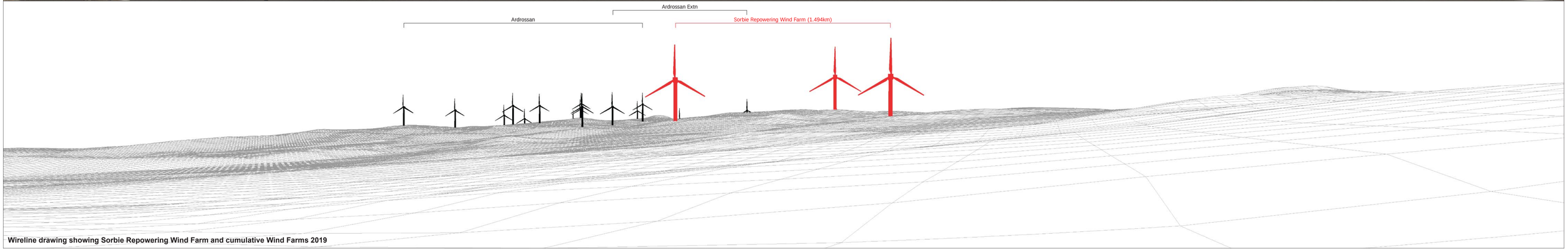
| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 223464 E 644081 N | | 53.5° (planar projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 60.25 m AOD | **Principal distance** | 812.5 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 42.00° | **Paper size:** | 841 x 297 mm (half A1) | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 1.529 km | **Correct printed image size:** | 820 x 260 mm | **Date and time:** | 27/03/19, 15:01 |

**Figure: 13g**
**Viewpoint 2: Chapelhill Ardrossan**



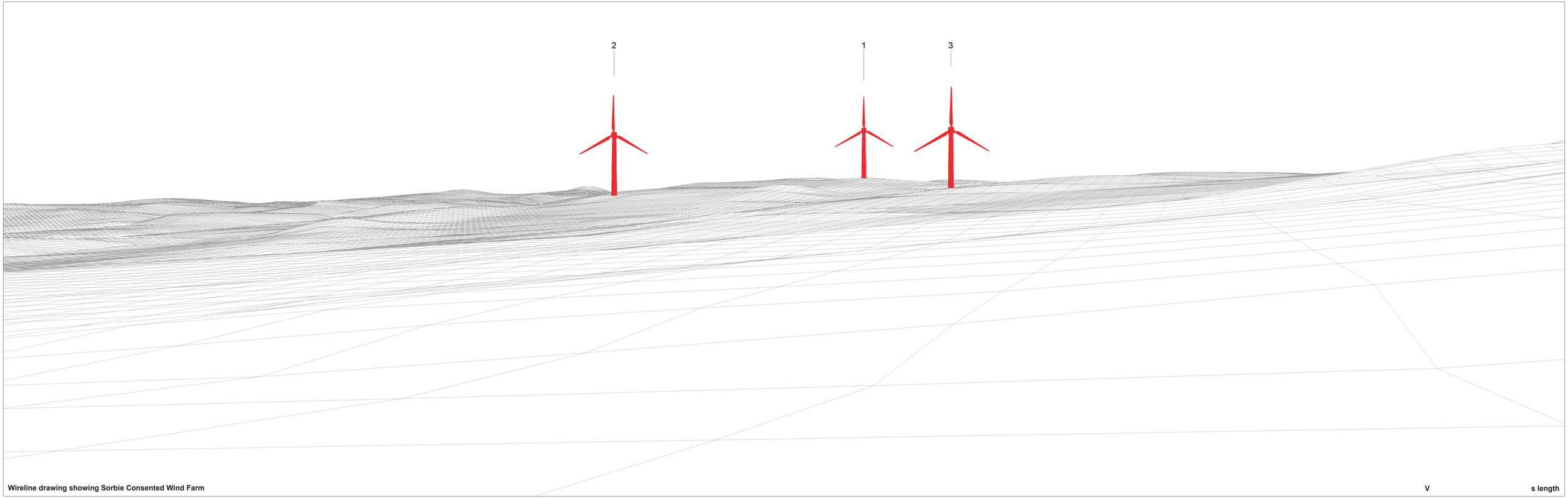

| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 225000 E 643759 N | | 90° (cylindrical projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 62.81 m AOD | **Principal distance** | 522 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 345.00° | | | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 1.494 km | | | **Date and time:** | 27/03/19, 15:20 |

**Figure: 14b**
**Viewpoint 3: A78 Layby**



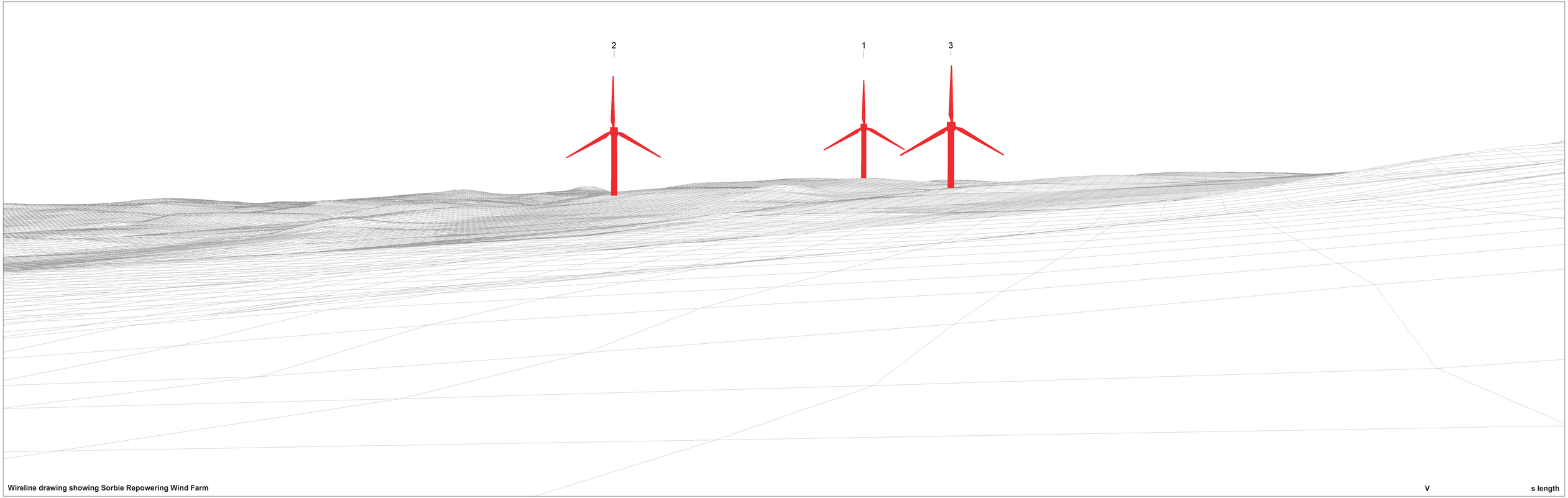

| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 225000 E 643759 N | | 90° (cylindrical projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 62.81 m AOD | **Principal distance** | 522 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 345.00° | | | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 1.494 km | | | **Date and time:** | 27/03/19, 15:20 |

**Figure: 14c**
**Viewpoint 3: A78 Layby**




| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 225000 E 643759 N | | 53.5° (planar projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 62.81 m AOD | **Principal distance** | 812.5 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 345.00° | **Paper size:** | 841 x 297 mm (half A1) | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 1.494 km | **Correct printed image size:** | 820 x 260 mm | **Date and time:** | 27/03/19, 15:20 |

**Figure: 14d**
**Viewpoint 3: A78 Layby**




| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 225000 E 643759 N | | 53.5° (planar projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 62.81 m AOD | **Principal distance** | 812.5 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 345.00° | **Paper size:** | 841 x 297 mm (half A1) | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 1.494 km | **Correct printed image size:** | 820 x 260 mm | **Date and time:** | 27/03/19, 15:20 |

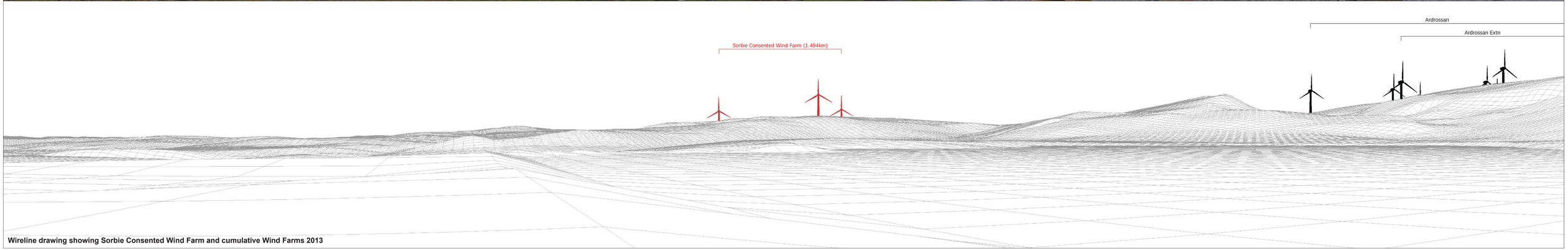
**Figure: 14e**
**Viewpoint 3: A78 Layby**

| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 225000 E 643759 N | | 53.5° (planar projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 62.81 m AOD | **Principal distance** | 812.5 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 345.00° | **Paper size:** | 841 x 297 mm (half A1) | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 1.494 km | **Correct printed image size:** | 820 x 260 mm | **Date and time:** | 27/03/19, 15:20 |

**Figure: 14f**
**Viewpoint 3: A78 Layby**

| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 225000 E 643759 N | | 53.5° (planar projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 62.81 m AOD | **Principal distance** | 812.5 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 345.00° | **Paper size:** | 841 x 297 mm (half A1) | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 1.494 km | **Correct printed image size:** | 820 x 260 mm | **Date and time:** | 27/03/19, 15:20 |

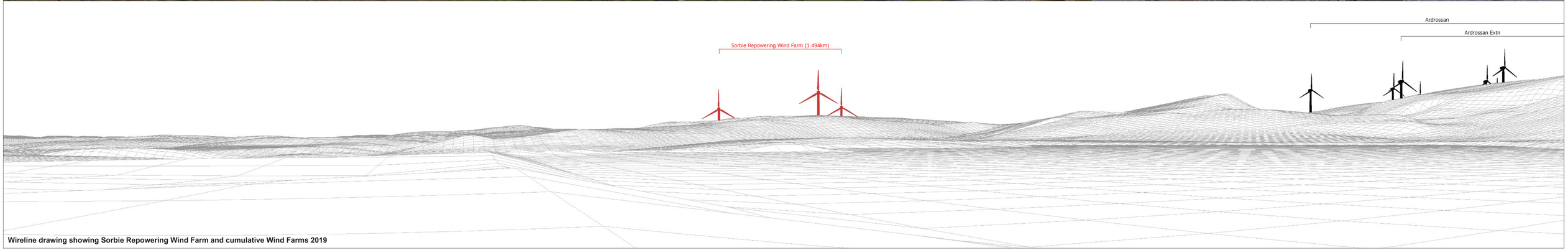
**Figure: 14g**
**Viewpoint 3: A78 Layby**




**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**

| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 225486 E 648053 N | | 90° (cylindrical projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 99.68 m AOD | **Principal distance** | 522 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 198.00° | | | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 2.585 km | | | **Date and time:** | 27/03/2019, 14:26:05 |

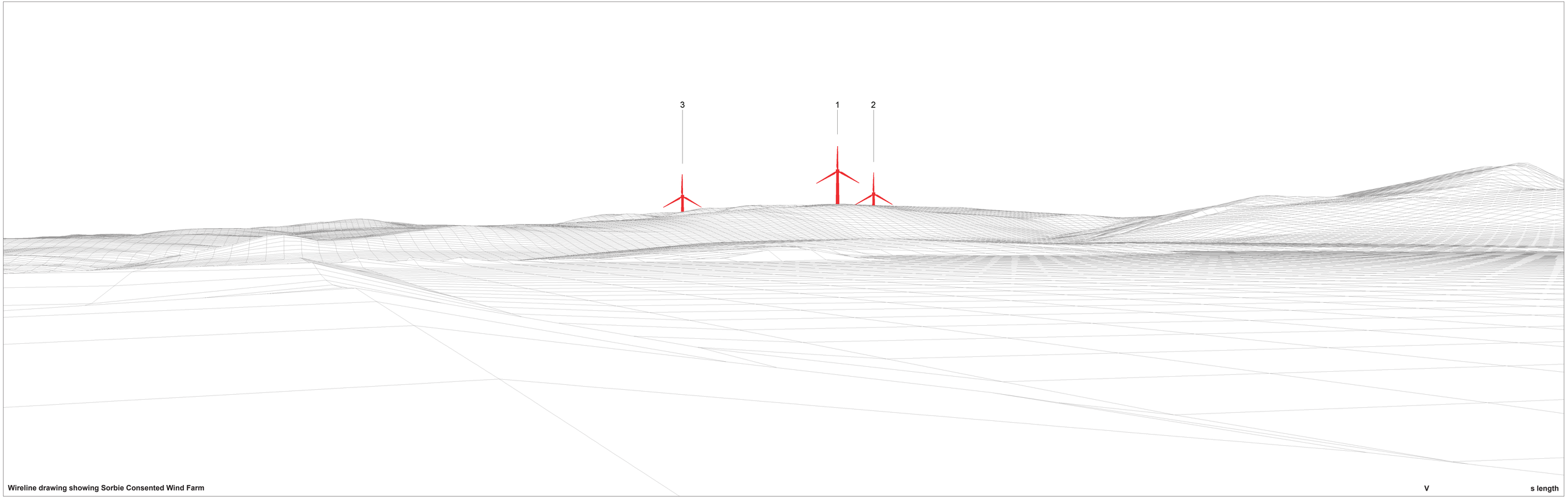
**Figure: 15b**
**Viewpoint 4: B780 and B781 junction**




**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

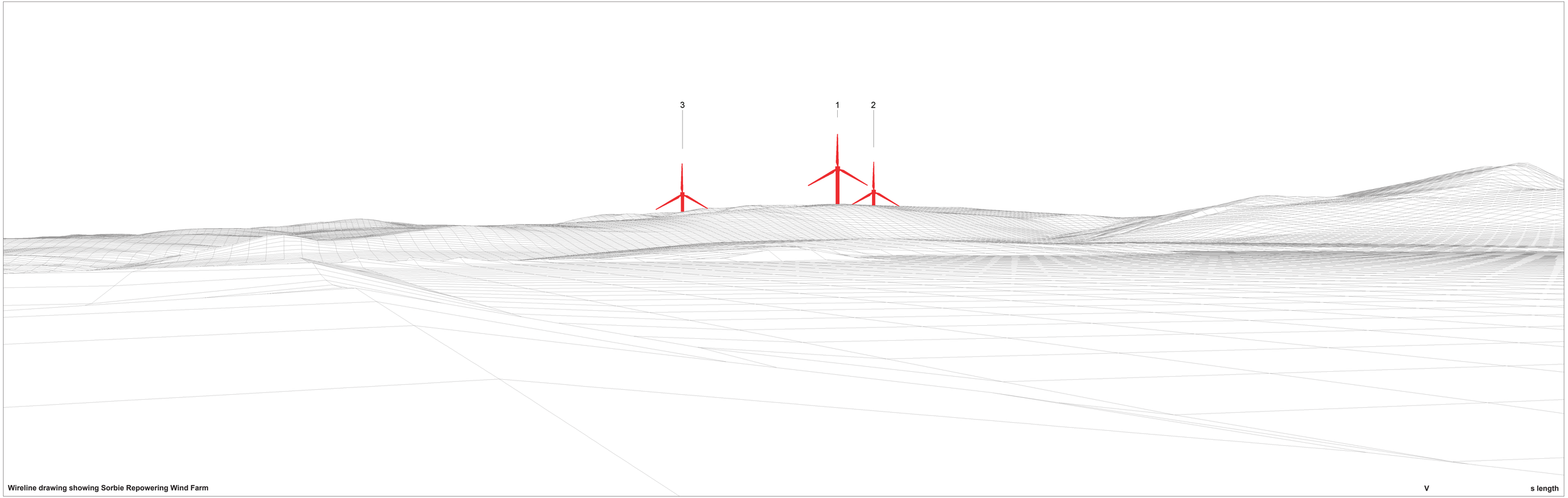
| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 225486 E 648053 N | | 90° (cylindrical projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 99.68 m AOD | **Principal distance** | 522 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 198.00° | | | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 2.585 km | | | **Date and time:** | 27/03/2019, 14:26:05 |

**Figure: 15c**
**Viewpoint 4: B780 and B781 junction**




| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 225486 E 648053 N | | 53.5° (planar projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 99.68 m AOD | **Principal distance** | 812.5 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 198.00° | **Paper size:** | 841 x 297 mm (half A1) | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 2.585 km | **Correct printed image size:** | 820 x 260 mm | **Date and time:** | 27/03/2019, 14:26:05 |

**Figure: 15d**
**Viewpoint 4: B780 and B781 junction**




| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 225486 E 648053 N | | 53.5° (planar projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 99.68 m AOD | **Principal distance** | 812.5 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 198.00° | **Paper size:** | 841 x 297 mm (half A1) | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 2.585 km | **Correct printed image size:** | 820 x 260 mm | **Date and time:** | 27/03/2019, 14:26:05 |

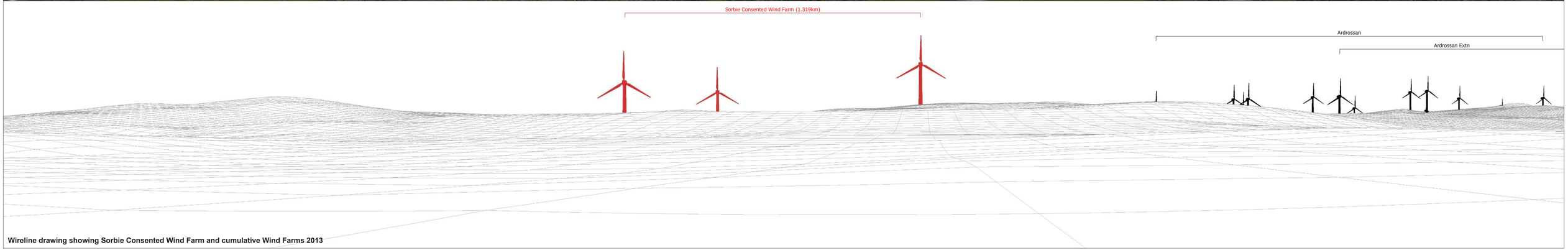
**Figure: 15e**
**Viewpoint 4: B780 and B781 junction**

| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 225486 E 648053 N | | 53.5° (planar projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 99.68 m AOD | **Principal distance** | 812.5 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 198.00° | **Paper size:** | 841 x 297 mm (half A1) | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 2.585 km | **Correct printed image size:** | 820 x 260 mm | **Date and time:** | 27/03/2019, 14:26:05 |

**Figure: 15f**
**Viewpoint 4: B780 and B781 junction**

| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 225486 E 648053 N | | 53.5° (planar projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 99.68 m AOD | **Principal distance** | 812.5 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 198.00° | **Paper size:** | 841 x 297 mm (half A1) | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 2.585 km | **Correct printed image size:** | 820 x 260 mm | **Date and time:** | 27/03/2019, 14:26:05 |

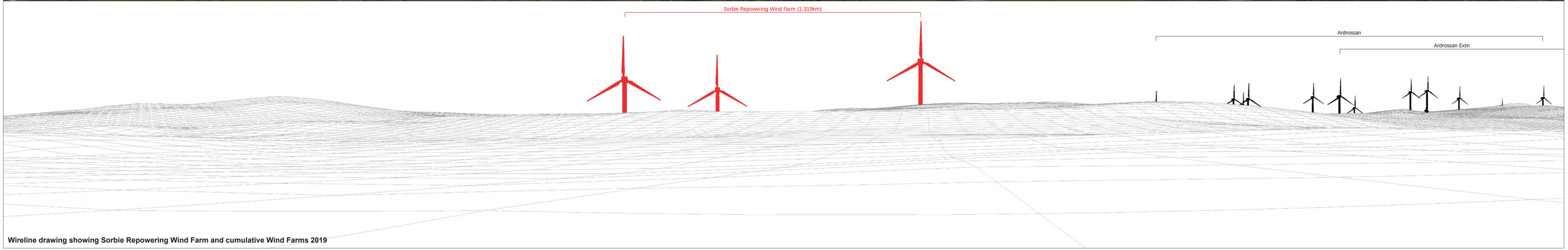
**Figure: 15g**
**Viewpoint 4: B780 and B781 junction**




**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**

| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 226031 E 645626 N | | 90° (cylindrical projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 99.68 m AOD | **Principal distance** | 522 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 262.00° | | | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 1.319 km | | | **Date and time:** | 28/03/19, 07:54 |

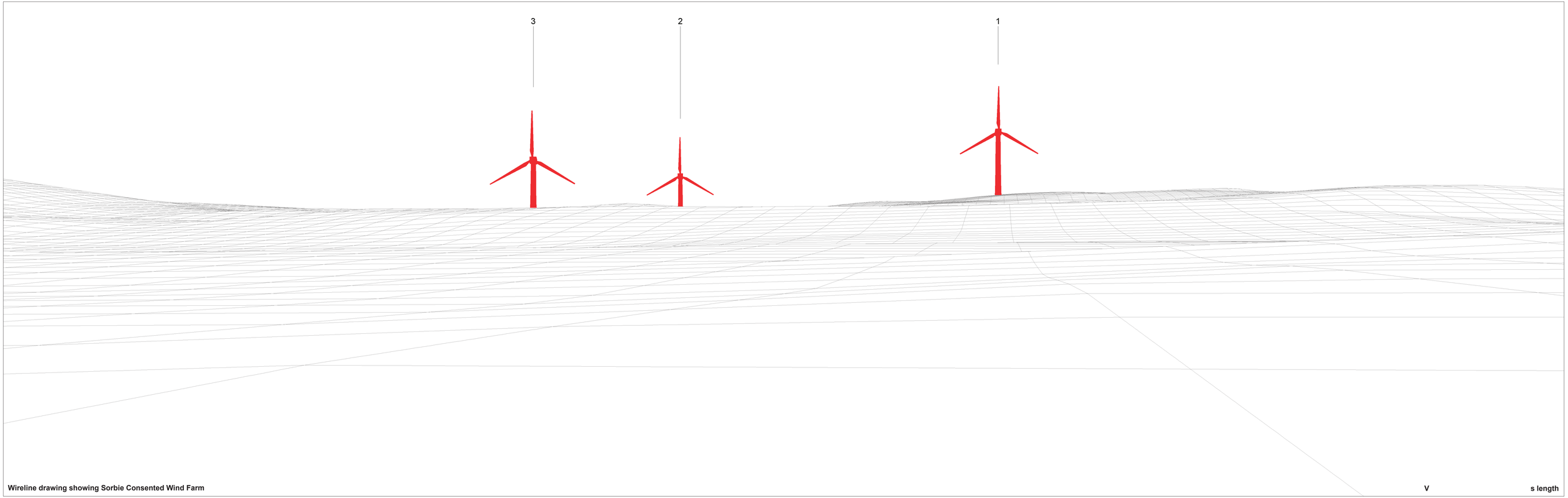
**Figure: 16b**
**Viewpoint 5: B714 Muirslaught Farm**




**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

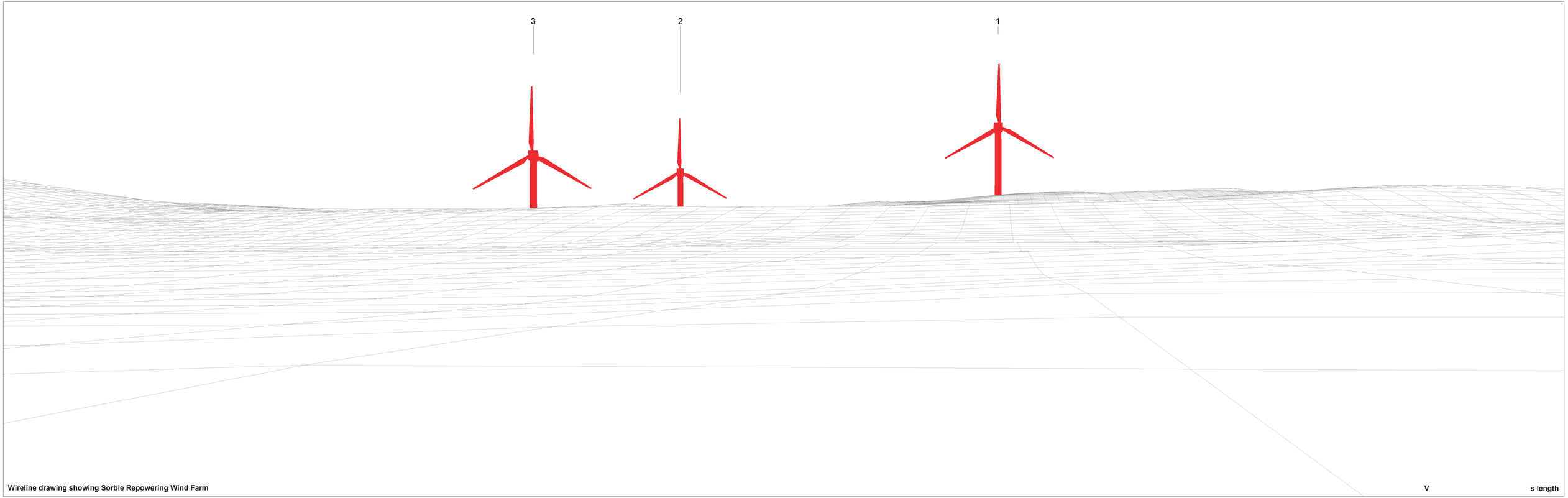
| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 226031 E 645626 N | | 90° (cylindrical projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 99.68 m AOD | **Principal distance** | 522 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 262.00° | | | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 1.319 km | | | **Date and time:** | 28/03/19, 07:54 |

**Figure: 16c**
**Viewpoint 5: B714 Muirslaught Farm**




| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 226031 E 645626 N | | 53.5° (planar projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 99.68 m AOD | **Principal distance** | 812.5 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 262.00° | **Paper size:** | 841 x 297 mm (half A1) | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 1.319 km | **Correct printed image size:** | 820 x 260 mm | **Date and time:** | 28/03/19, 07:54 |

**Figure: 16d**
**Viewpoint 5: B714 Muirslaught Farm**




| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 226031 E 645626 N | | 53.5° (planar projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 99.68 m AOD | **Principal distance** | 812.5 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 262.00° | **Paper size:** | 841 x 297 mm (half A1) | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 1.319 km | **Correct printed image size:** | 820 x 260 mm | **Date and time:** | 28/03/19, 07:54 |

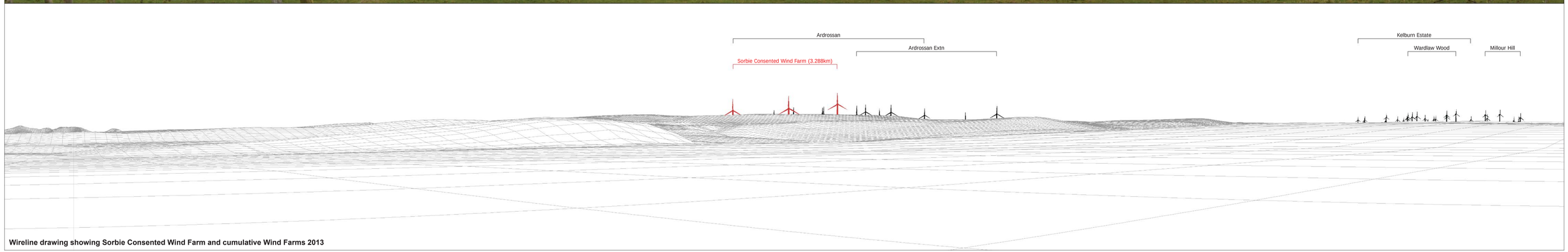
**Figure: 16e**
**Viewpoint 5: B714 Muirslaught Farm**

| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 226031 E 645626 N | | 53.5° (planar projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 99.68 m AOD | **Principal distance** | 812.5 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 262.00° | **Paper size:** | 841 x 297 mm (half A1) | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 1.319 km | **Correct printed image size:** | 820 x 260 mm | **Date and time:** | 28/03/19, 07:54 |

**Figure: 16f**
**Viewpoint 5: B714 Muirslaught Farm**

| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 226031 E 645626 N | | 53.5° (planar projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 99.68 m AOD | **Principal distance** | 812.5 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 262.00° | **Paper size:** | 841 x 297 mm (half A1) | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 1.319 km | **Correct printed image size:** | 820 x 260 mm | **Date and time:** | 28/03/19, 07:54 |

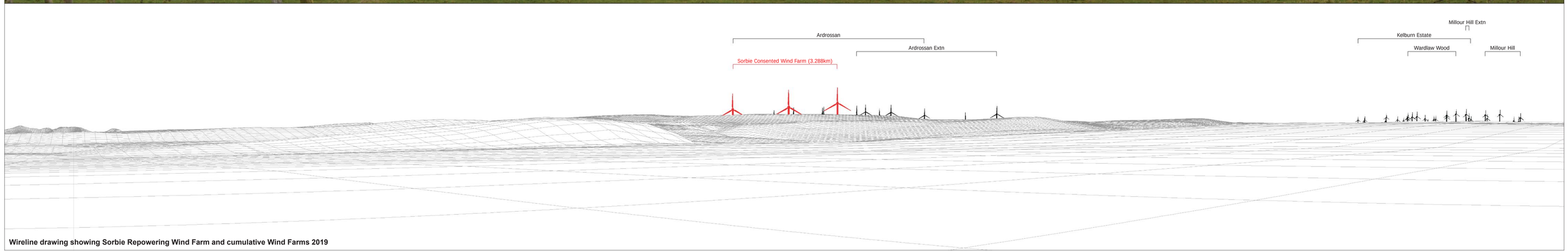
**Figure: 16g**
**Viewpoint 5: B714 Muirslaught Farm**




**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**

| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 227242 E 643068 N | | 90° (cylindrical projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 34.05 m AOD | **Principal distance** | 522 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 311.00° | | | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 3.288 km | | | **Date and time:** | 28/03/19, 08:14 |

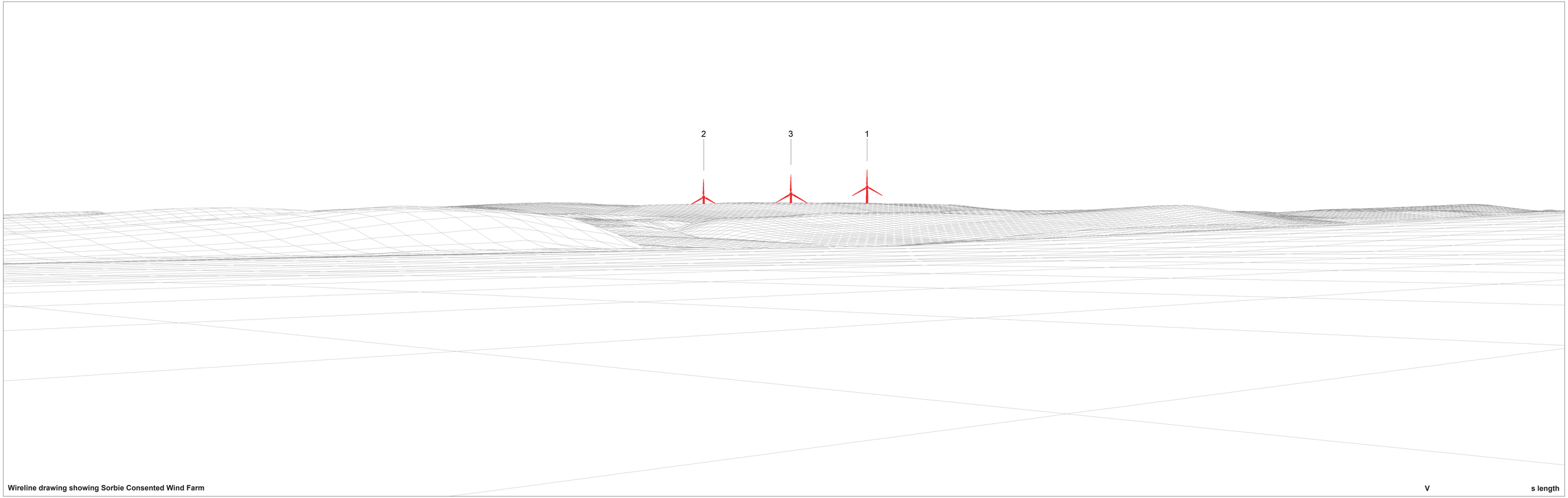
**Figure: 17b**
**Viewpoint 7: Cambuskeith Road, Stevenston**




**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

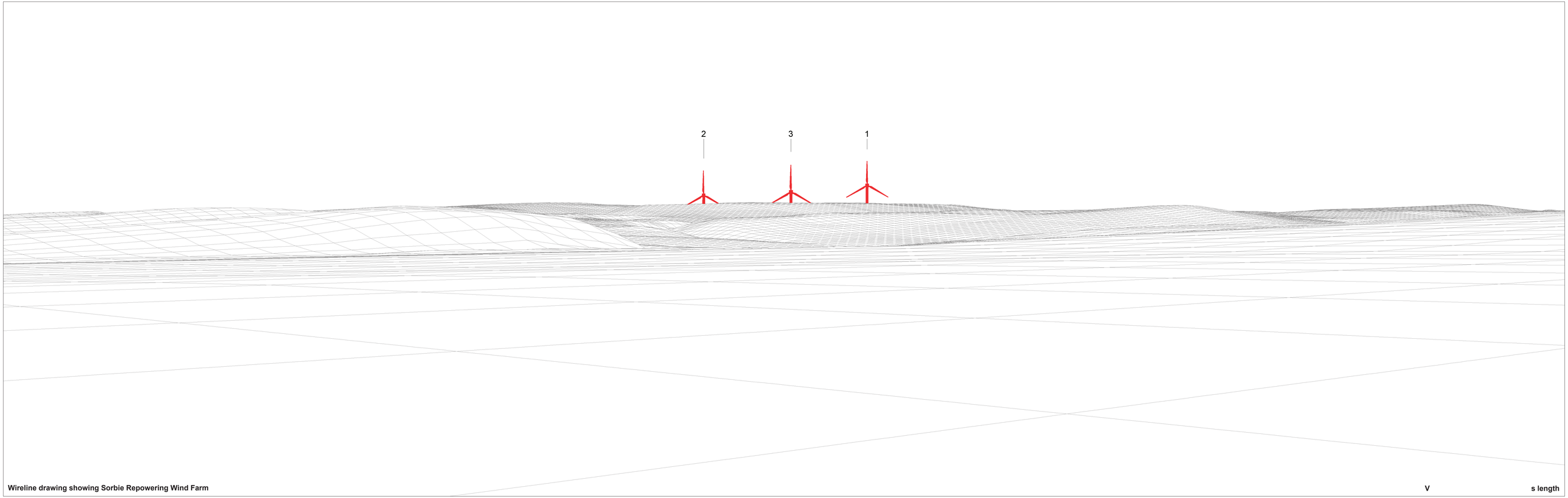
| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 227242 E 643068 N | | 90° (cylindrical projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 34.05 m AOD | **Principal distance** | 522 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 311.00° | | | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 3.288 km | | | **Date and time:** | 28/03/19, 08:14 |

**Figure: 17c**
**Viewpoint 7: Cambuskeith Road, Stevenston**




| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 227242 E 643068 N | | 53.5° (planar projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 34.05 m AOD | **Principal distance** | 812.5 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 311.00° | **Paper size:** | 841 x 297 mm (half A1) | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 3.288 km | **Correct printed image size:** | 820 x 260 mm | **Date and time:** | 28/03/19, 08:14 |

**Figure: 17d**
**Viewpoint 7: Cambuskeith Road, Stevenston**




| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 227242 E 643068 N | | 53.5° (planar projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 34.05 m AOD | **Principal distance** | 812.5 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 311.00° | **Paper size:** | 841 x 297 mm (half A1) | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 3.288 km | **Correct printed image size:** | 820 x 260 mm | **Date and time:** | 28/03/19, 08:14 |

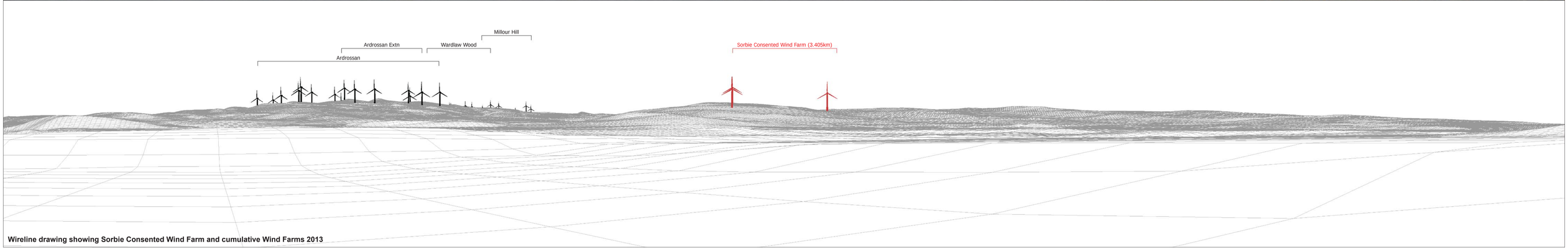
**Figure: 17e**
**Viewpoint 7: Cambuskeith Road, Stevenston**

| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 227242 E 643068 N | | 53.5° (planar projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 34.05 m AOD | **Principal distance** | 812.5 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 311.00° | **Paper size:** | 841 x 297 mm (half A1) | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 3.288 km | **Correct printed image size:** | 820 x 260 mm | **Date and time:** | 28/03/19, 08:14 |

**Figure: 17f**
**Viewpoint 7: Cambuskeith Road, Stevenston**

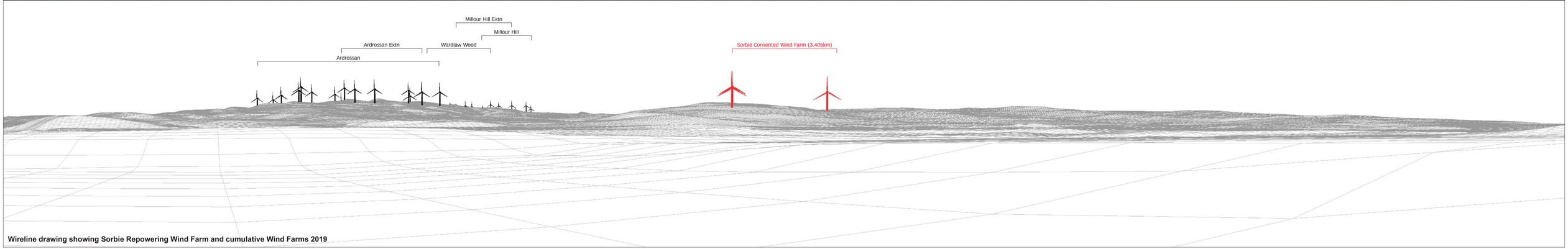
| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 227242 E 643068 N | | 53.5° (planar projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 34.05 m AOD | **Principal distance** | 812.5 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 311.00° | **Paper size:** | 841 x 297 mm (half A1) | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 3.288 km | **Correct printed image size:** | 820 x 260 mm | **Date and time:** | 28/03/19, 08:14 |

**Figure: 17g**
**Viewpoint 7: Cambuskeith Road, Stevenston**



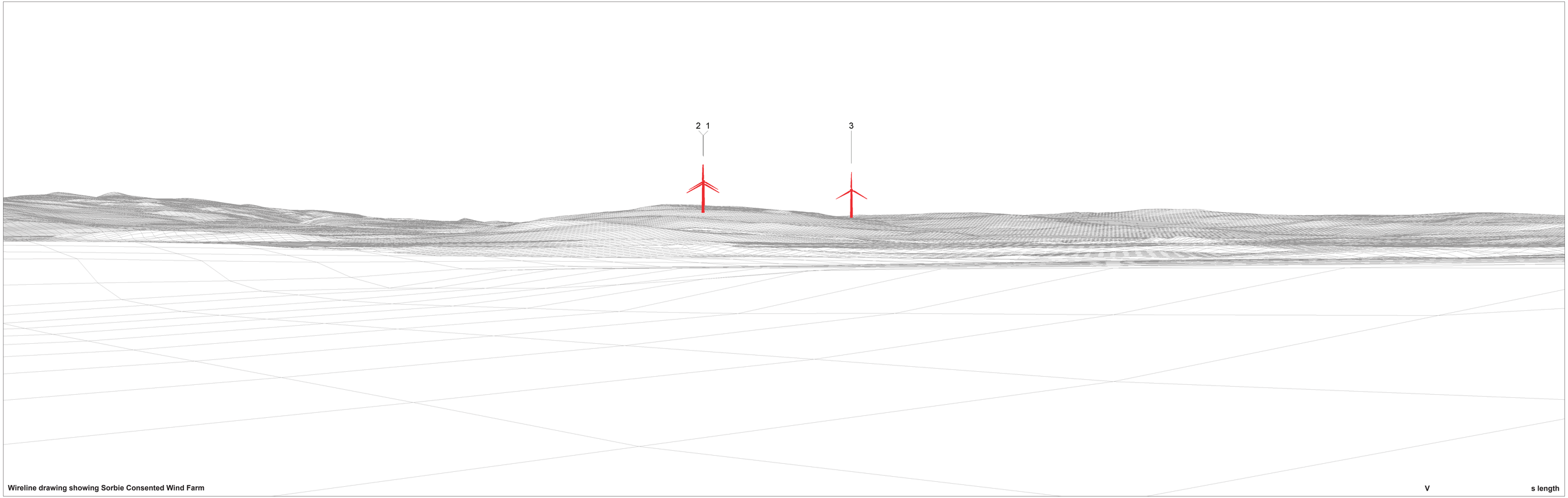

| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 222703 E 642337 N | | 90° (cylindrical projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 3.30 m AOD | **Principal distance** | 522 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 33.00° | | | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 3.405 km | | | **Date and time:** | 27/03/19, 15:39 |

**Figure: 18b**
**Viewpoint 18: Ardrossan Harbour**



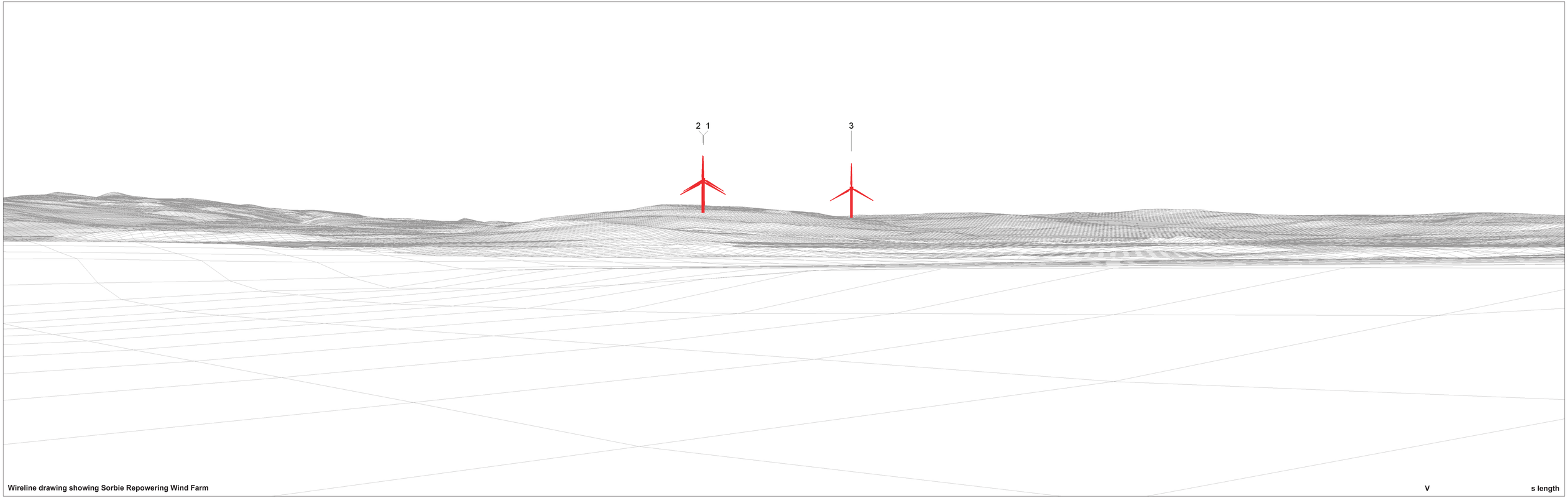

| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 222703 E 642337 N | | 90° (cylindrical projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 3.30 m AOD | **Principal distance** | 522 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 33.00° | | | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 3.405 km | | | **Date and time:** | 27/03/19, 15:39 |

**Figure: 18c**
**Viewpoint 18: Ardrossan Harbour**




| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 222703 E 642337 N | | 53.5° (planar projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 3.30 m AOD | **Principal distance** | 812.5 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 33.00° | **Paper size:** | 841 x 297 mm (half A1) | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 3.405 km | **Correct printed image size:** | 820 x 260 mm | **Date and time:** | 27/03/19, 15:39 |

**Figure: 18d**
**Viewpoint 18: Ardrossan Harbour**




| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 222703 E 642337 N | | 53.5° (planar projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 3.30 m AOD | **Principal distance** | 812.5 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 33.00° | **Paper size:** | 841 x 297 mm (half A1) | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 3.405 km | **Correct printed image size:** | 820 x 260 mm | **Date and time:** | 27/03/19, 15:39 |

**Figure: 18e**
**Viewpoint 18: Ardrossan Harbour**

| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 222703 E 642337 N | | 53.5° (planar projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 3.30 m AOD | **Principal distance** | 812.5 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 33.00° | **Paper size:** | 841 x 297 mm (half A1) | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 3.405 km | **Correct printed image size:** | 820 x 260 mm | **Date and time:** | 27/03/19, 15:39 |

**Figure: 18f**
**Viewpoint 18: Ardrossan Harbour**

| | | | | | |
|---|---|---|---|---|---|
| **OS reference:** | 222703 E 642337 N | | 53.5° (planar projection) | **Camera:** | Canon EOS 5D Mark II |
| **Eye level:** | 3.30 m AOD | **Principal distance** | 812.5 mm | **Lens:** | 50mm (Canon EF 50mm f/1.4) |
| **Direction of view:** | 33.00° | **Paper size:** | 841 x 297 mm (half A1) | **Camera height:** | 1.5 m AGL |
| **Nearest turbine:** | 3.405 km | **Correct printed image size:** | 820 x 260 mm | **Date and time:** | 27/03/19, 15:39 |

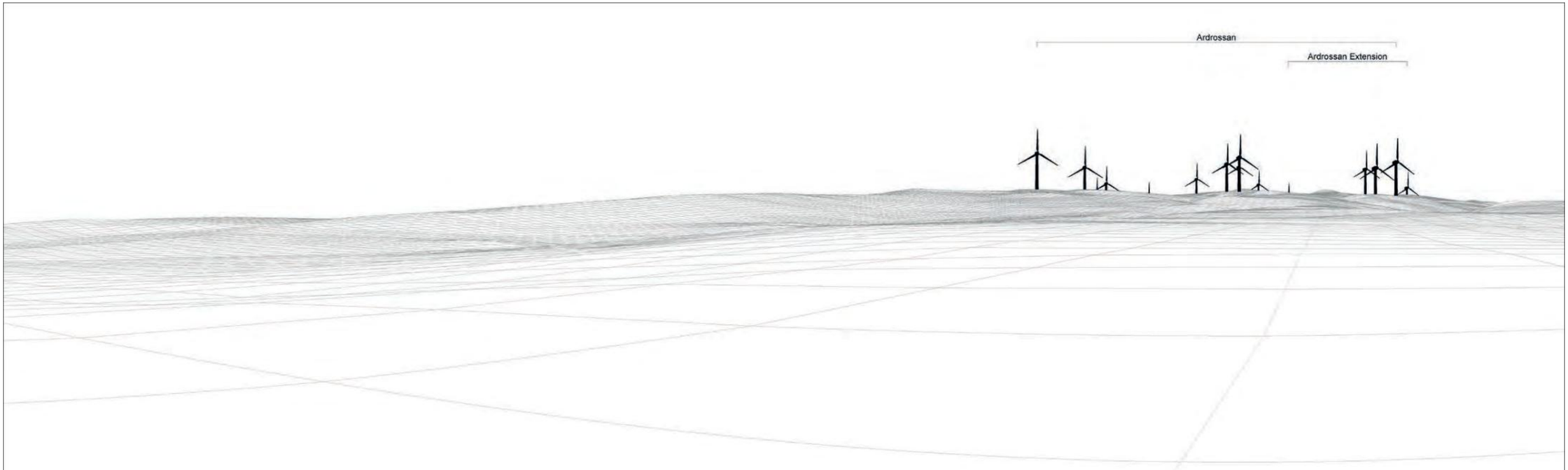
**Figure: 18g**
**Viewpoint 18: Ardrossan Harbour**

April 2019

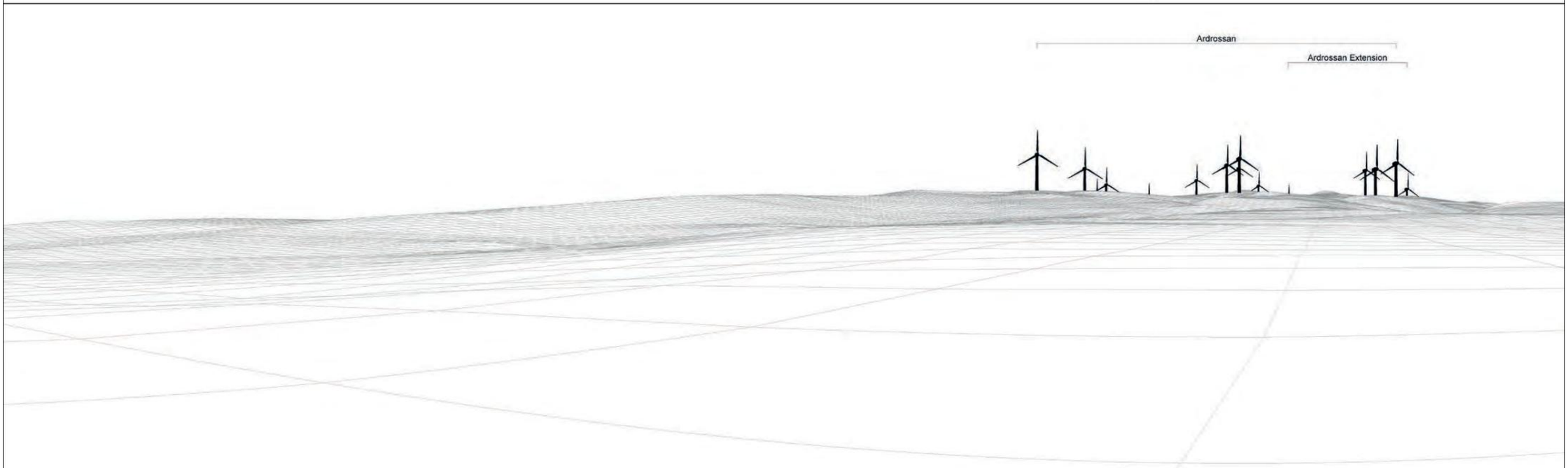
Sorbie Repowering Wind Farm

# ANNEX 4: Cumulative Wirelines

## Supporting Updated Landscape & Visual Impact Assessment Tables



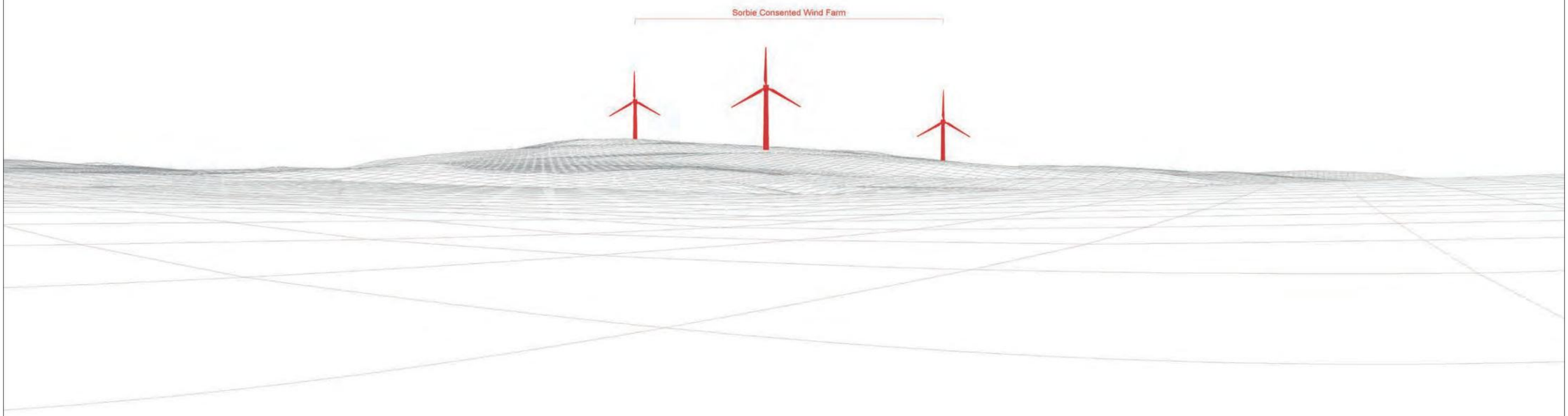

**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**



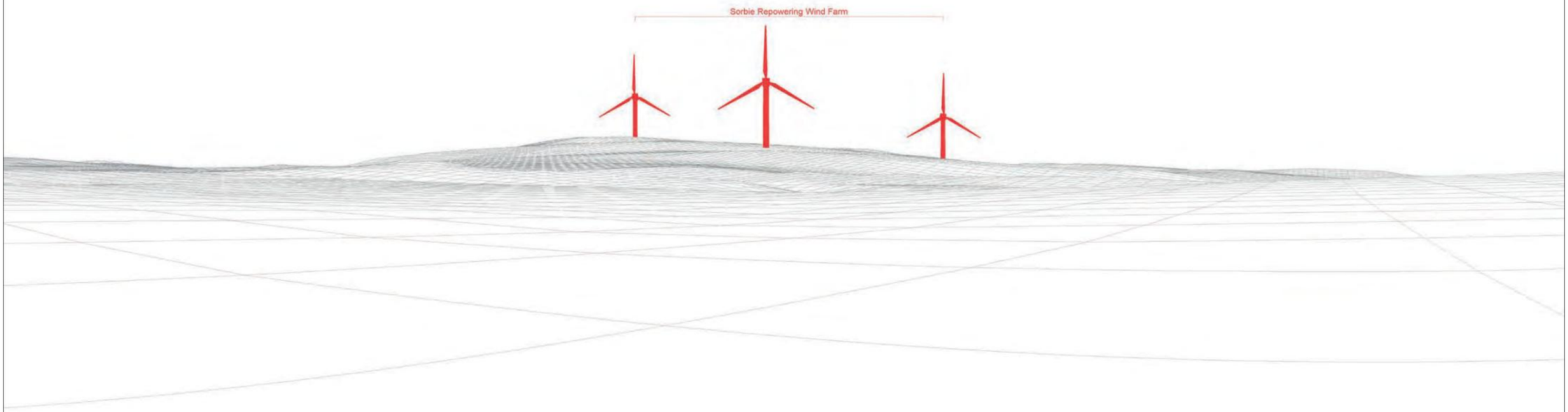

**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 223535 E 644741 N | | 90° (cylindrical projection) |
| **Eye level:** | 57.61 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 329.00° | | |
| **Nearest turbine:** | 1.027 km | | |

**Figure: 19b**
**Viewpoint 1: B780 near site**



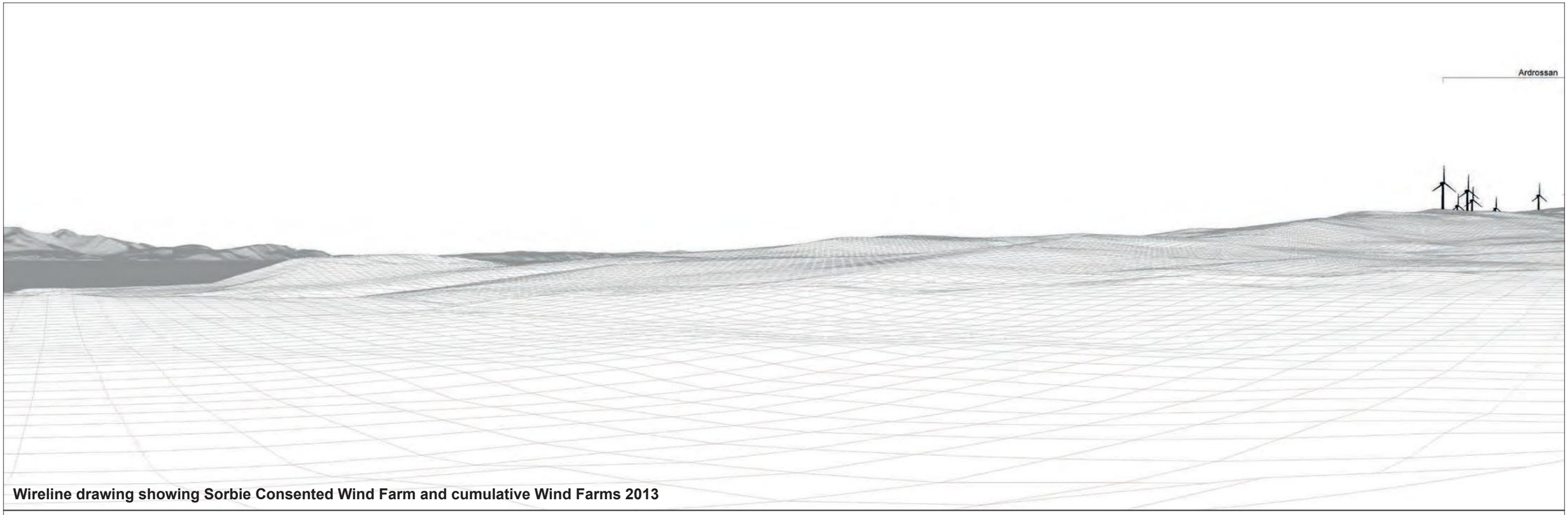

**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**



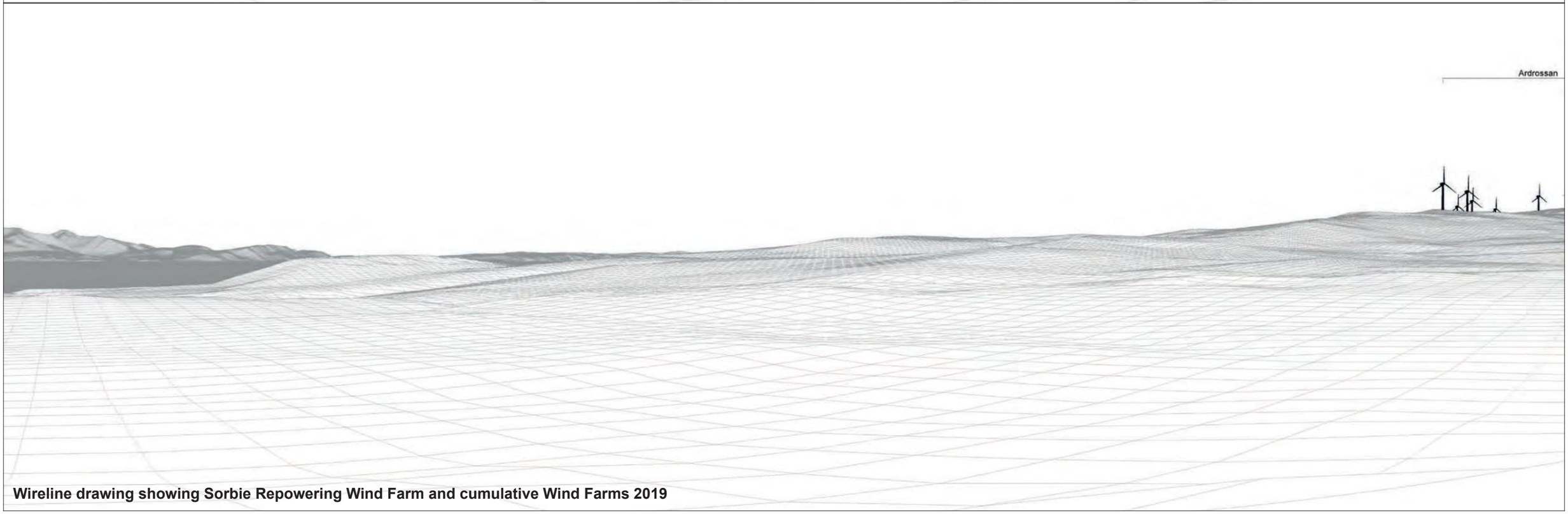

**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 223535 E 644741 N | | 90° (cylindrical projection) |
| **Eye level:** | 57.61 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 59.00° | | |
| **Nearest turbine:** | 1.027 km | | |

**Figure: 19c**
**Viewpoint 1: B780 near site**



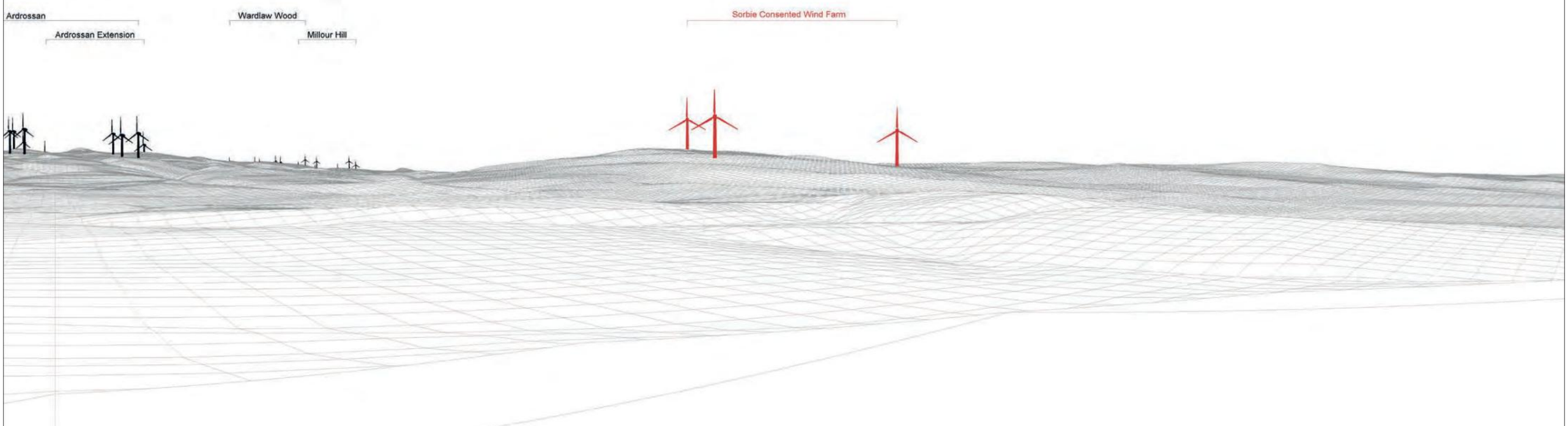

**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**



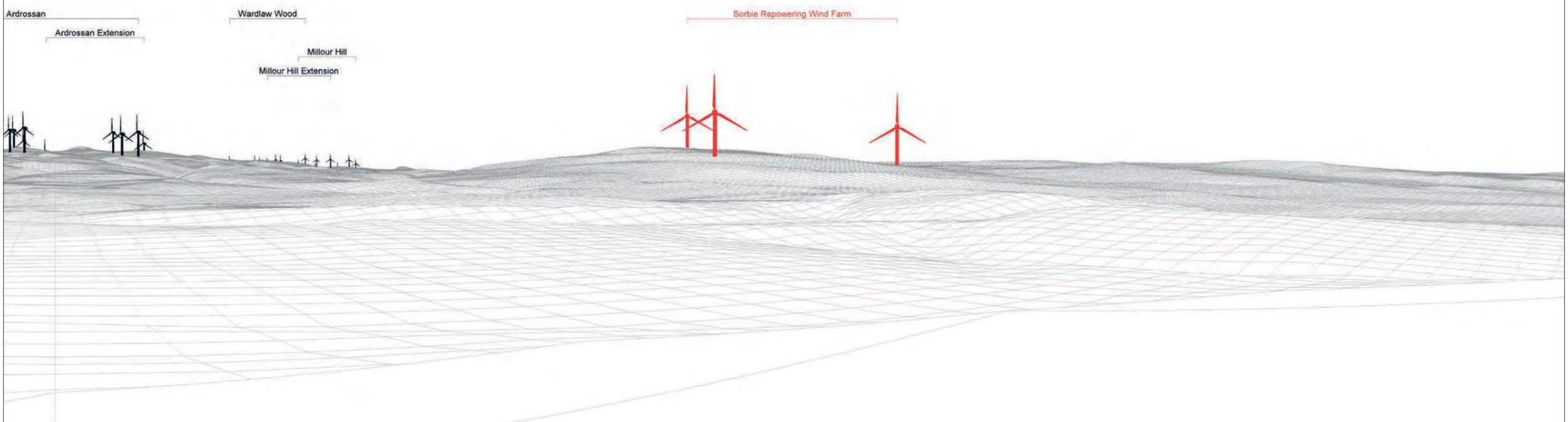

**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 223464 E 644081 N | | 90° (cylindrical projection) |
| **Eye level:** | 60.25 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 312.00° | | |
| **Nearest turbine:** | 1.529 km | | |

**Figure: 20b**
**Viewpoint 2: Chapelhill Ardrossan**



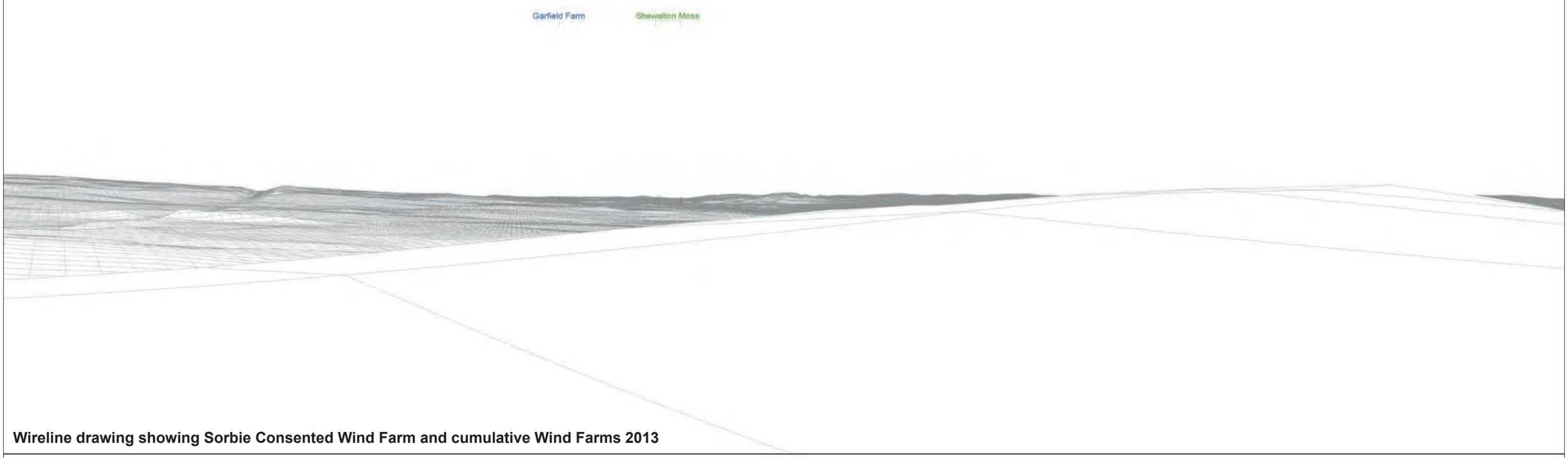

**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**




**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 223464 E 644081 N | | 90° (cylindrical projection) |
| **Eye level:** | 60.25 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 42.00° | | |
| **Nearest turbine:** | 1.529 km | | |

**Figure: 20c**
**Viewpoint 2: Chapelhill Ardrossan**

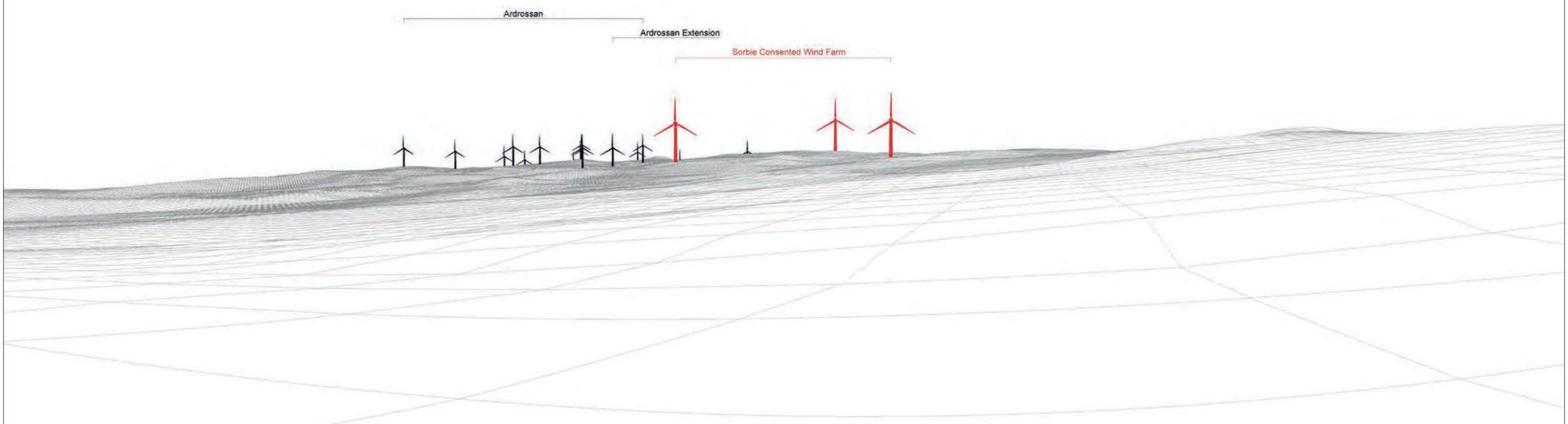



**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**

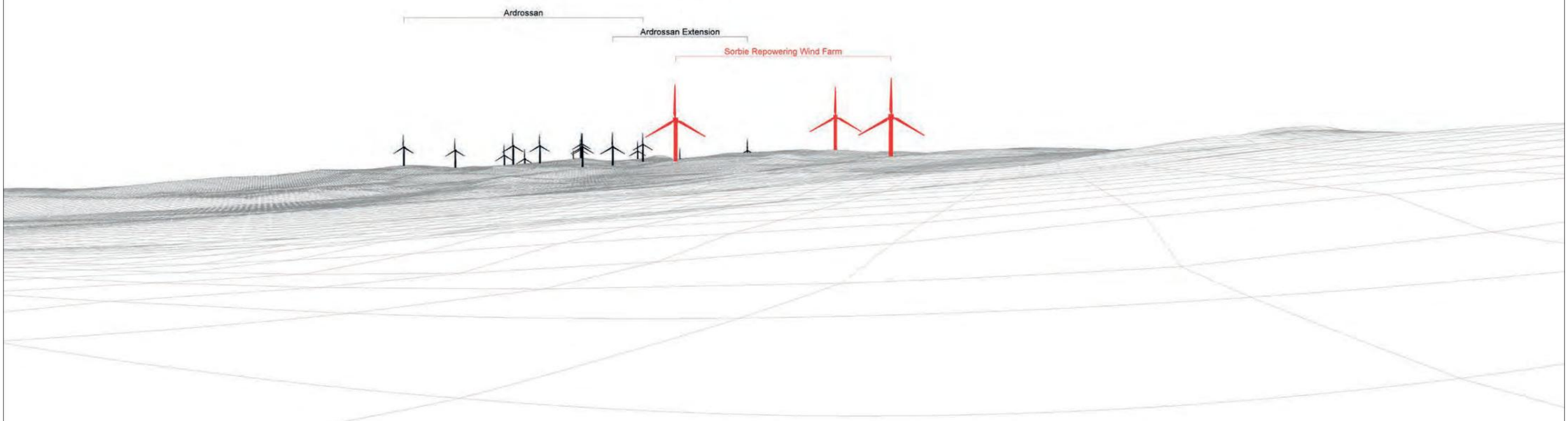
**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 223464 E 644081 N | | 90° (cylindrical projection) |
| **Eye level:** | 60.25 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 132.00° | | |
| **Nearest turbine:** | 1.529 km | | |

**Figure: 20d**
**Viewpoint 2: Chapelhill Ardrossan**



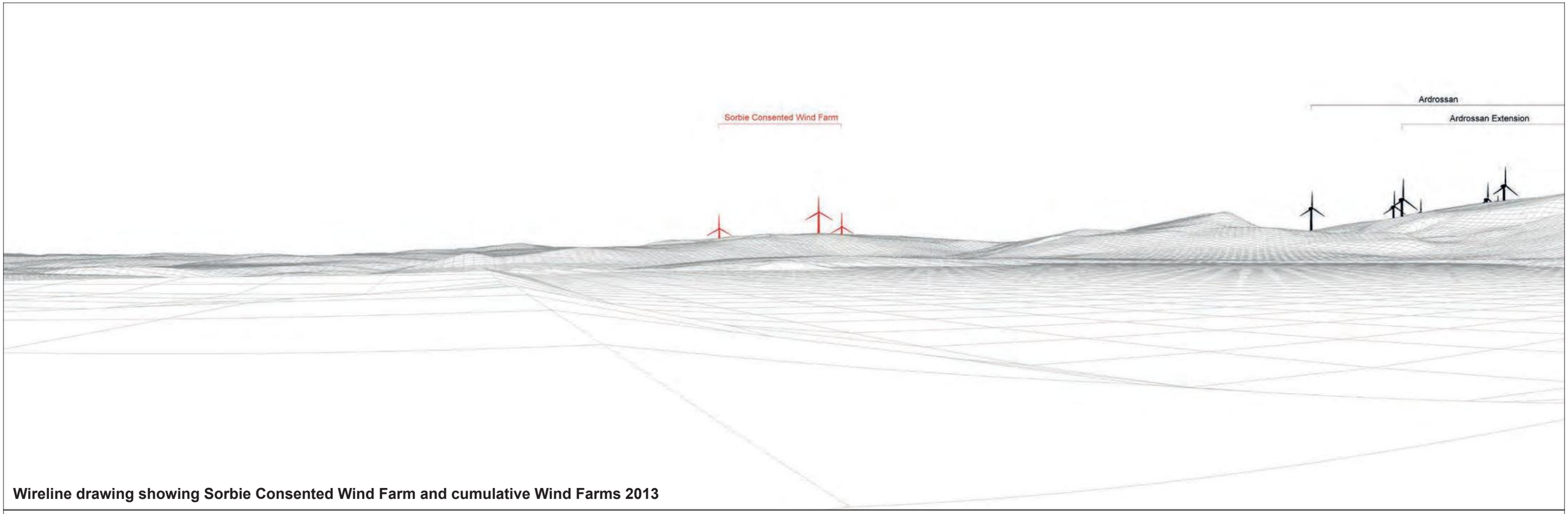

**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**



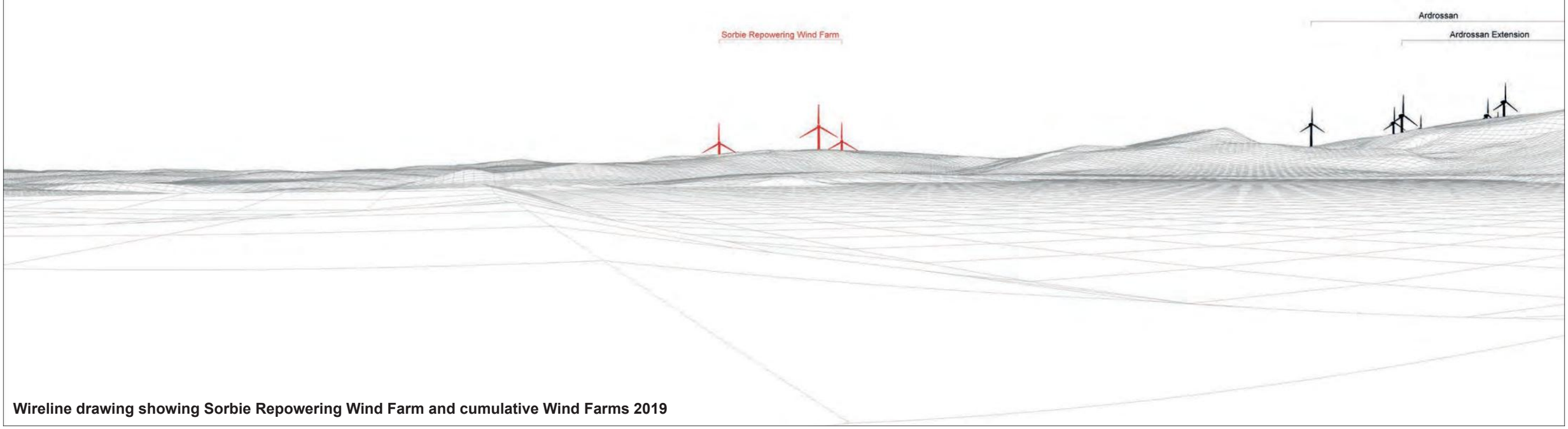

**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 225000 E 643759 N | | 90° (cylindrical projection) |
| **Eye level:** | 62.81 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 345.00° | | |
| **Nearest turbine:** | 1.494 km | | |

**Figure: 21b**
**Viewpoint 3: A78 Layby**



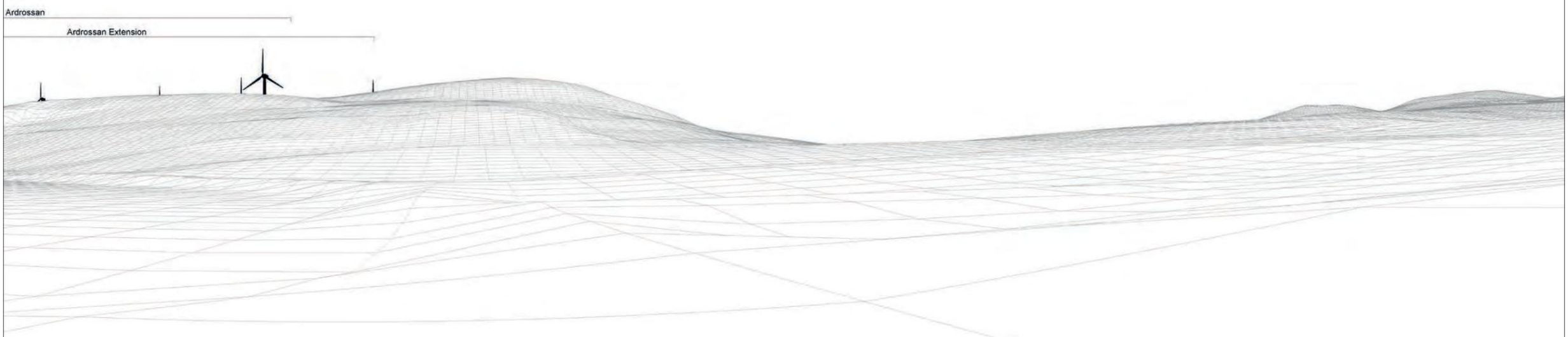

**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**



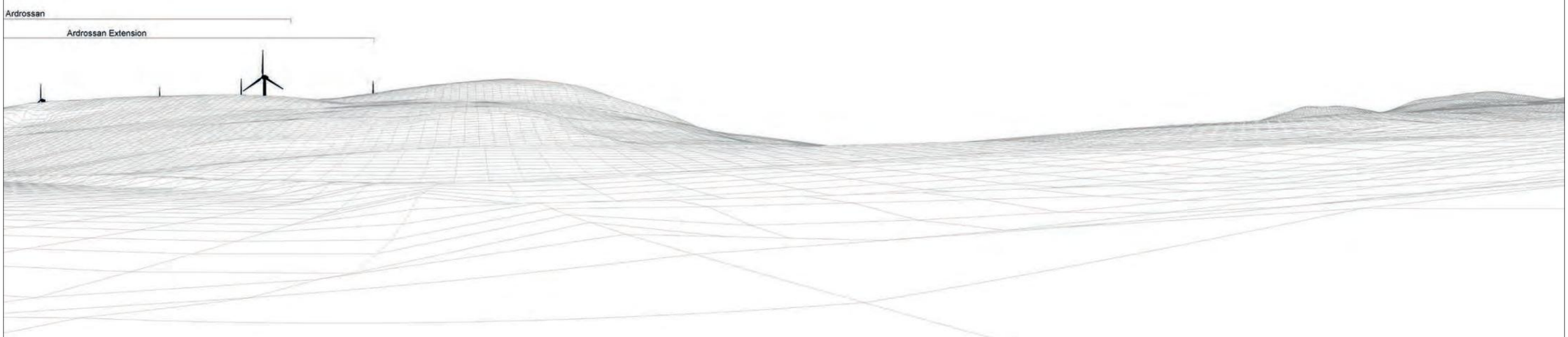

**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 225486 E 648053 N | | 90° (cylindrical projection) |
| **Eye level:** | 99.68 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 198.00° | | |
| **Nearest turbine:** | 2.585 km | | |

**Figure: 22b**
**Viewpoint 4: B780 and B781 junction**



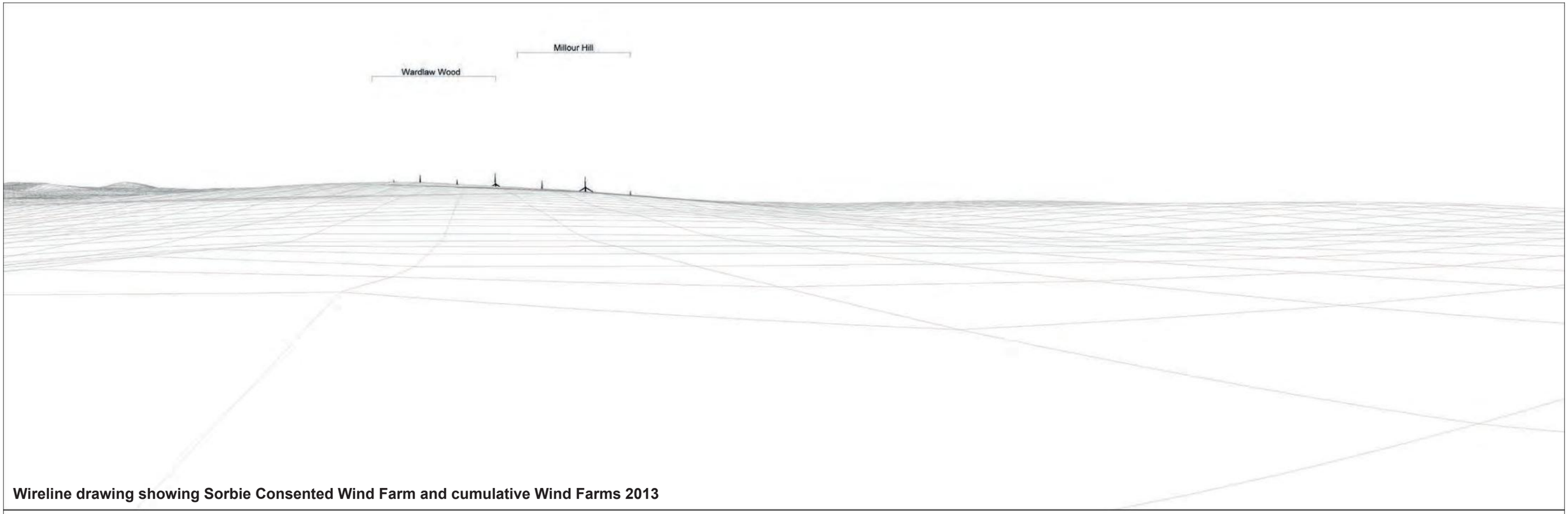

**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**



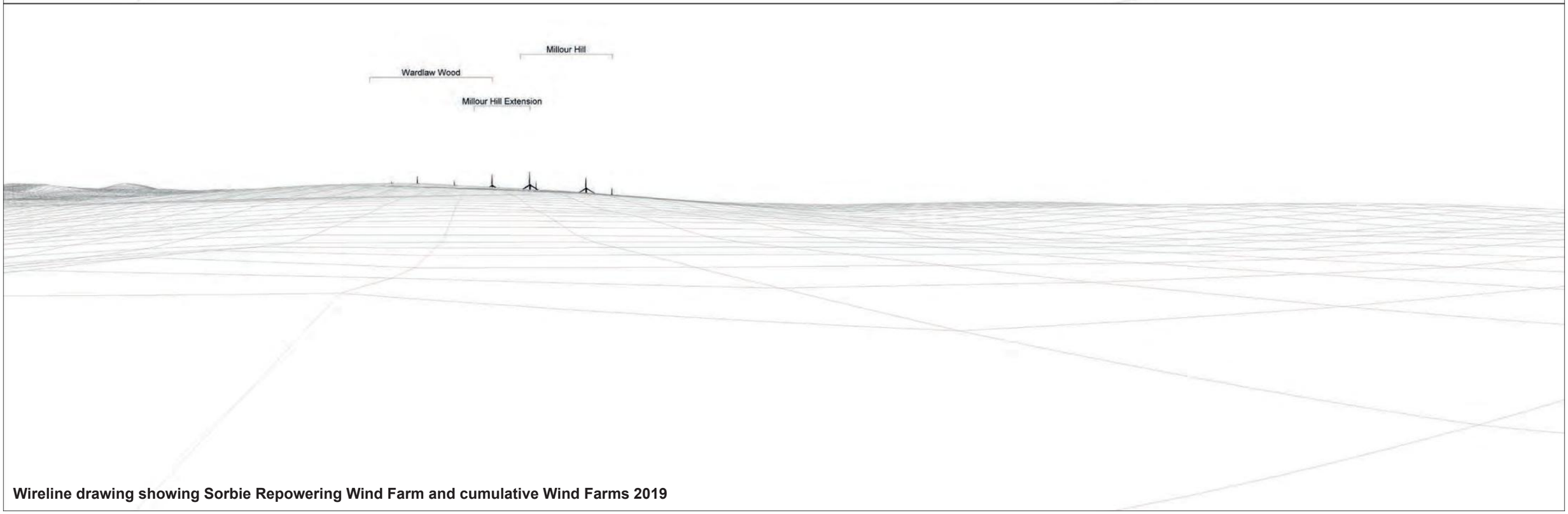

**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 225486 E 648053 N | | 90° (cylindrical projection) |
| **Eye level:** | 99.68 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 288.00° | | |
| **Nearest turbine:** | 2.585 km | | |

**Figure: 22c**
**Viewpoint 4: B780 and B781 junction**



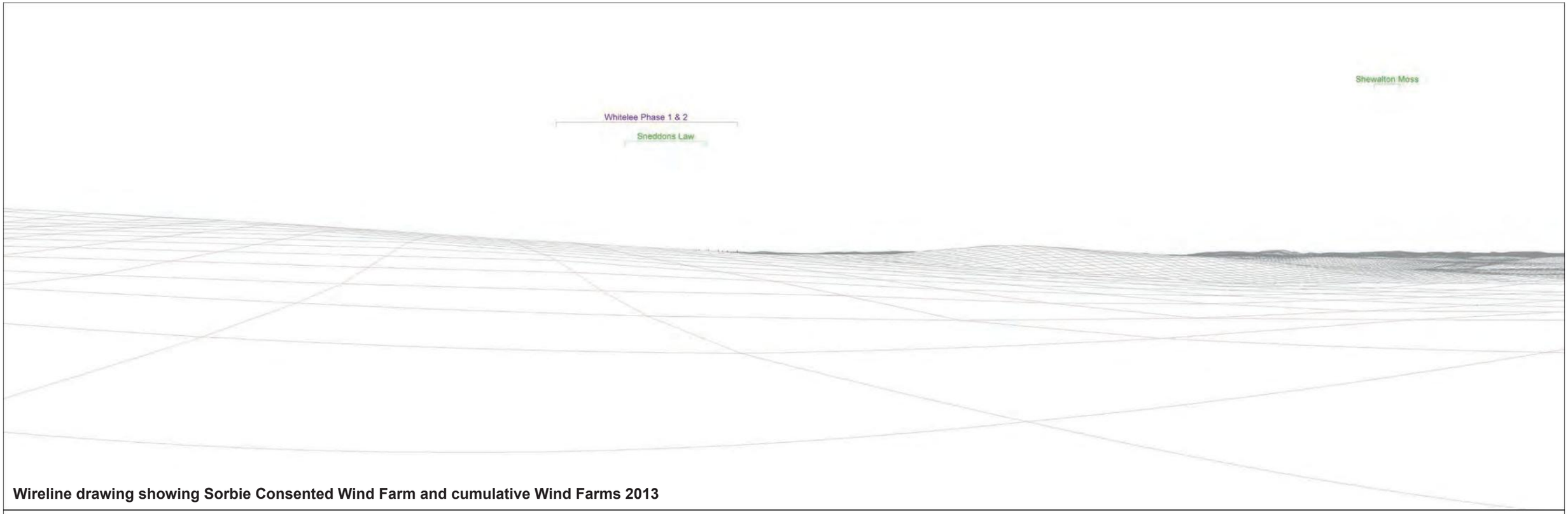

**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**



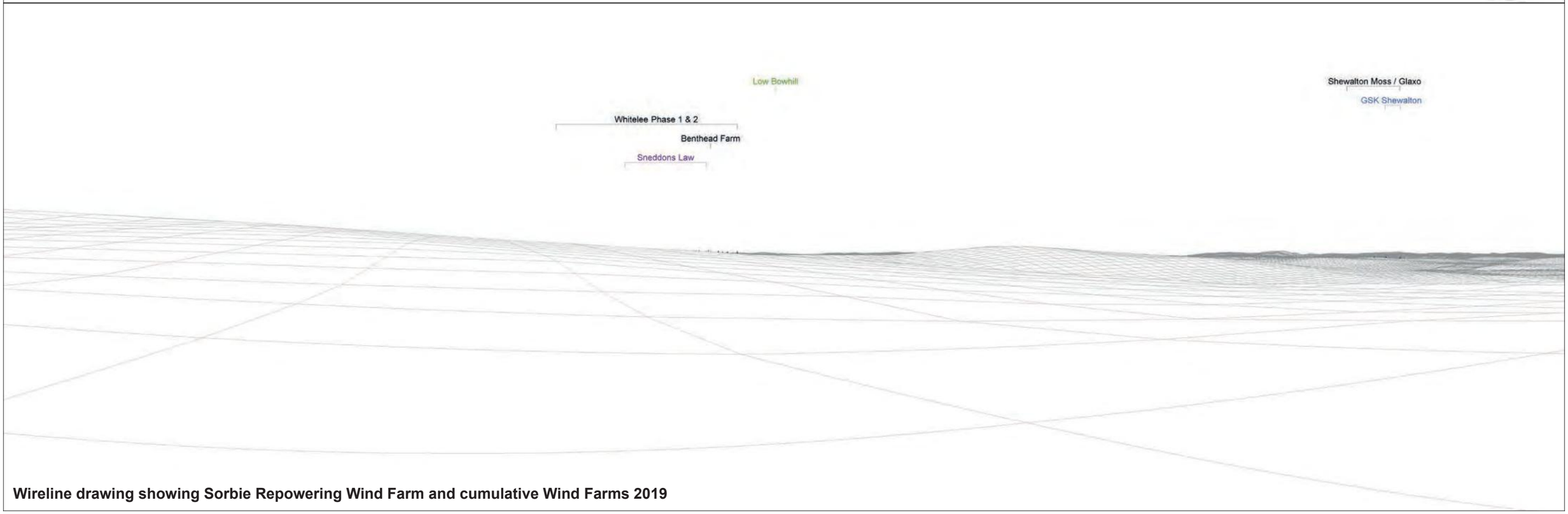

**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 225486 E 648053 N | | 90° (cylindrical projection) |
| **Eye level:** | 99.68 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 18.00° | | |
| **Nearest turbine:** | 2.585 km | | |

**Figure: 22d**
**Viewpoint 4: B780 and B781 junction**



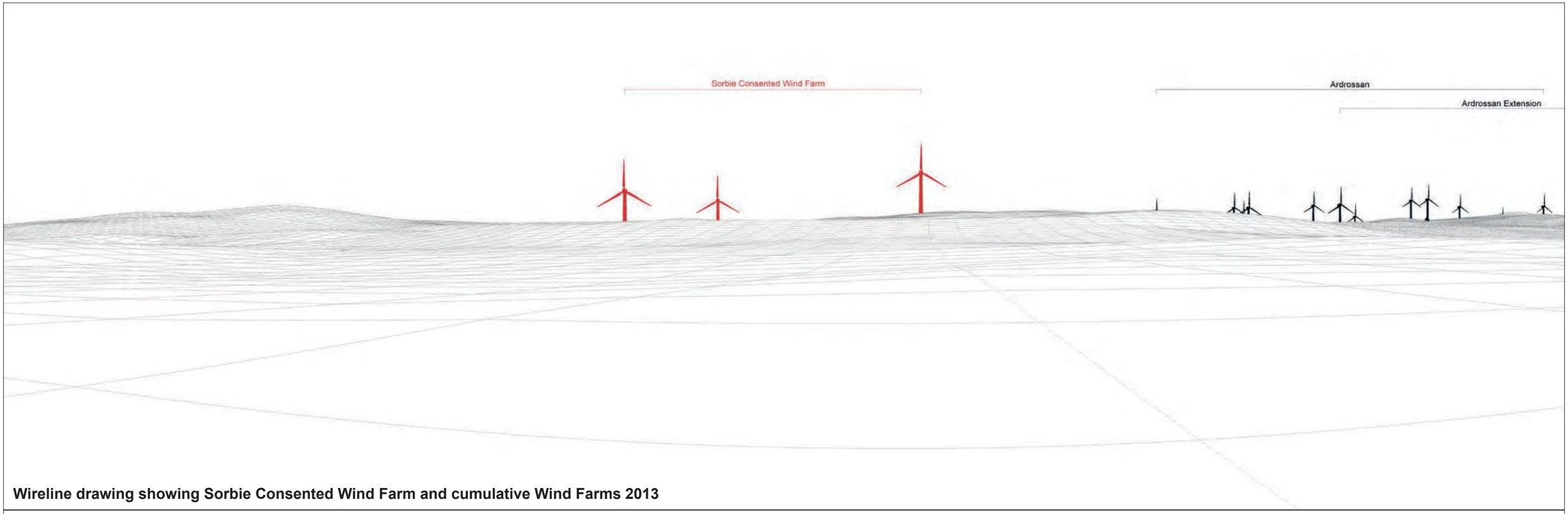

**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**



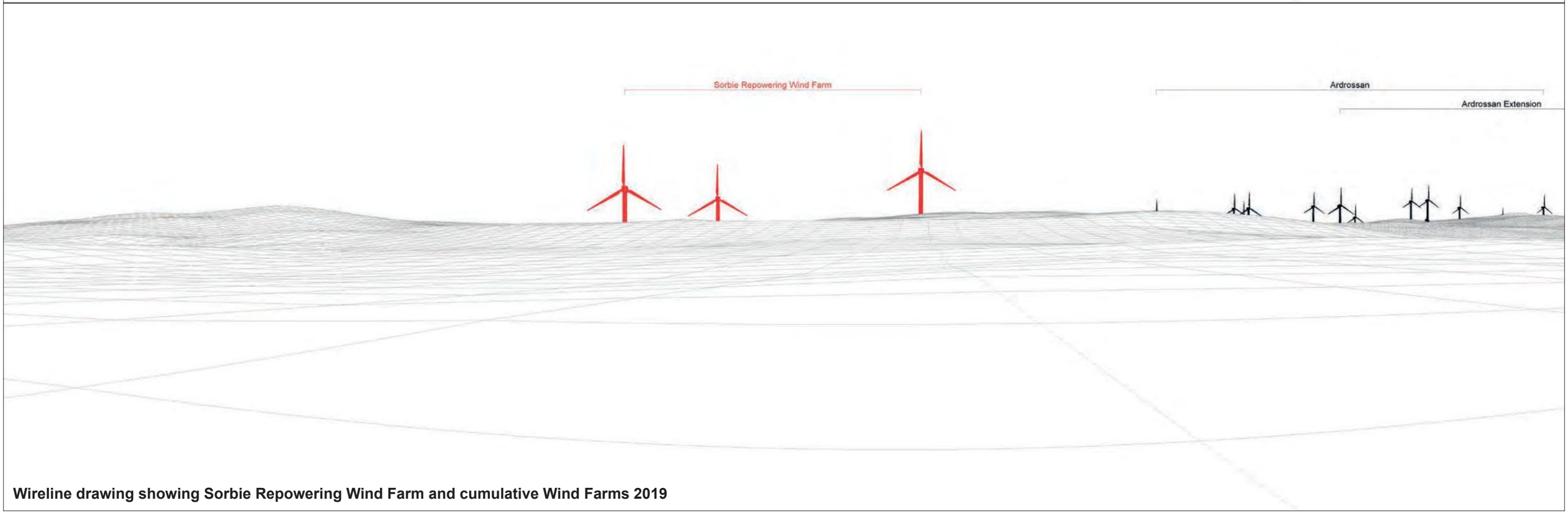

**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 225486 E 648053 N | | 90° (cylindrical projection) |
| **Eye level:** | 99.68 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 108.00° | | |
| **Nearest turbine:** | 2.585 km | | |

**Figure: 22e**
**Viewpoint 4: B780 and B781 junction**



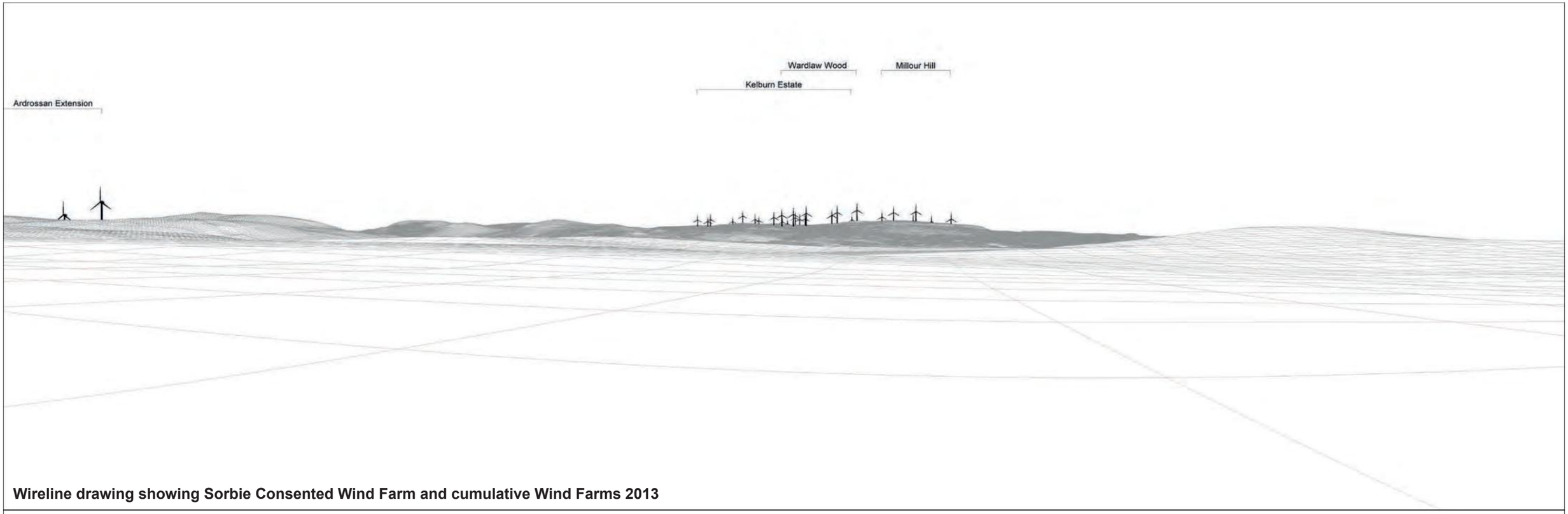

**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**



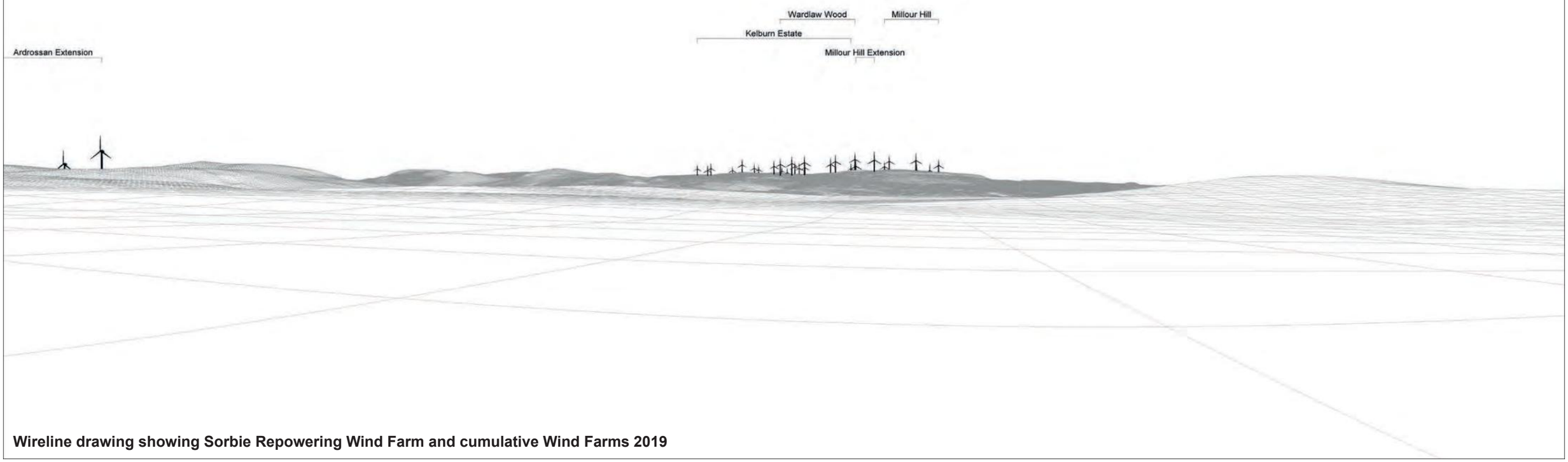

**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 226031 E 645626 N | | 90° (cylindrical projection) |
| **Eye level:** | 99.68 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 262.00° | | |
| **Nearest turbine:** | 1.319 km | | |

**Figure: 23b**
**Viewpoint 5: B714 Muirslaught Farm**



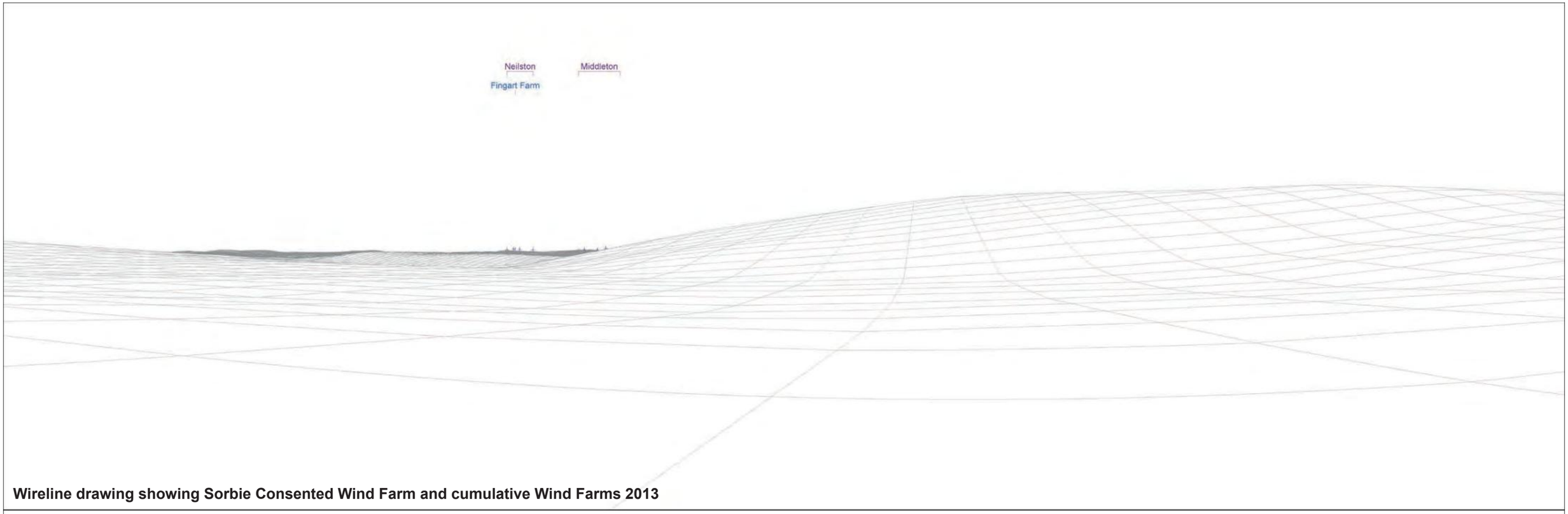

**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**



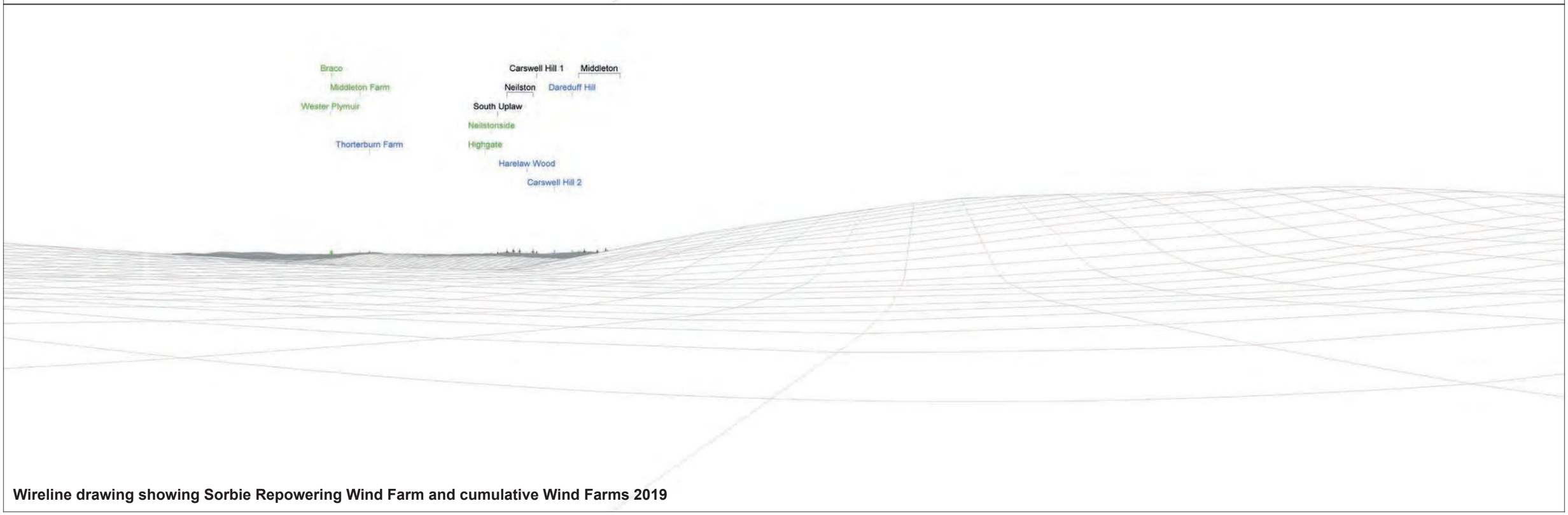

**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 226031 E 645626 N | | 90° (cylindrical projection) |
| **Eye level:** | 99.68 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 352.00° | | |
| **Nearest turbine:** | 1.319 km | | |

**Figure: 23c**
**Viewpoint 5: B714 Muirslaught Farm**



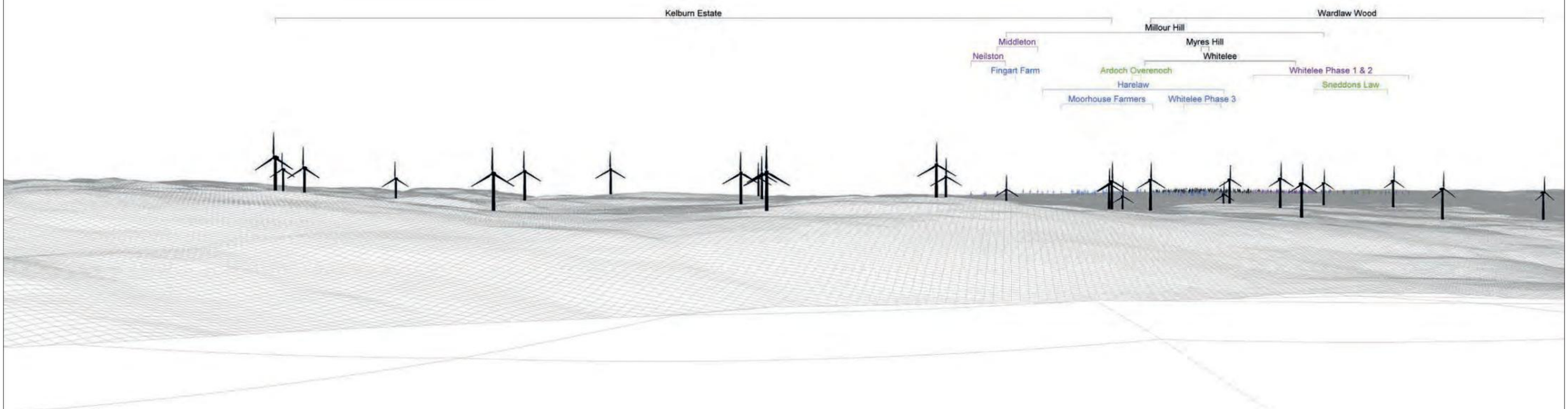

**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**



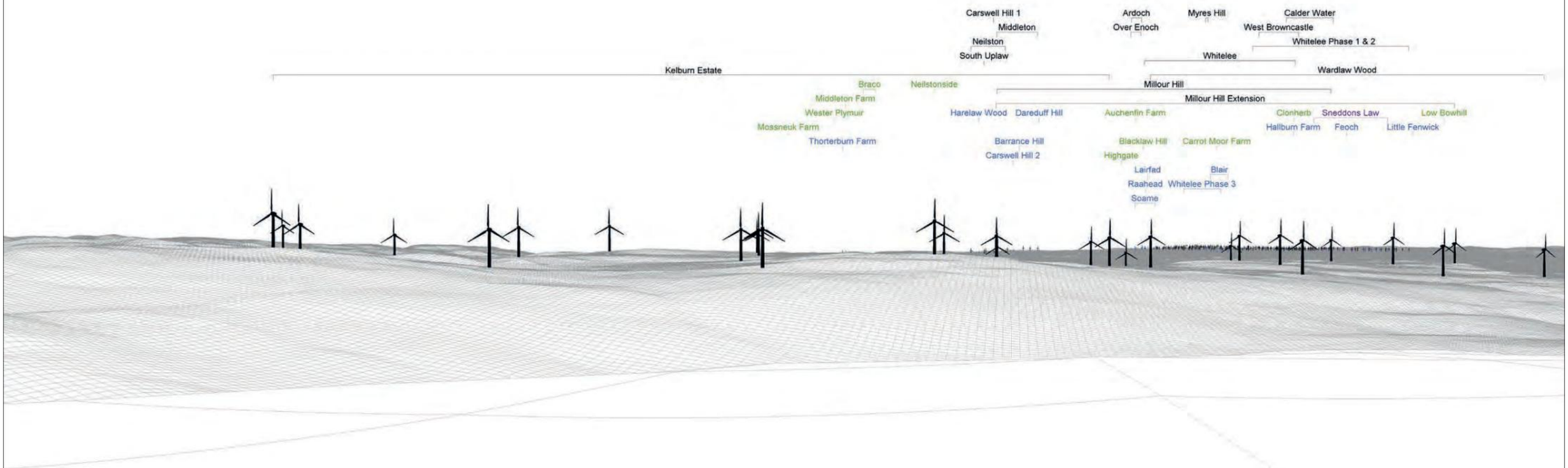

**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 226031 E 645626 N | | 90° (cylindrical projection) |
| **Eye level:** | 99.68 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 82.00° | | |
| **Nearest turbine:** | 1.319 km | | |

**Figure: 23d**
**Viewpoint 5: B714 Muirslaught Farm**



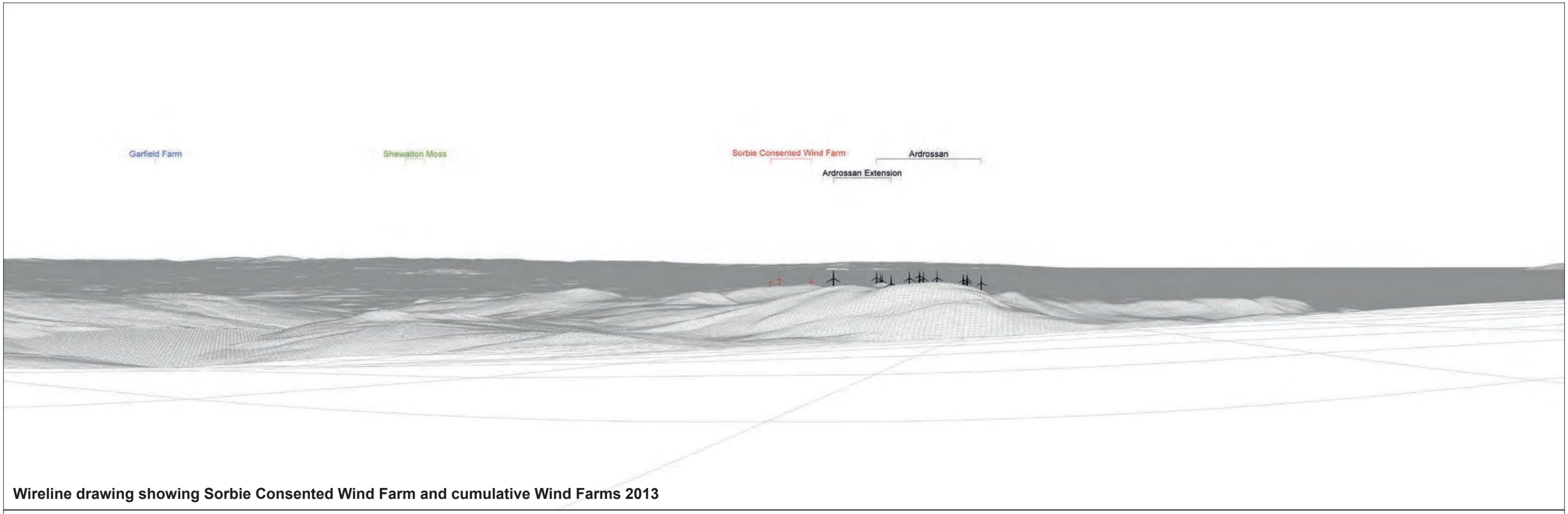

**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**



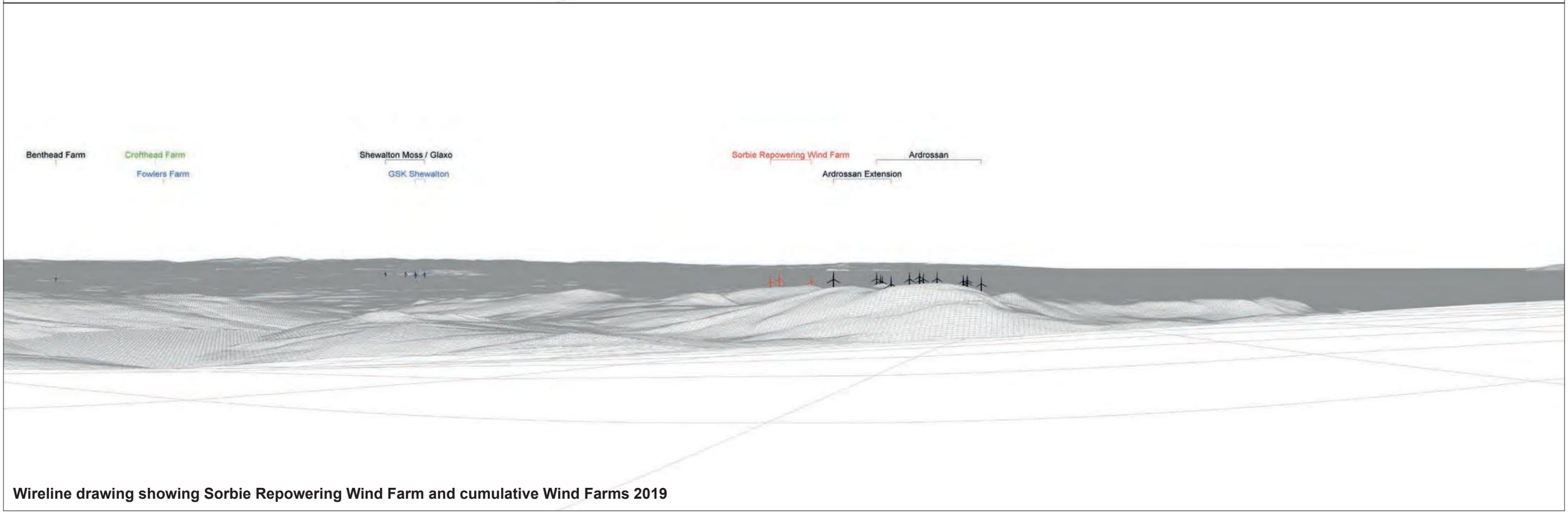

**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 222761 E 653430 N | | 90° (cylindrical projection) |
| **Eye level:** | 387.46 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 77.00° | | |
| **Nearest turbine:** | 8.021 km | | |

**Figure: 24b**
**Viewpoint 6: Kaim Hill**



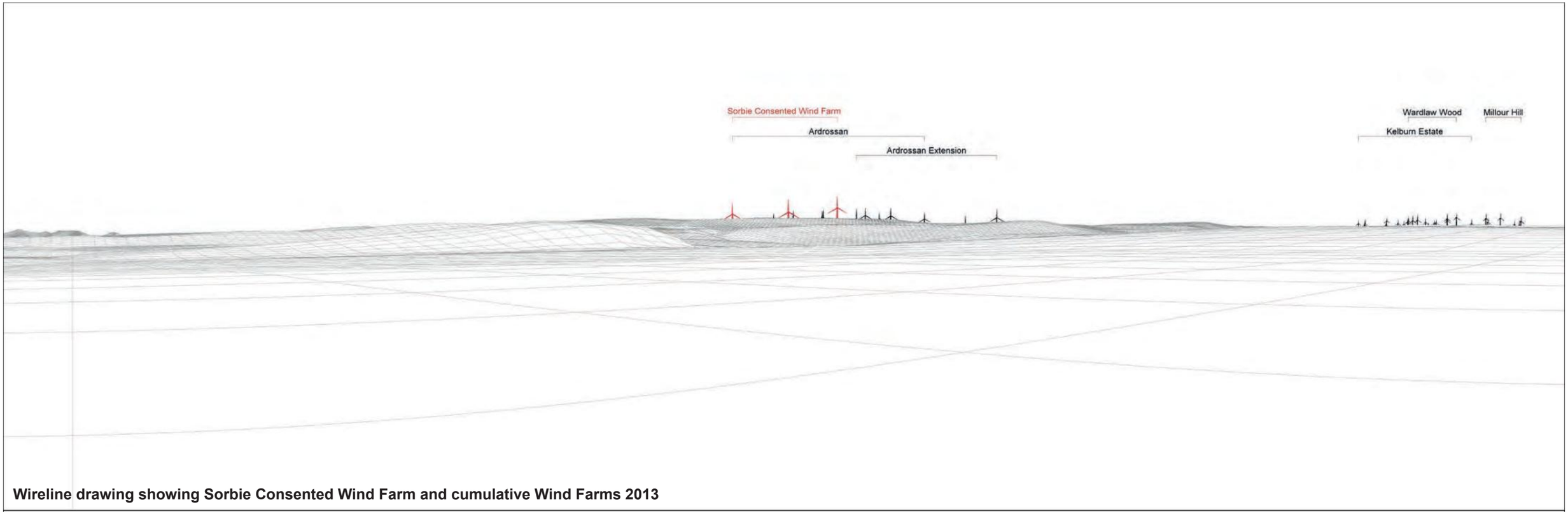

**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**



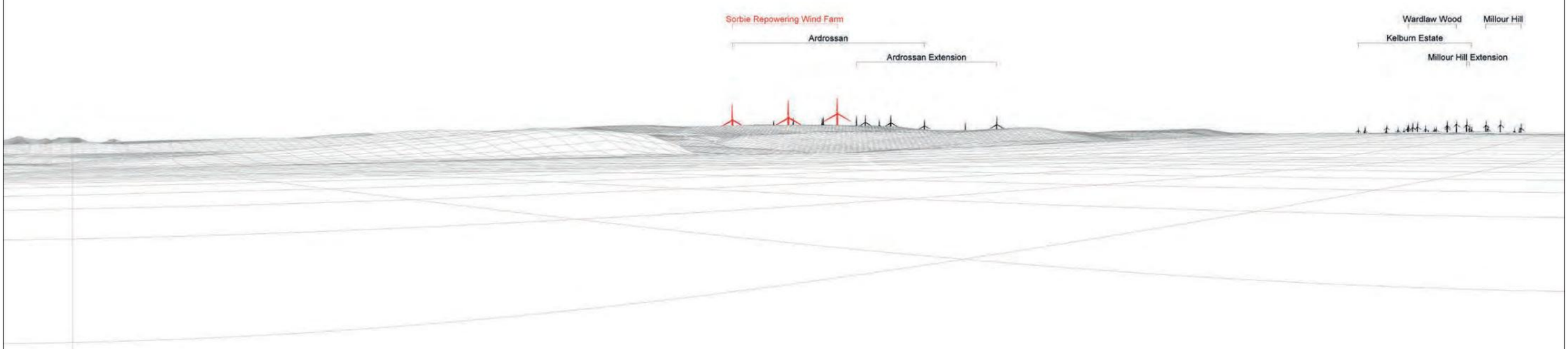

**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 222761 E 653430 N | | 90° (cylindrical projection) |
| **Eye level:** | 387.46 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 167.00° | | |
| **Nearest turbine:** | 8.021 km | | |

**Figure: 24c**
**Viewpoint 6: Kaim Hill**




**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**

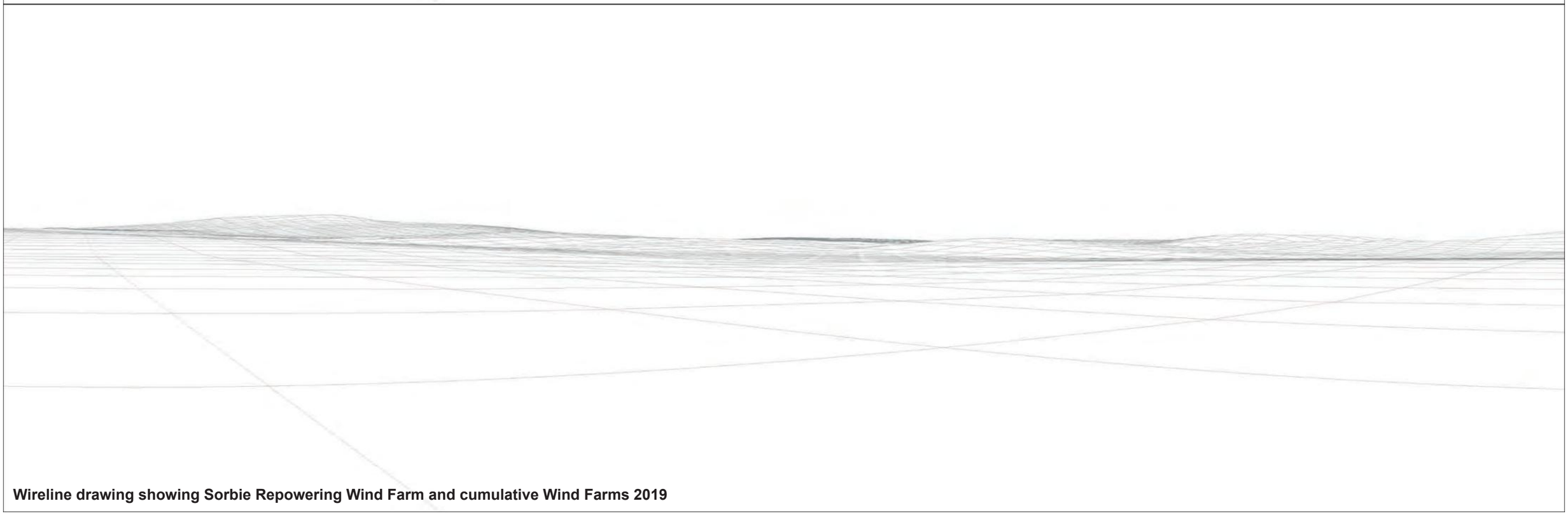



**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 227242 E 643068 N | | 90° (cylindrical projection) |
| **Eye level:** | 34.05 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 311.00° | | |
| **Nearest turbine:** | 3.288 km | | |

**Figure: 25b**
**Viewpoint 7: Cambuskeith Road, Stevenston**

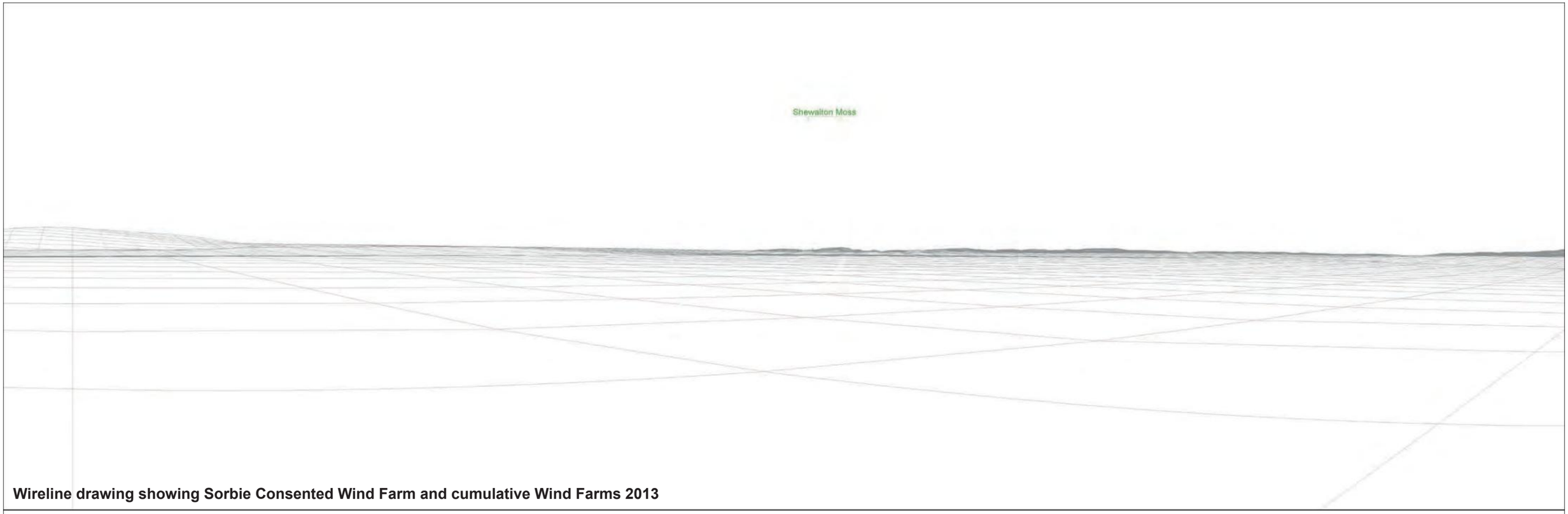
**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**



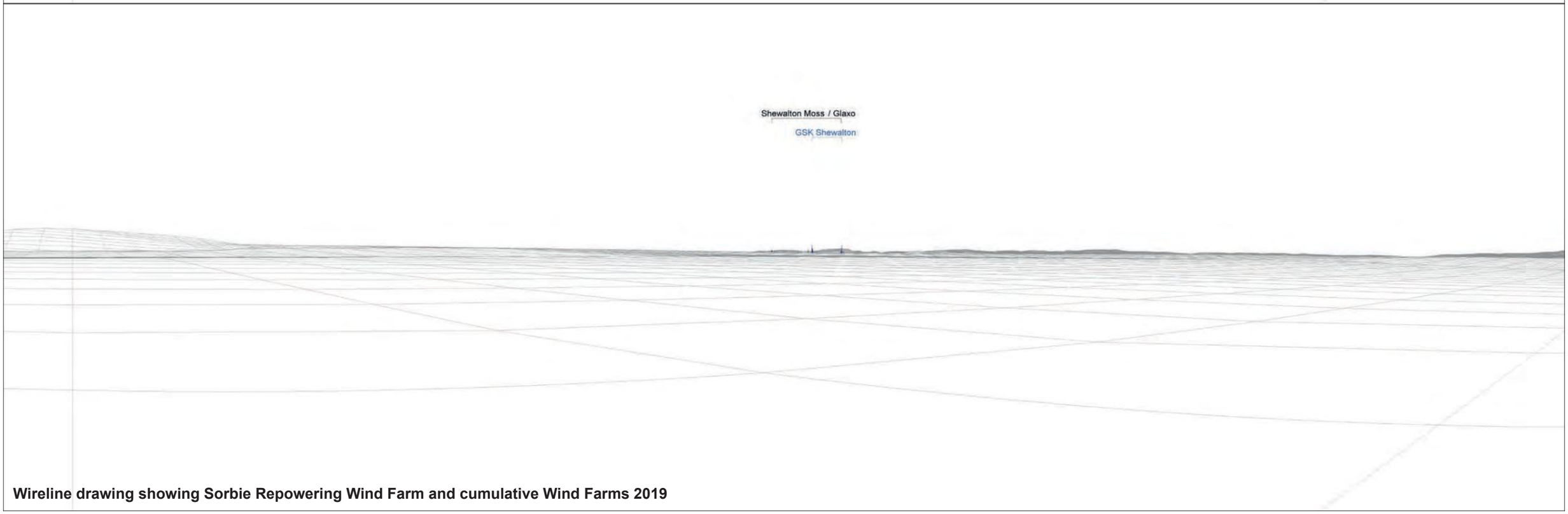
**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 227242 E 643068 N | | 90° (cylindrical projection) |
| **Eye level:** | 34.05 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 41.00° | | |
| **Nearest turbine:** | 3.288 km | | |

**Figure: 25c**
**Viewpoint 7: Cambuskeith Road, Stevenston**



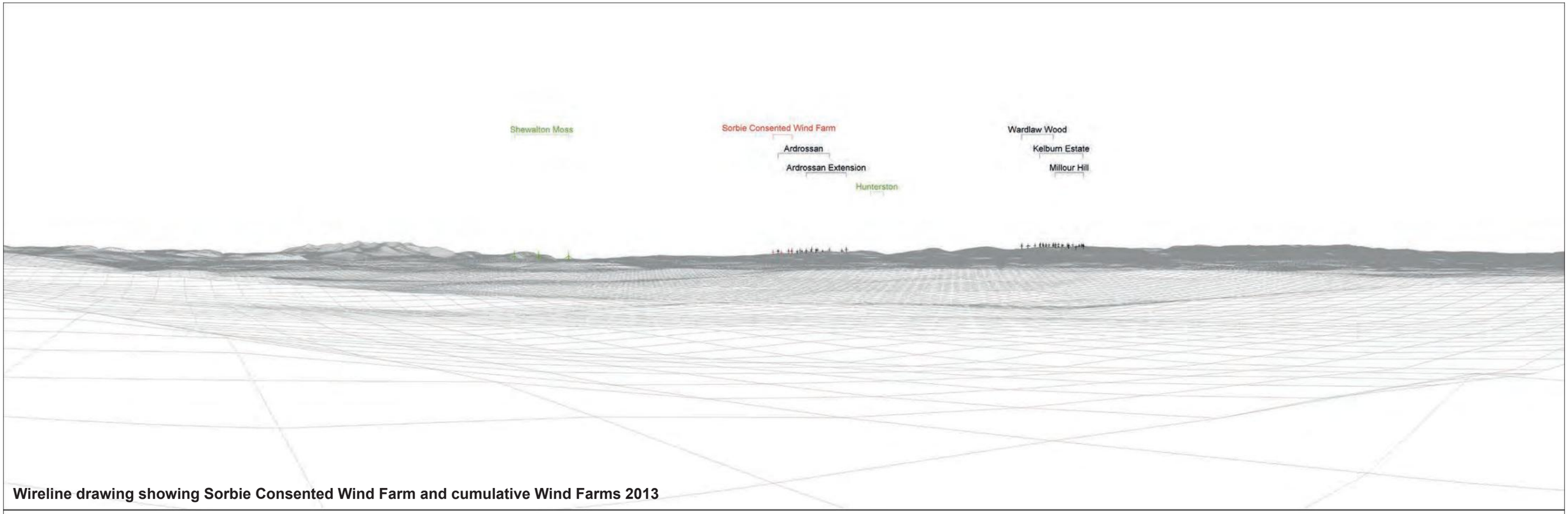

**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**



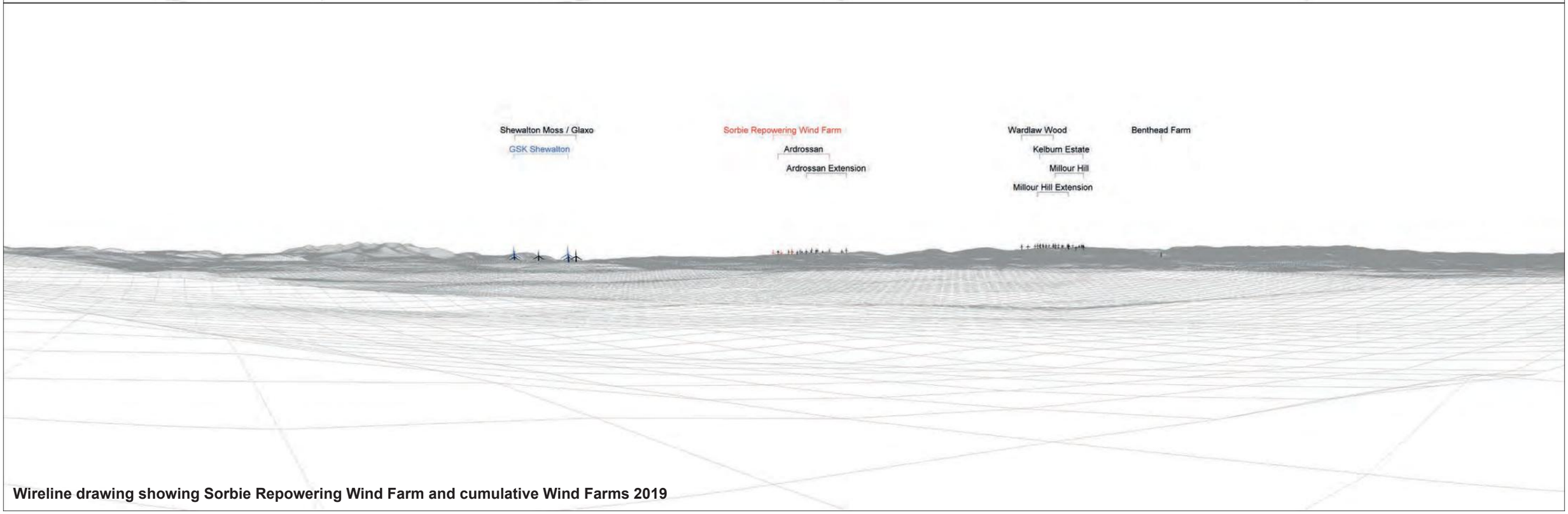

**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 227242 E 643068 N | | 90° (cylindrical projection) |
| **Eye level:** | 34.05 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 131.00° | | |
| **Nearest turbine:** | 3.288 km | | |

**Figure: 25d**
**Viewpoint 7: Cambuskeith Road, Stevenston**



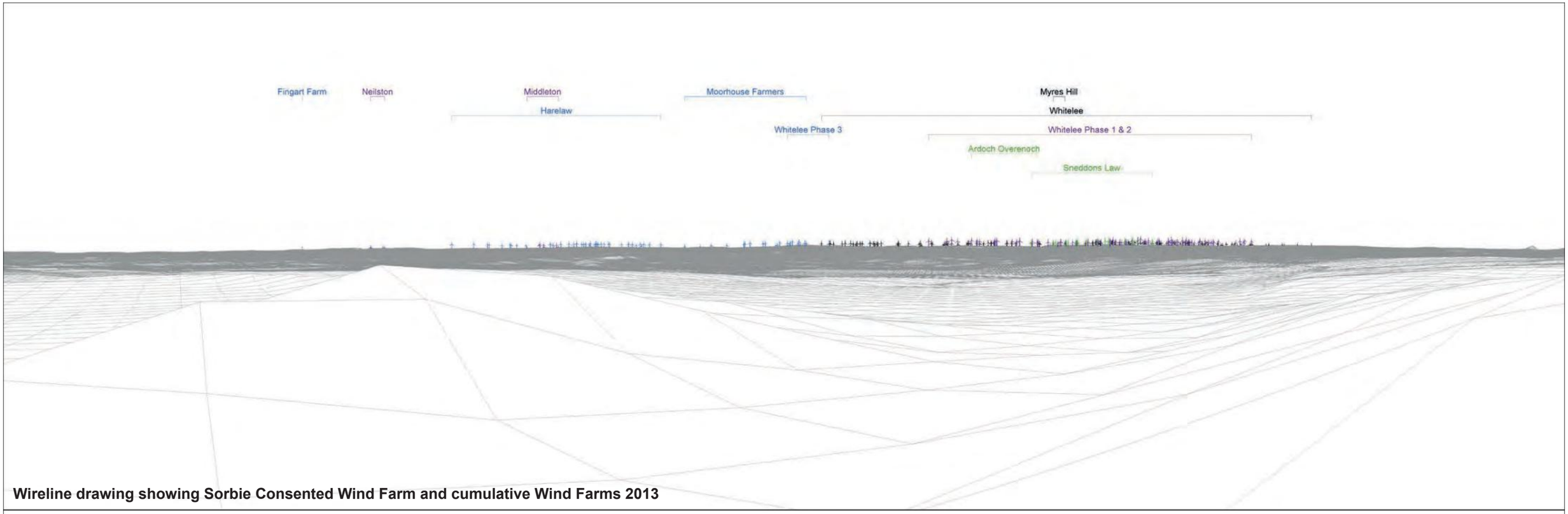

**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**



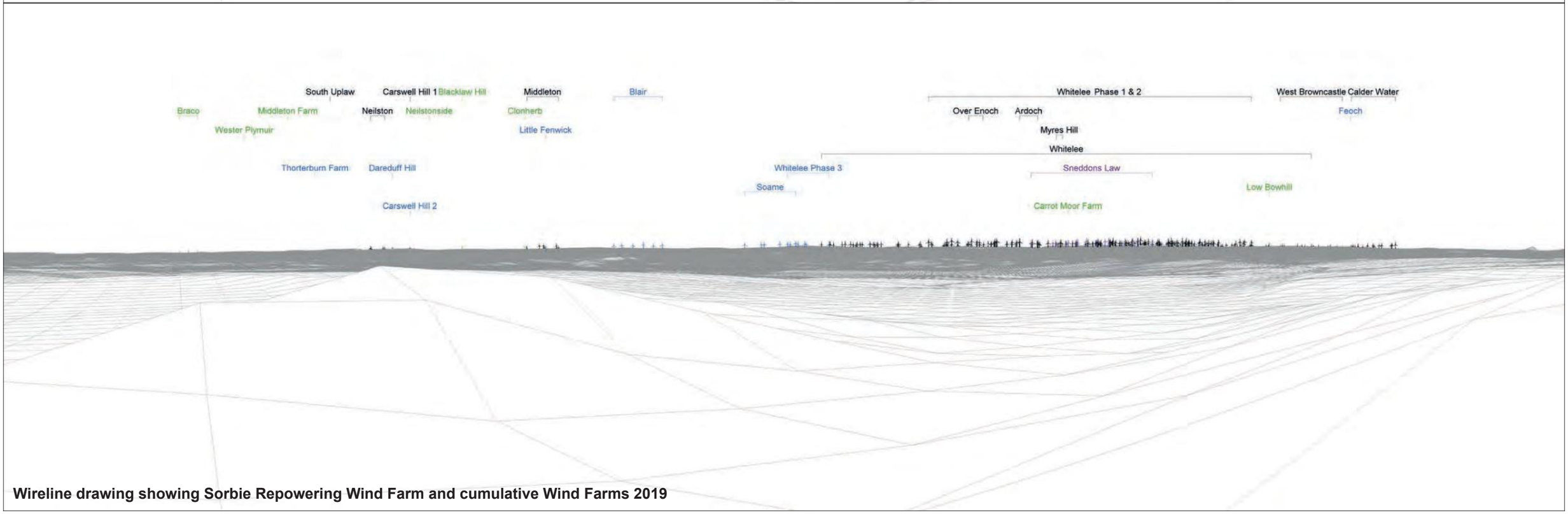

**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 241223 E 633785 N | | 90° (cylindrical projection) |
| **Eye level:** | 69.45 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 305.00° | | |
| **Nearest turbine:** | 20.045 km | | |

**Figure: 26b**
**Viewpoint 8: A77, near Kilmarnock**



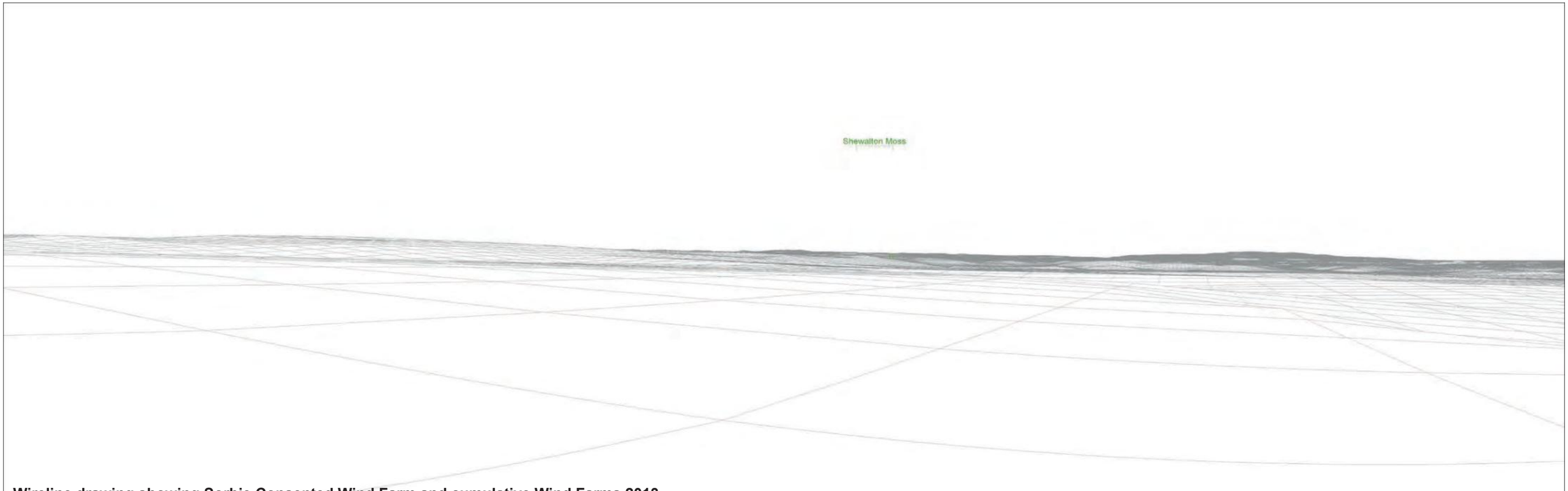

**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**




**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 241223 E 633785 N | | 90° (cylindrical projection) |
| **Eye level:** | 69.45 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 35.00° | | |
| **Nearest turbine:** | 20.045 km | | |

**Figure: 26c**
**Viewpoint 8: A77, near Kilmarnock**

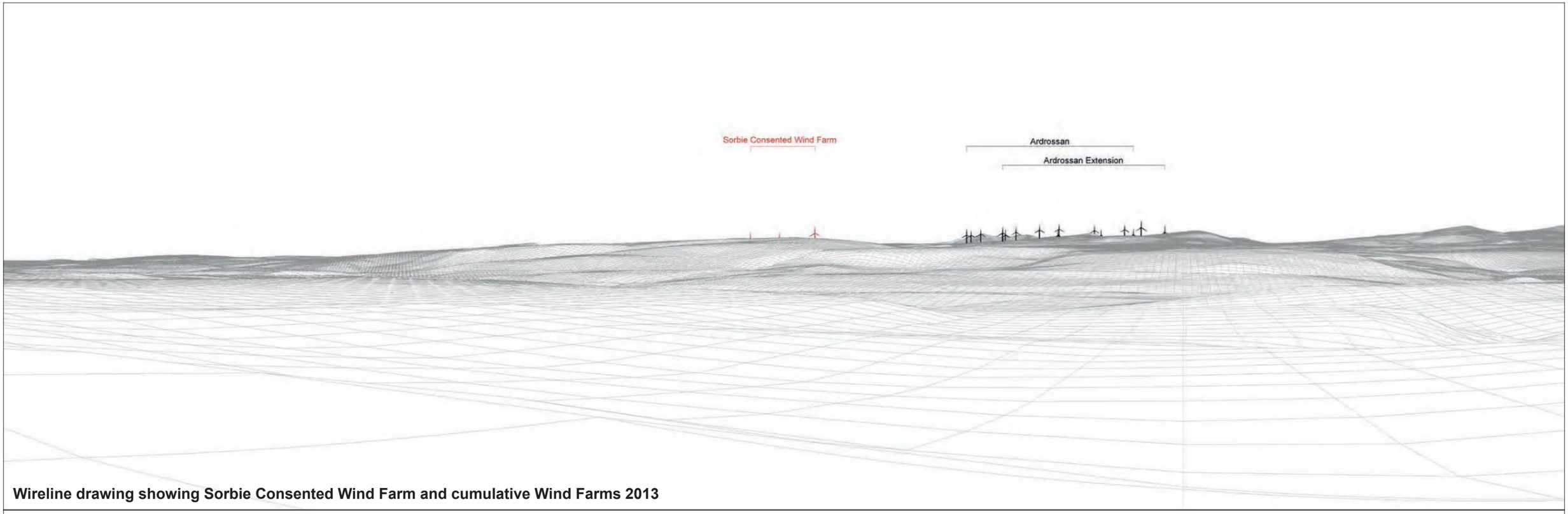



**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**

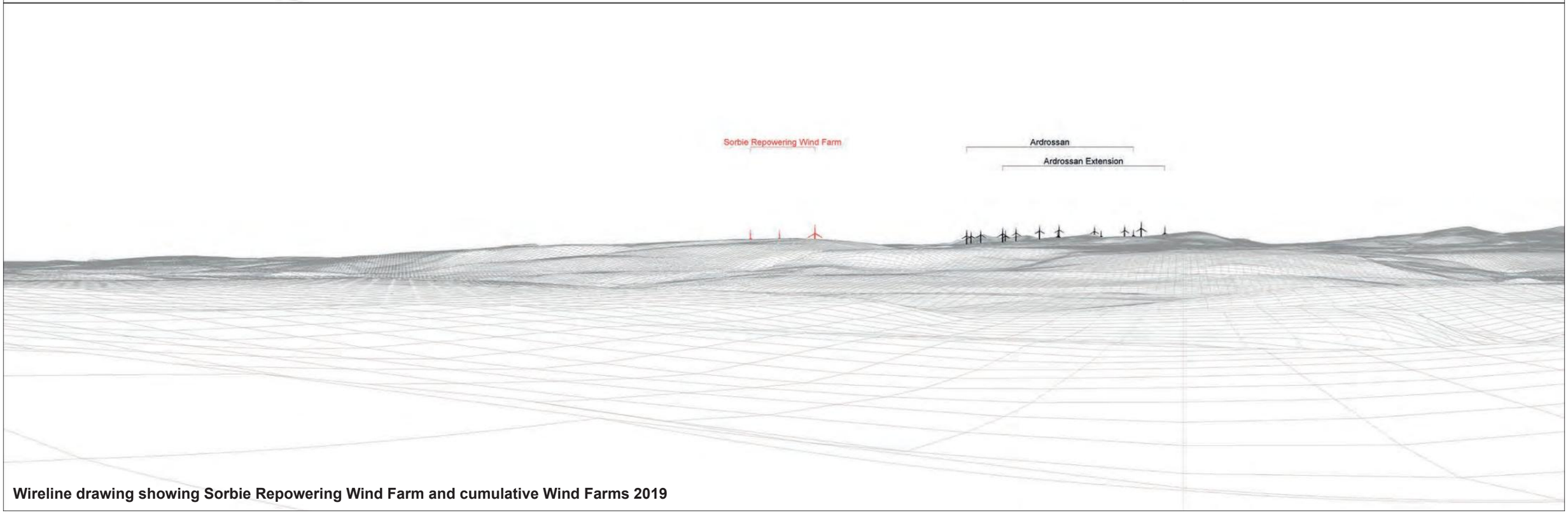
**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 230689 E 647988 N | | 90° (cylindrical projection) |
| **Eye level:** | 59.94 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 157.00° | | |
| **Nearest turbine:** | 26.527 km | | |

**Figure: 27b**
**Viewpoint 9: Blair Estate**



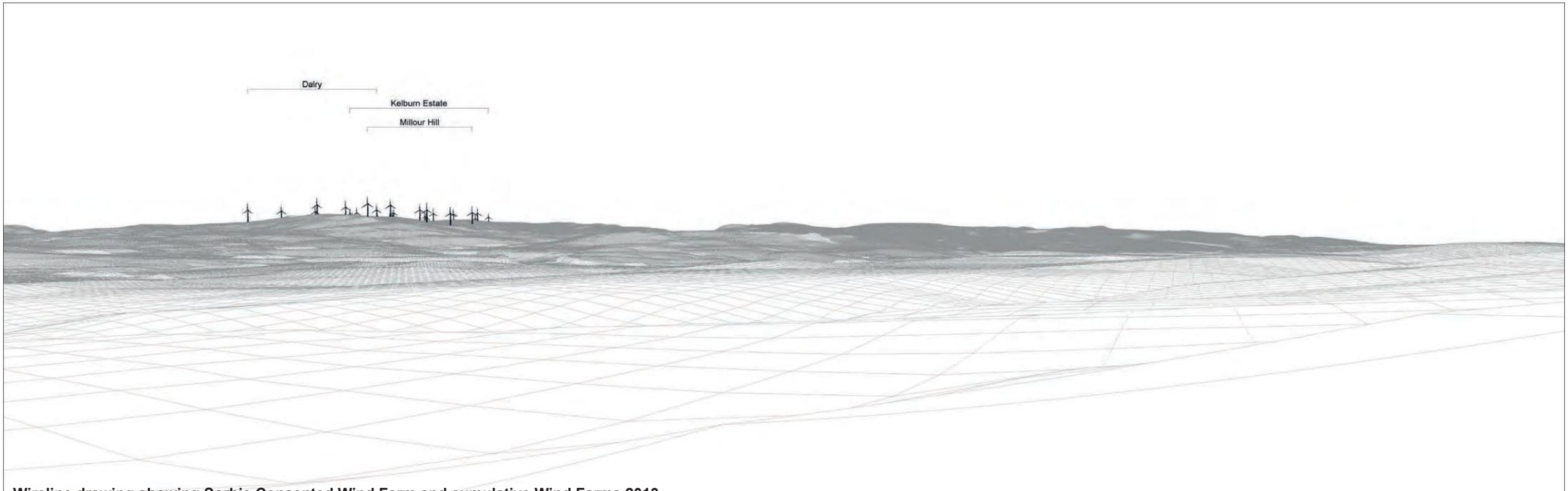

**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**



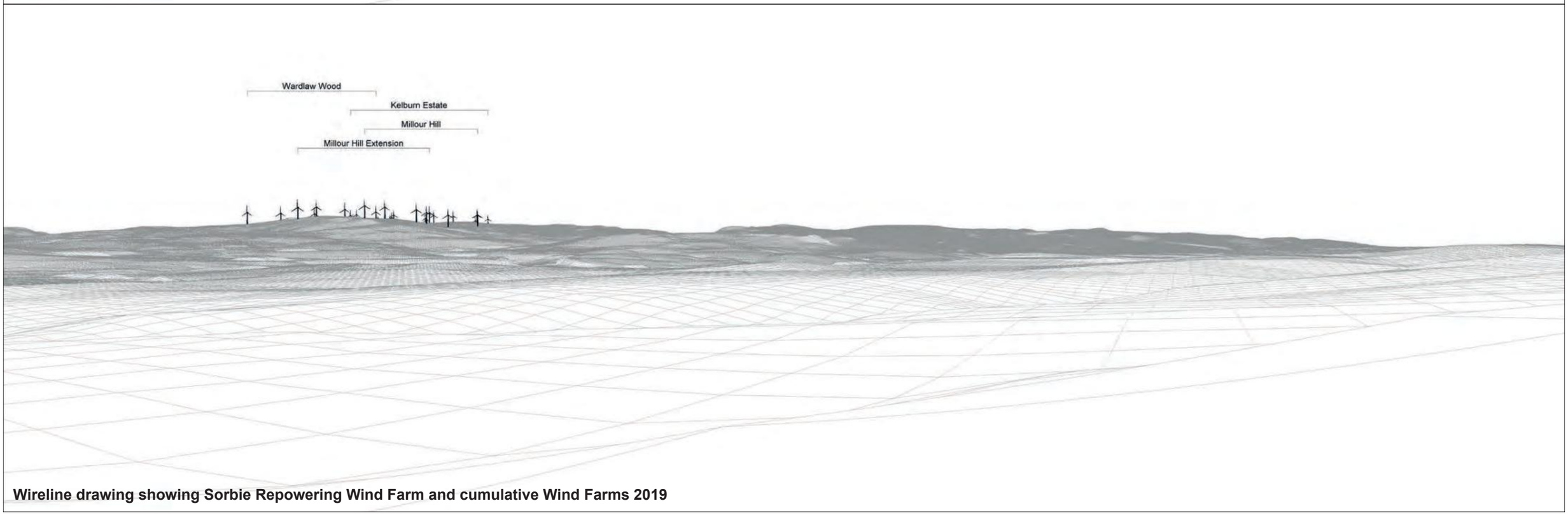

**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 230689 E 647988 N | | 90° (cylindrical projection) |
| **Eye level:** | 59.94 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 247.00° | | |
| **Nearest turbine:** | 26.527 km | | |

**Figure: 27c**
**Viewpoint 9: Blair Estate**




**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**

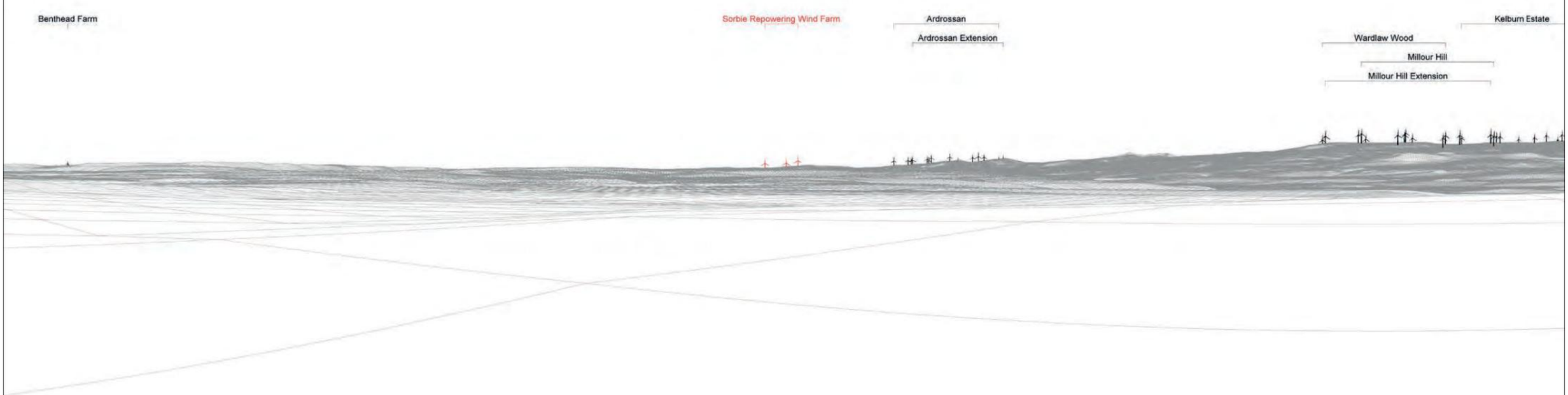



**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 230689 E 647988 N | | 90° (cylindrical projection) |
| **Eye level:** | 59.94 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 337.00° | | |
| **Nearest turbine:** | 26.527 km | | |

**Figure: 27d**
**Viewpoint 9: Blair Estate**

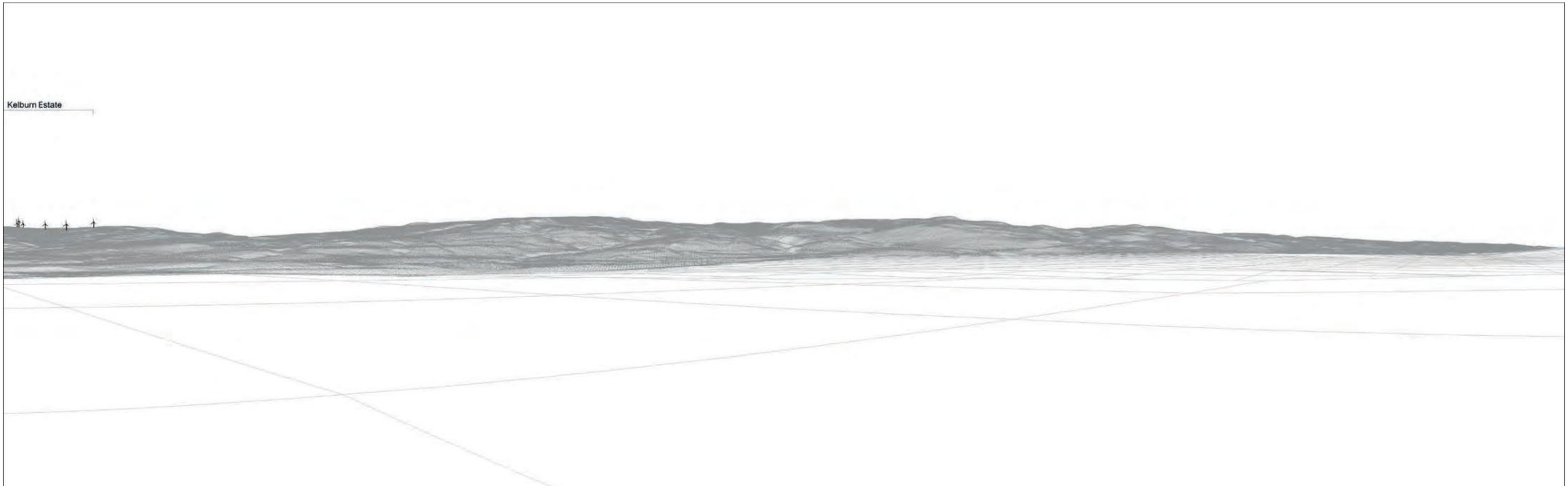
**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**




**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 234380 E 653045 N | | 90° (cylindrical projection) |
| **Eye level:** | 85.41 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 337.00° | | |
| **Nearest turbine:** | 12.275 km | | |

**Figure: 28b**
**Viewpoint 10: Beith, A737 Roundabout**

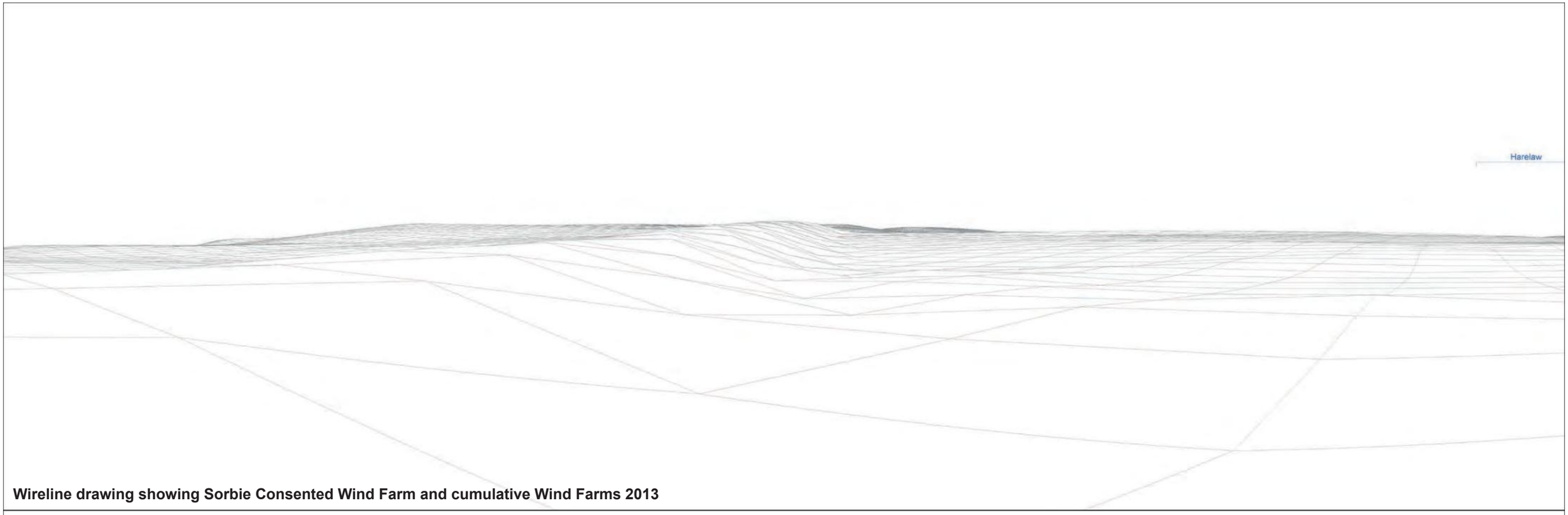



**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**

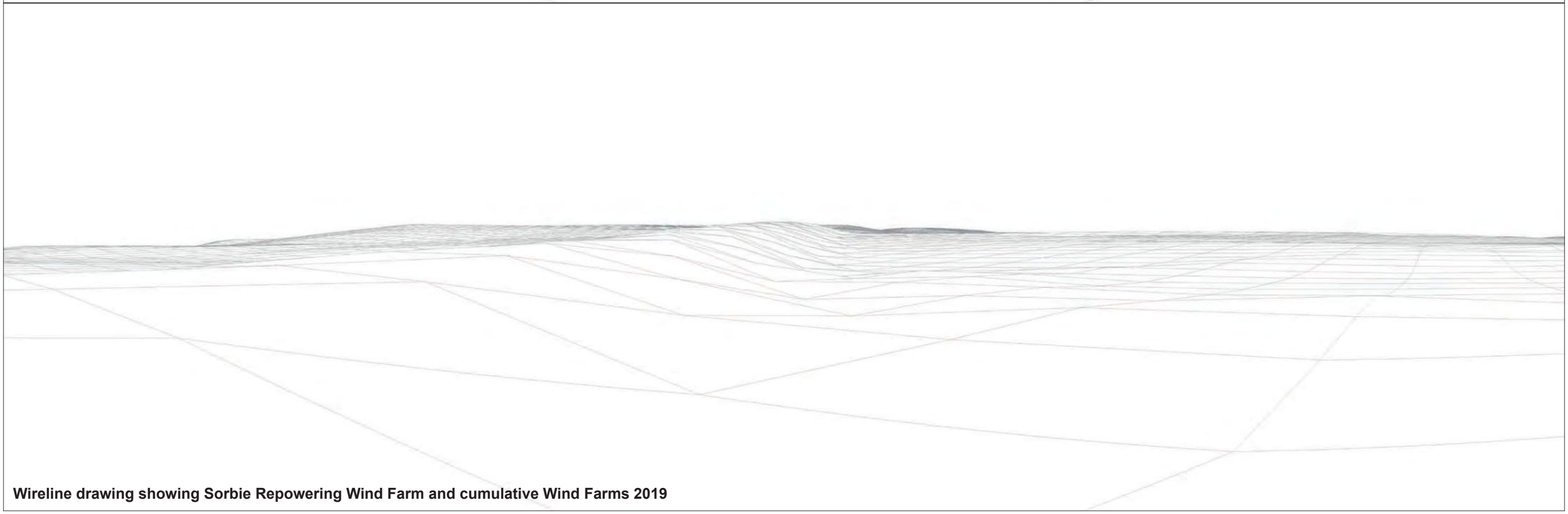
**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 234380 E 653045 N | | 90° (cylindrical projection) |
| **Eye level:** | 85.41 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 337.00° | | |
| **Nearest turbine:** | 12.275 km | | |

**Figure: 28c**
**Viewpoint 10: Beith, A737 Roundabout**



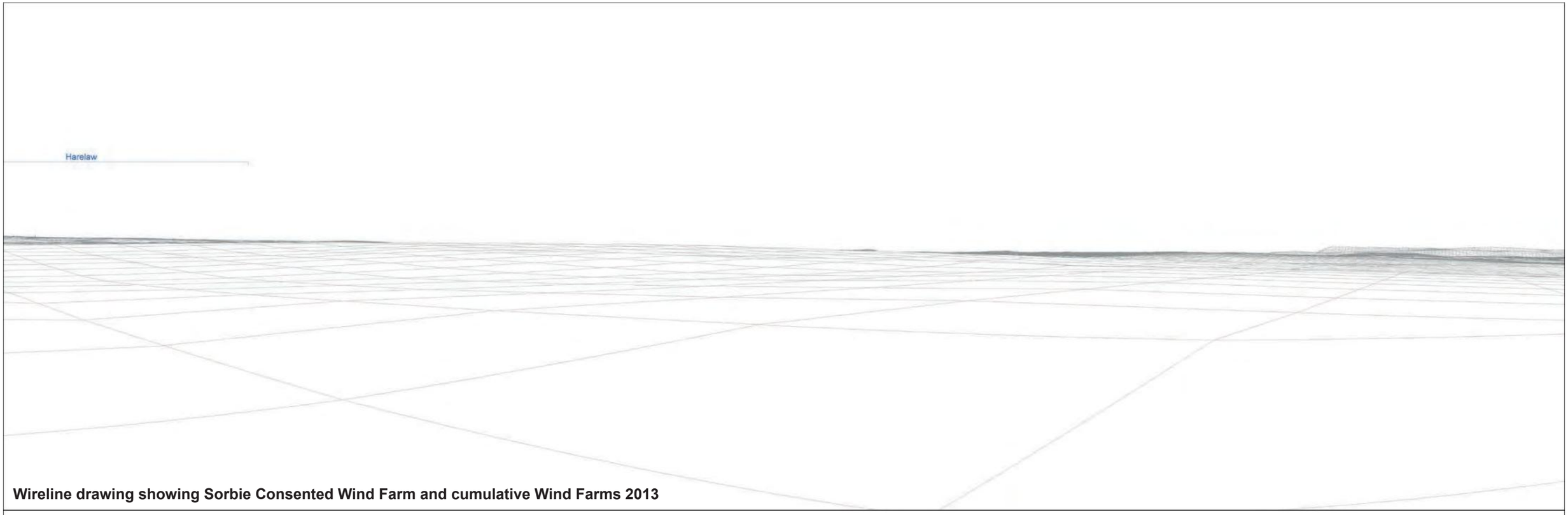

**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**



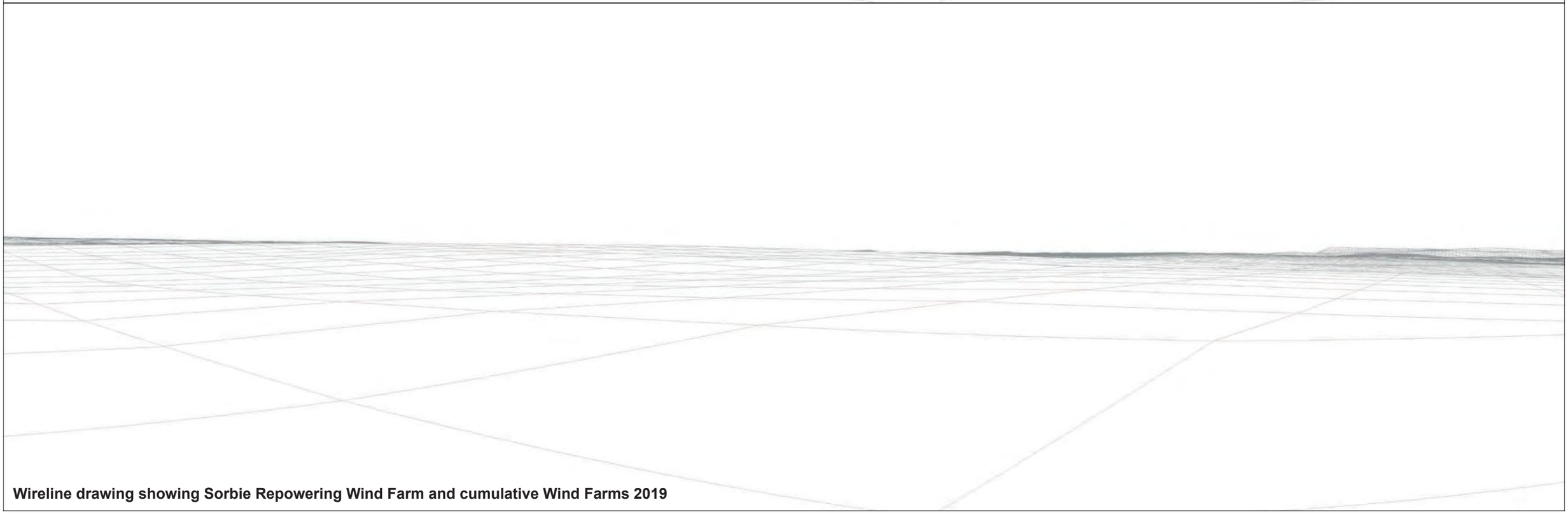
**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 234380 E 653045 N | | 90° (cylindrical projection) |
| **Eye level:** | 85.41 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 337.00° | | |
| **Nearest turbine:** | 12.275 km | | |

**Figure: 28d**
**Viewpoint 10: Beith, A737 Roundabout**



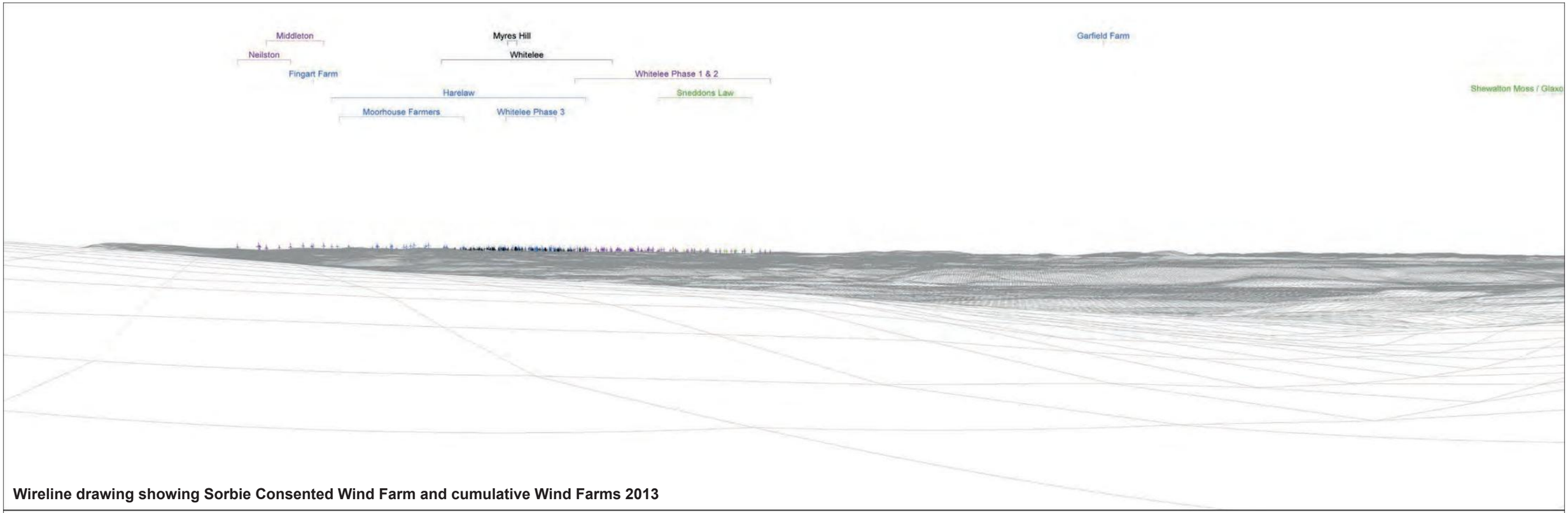

**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**



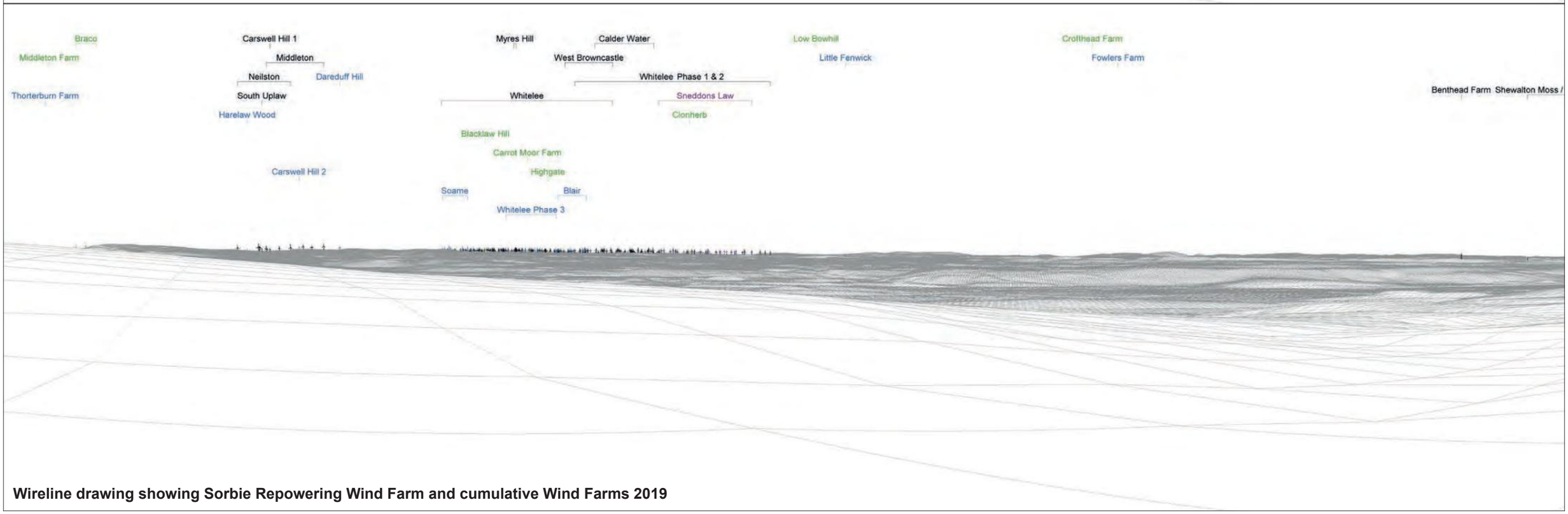
**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 234380 E 653045 N | | 90° (cylindrical projection) |
| **Eye level:** | 85.41 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 337.00° | | |
| **Nearest turbine:** | 12.275 km | | |

**Figure: 28e**
**Viewpoint 10: Beith, A737 Roundabout**



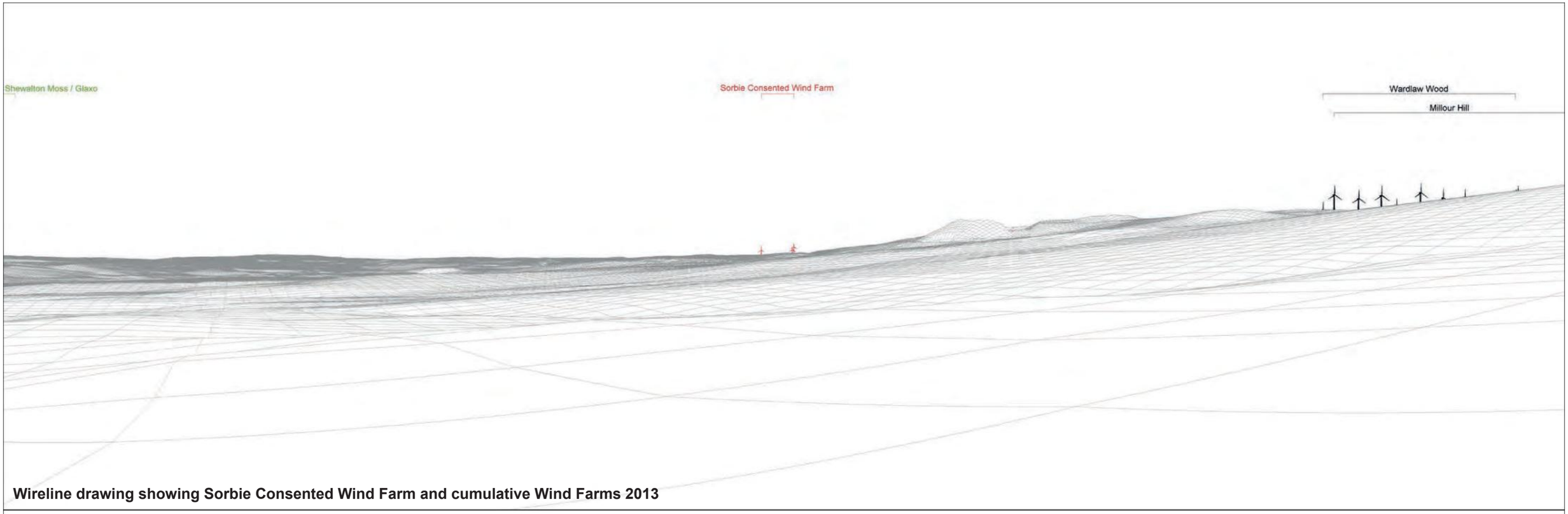

**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**



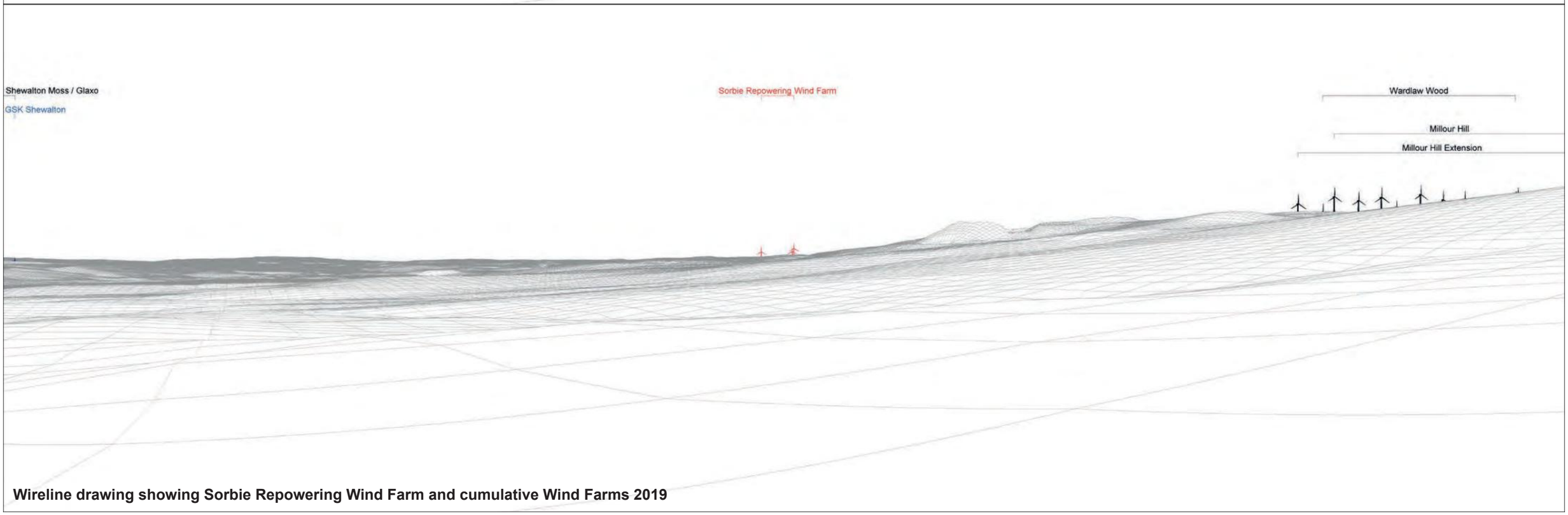

**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 230242 E 654455 N | | 90° (cylindrical projection) |
| **Eye level:** | 107.11 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 122.00° | | |
| **Nearest turbine:** | 10.479 km | | |

**Figure: 29b**
**Viewpoint 11: A760 near Kilbirnie**



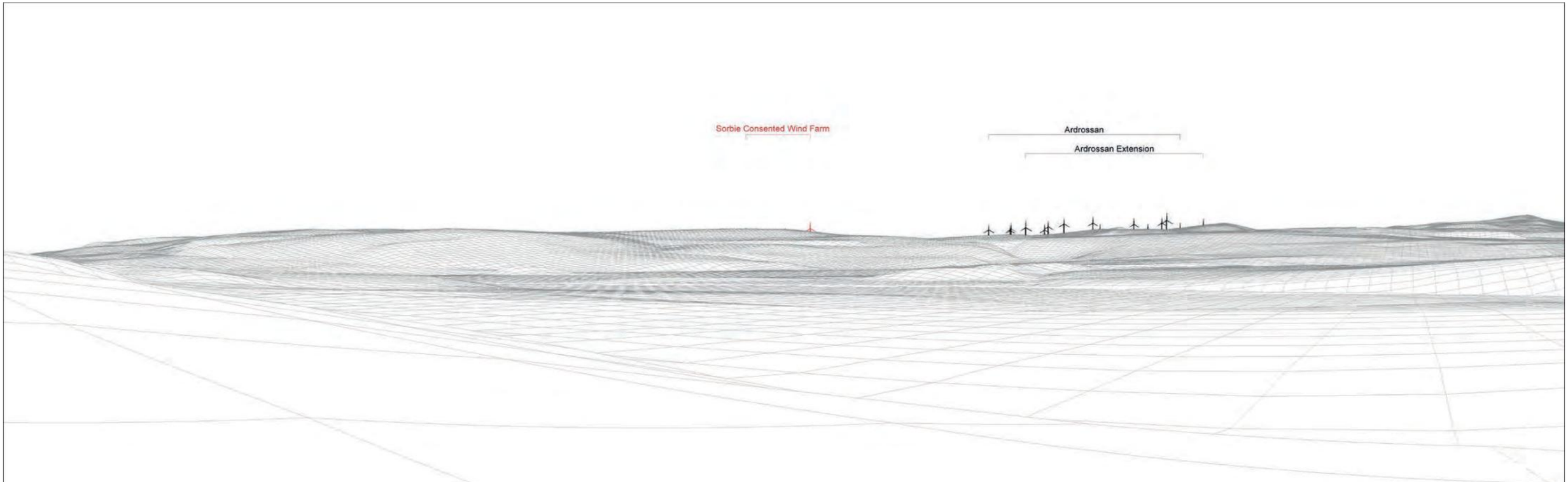

**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**



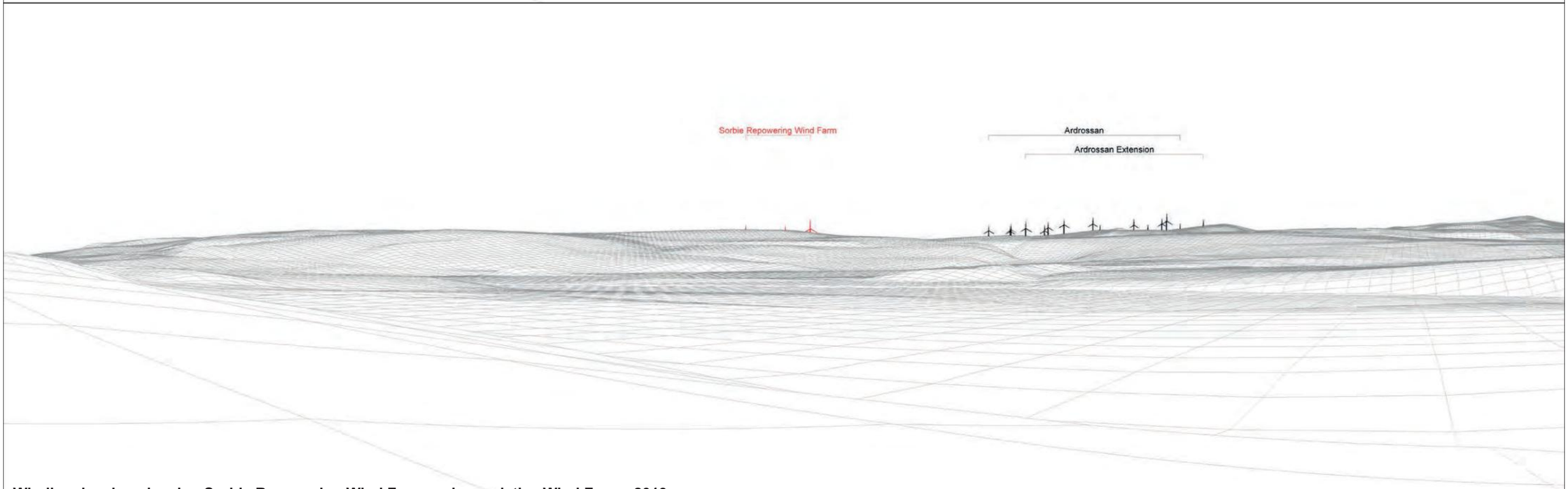

**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 230242 E 654455 N | | 90° (cylindrical projection) |
| **Eye level:** | 107.11 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 212.00° | | |
| **Nearest turbine:** | 10.479 km | | |

**Figure: 29c**
**Viewpoint 11: A760 near Kilbirnie**



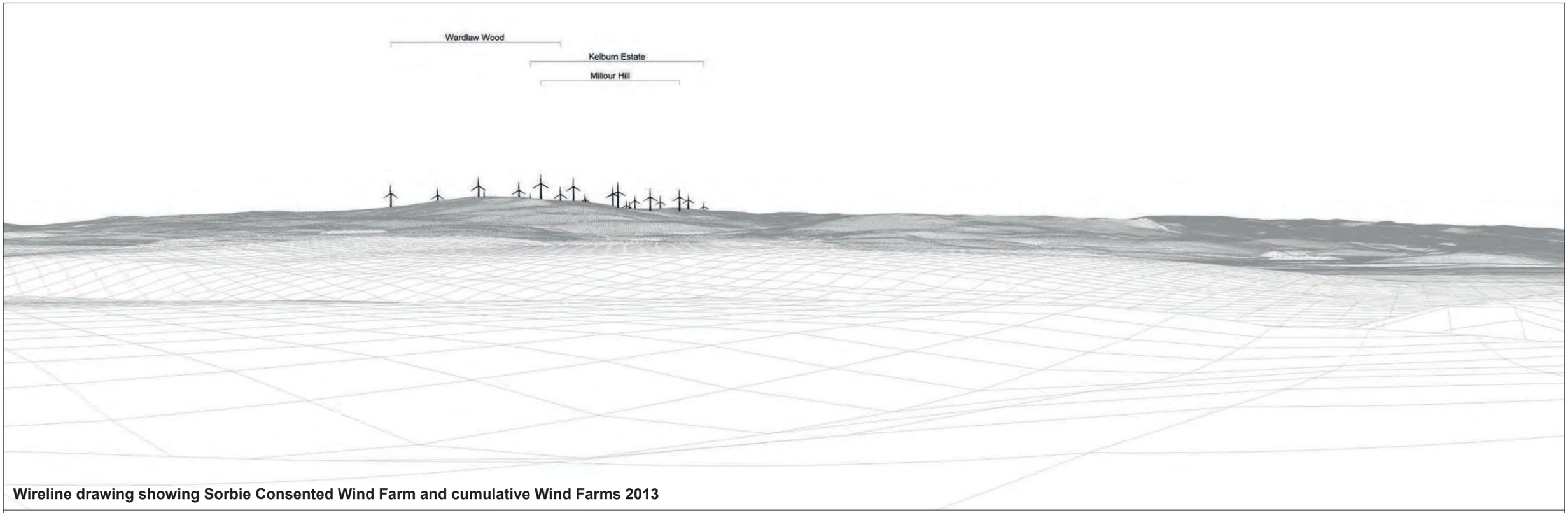

**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**



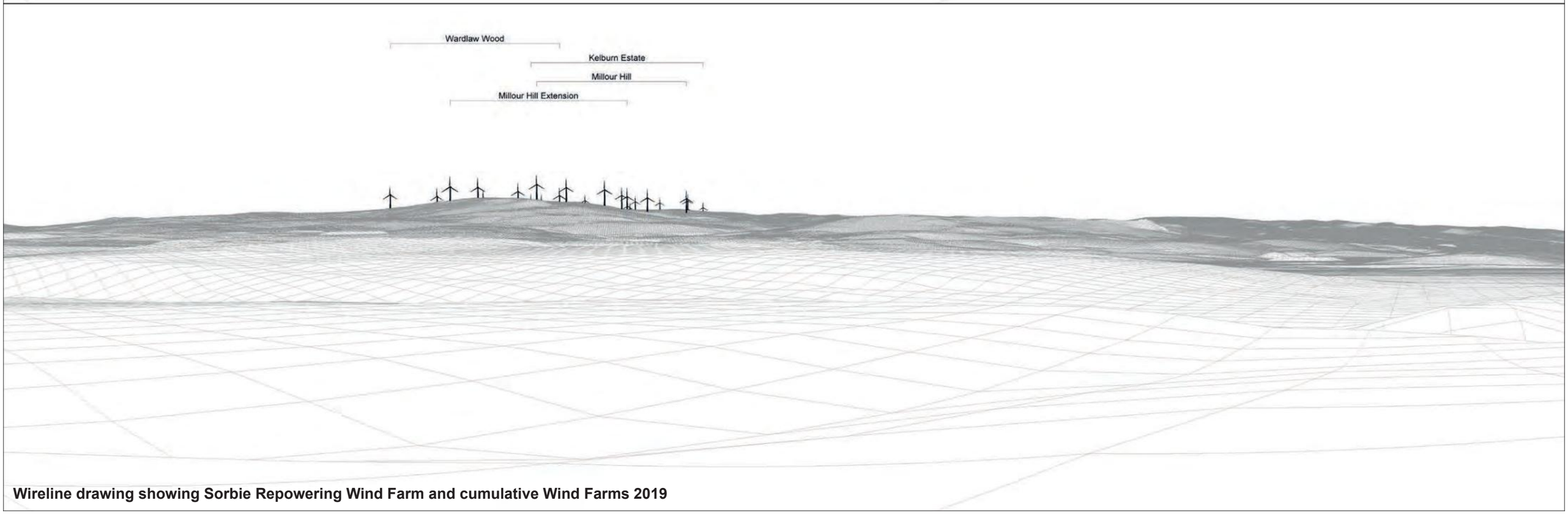

**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 229788 E 649186 N | | 90° (cylindrical projection) |
| **Eye level:** | 130.17 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 234.00° | | |
| **Nearest turbine:** | 6.292 km | | |

**Figure: 30b**
**Viewpoint 12: Dalry Train Station**



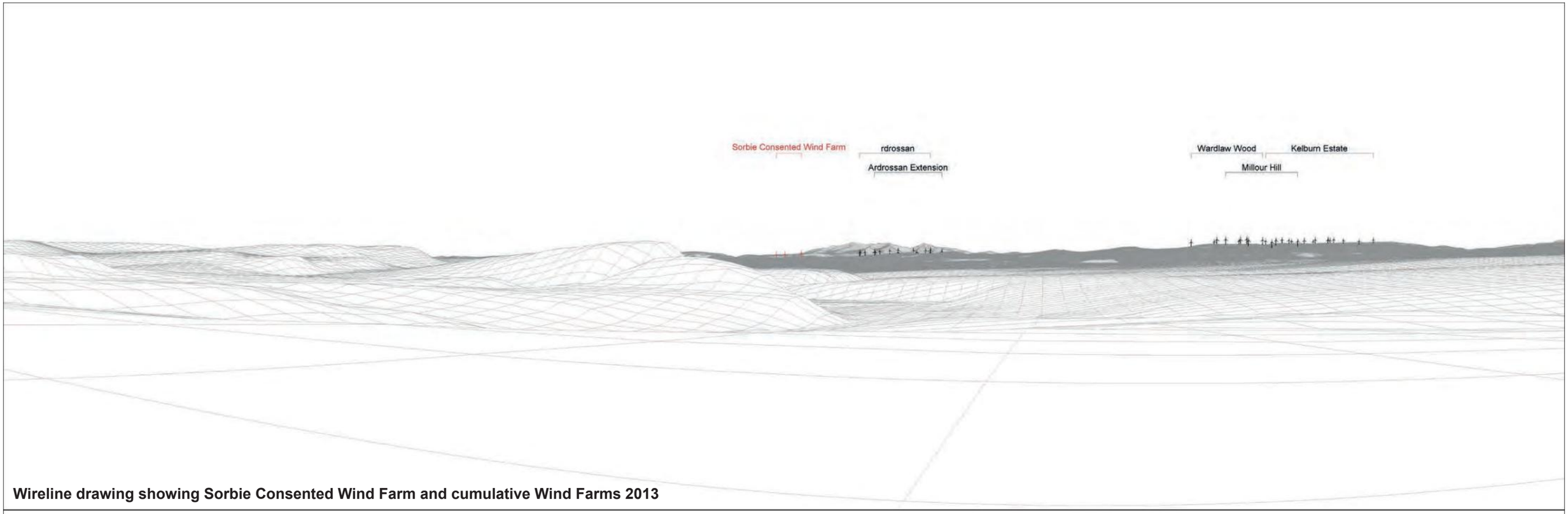

**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**



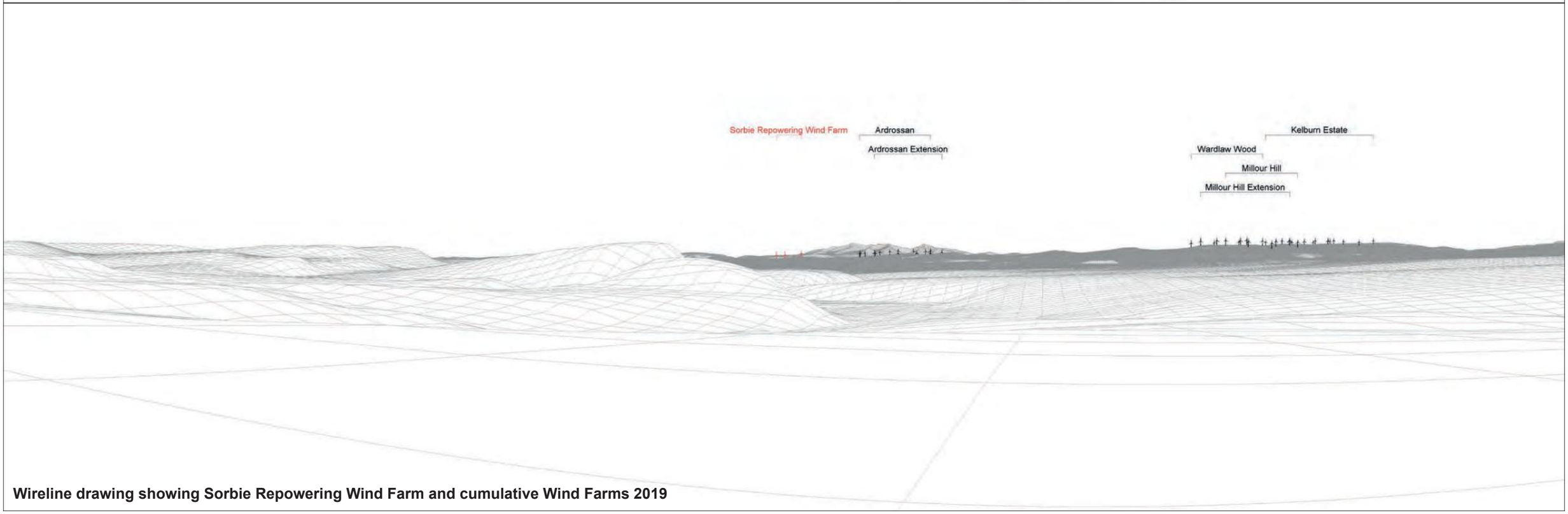

**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 229788 E 649186 N | | 90° (cylindrical projection) |
| **Eye level:** | 130.17 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 324.00° | | |
| **Nearest turbine:** | 6.292 km | | |

**Figure: 30c**
**Viewpoint 12: Dalry Train Station**



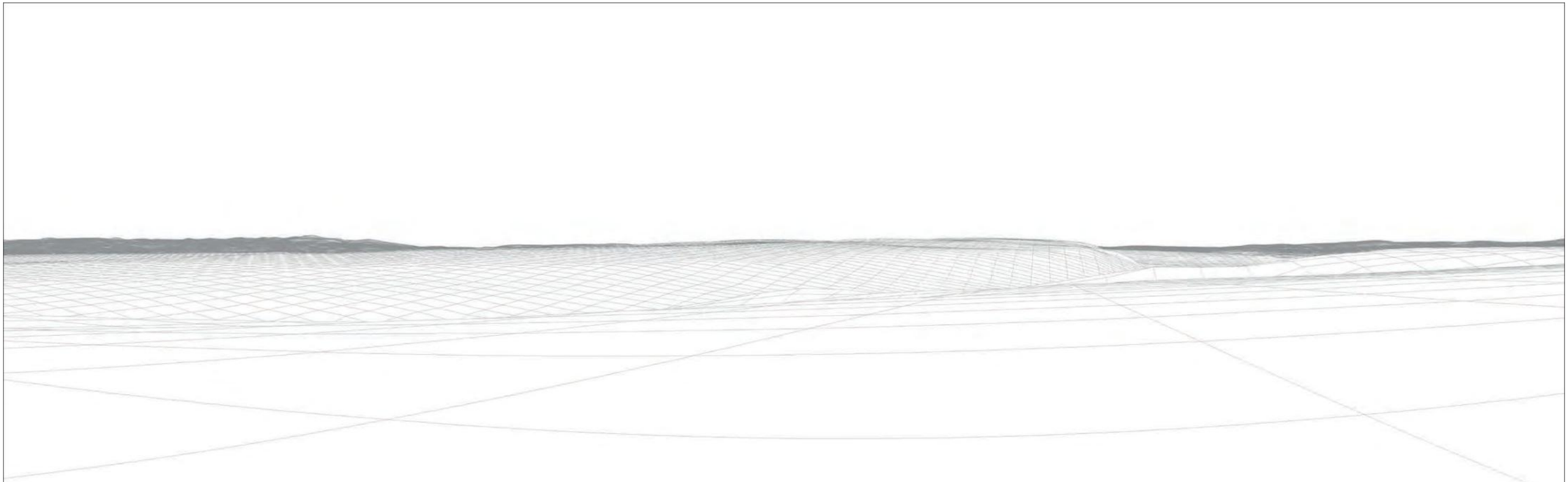

**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**



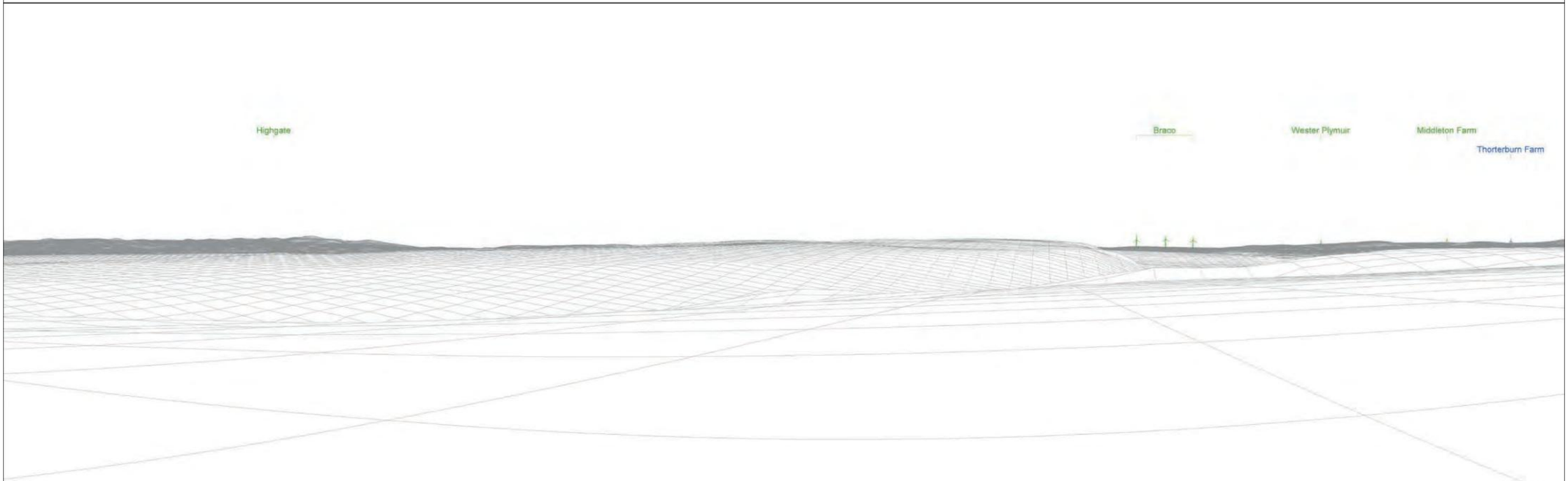

**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 234380 E 653045 N | | 90° (cylindrical projection) |
| **Eye level:** | 85.41 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 232.00° | | |
| **Nearest turbine:** | 12.275 km | | |

**Figure: 31b**
**Viewpoint 13: A735 Dunlop, West View Terrace**



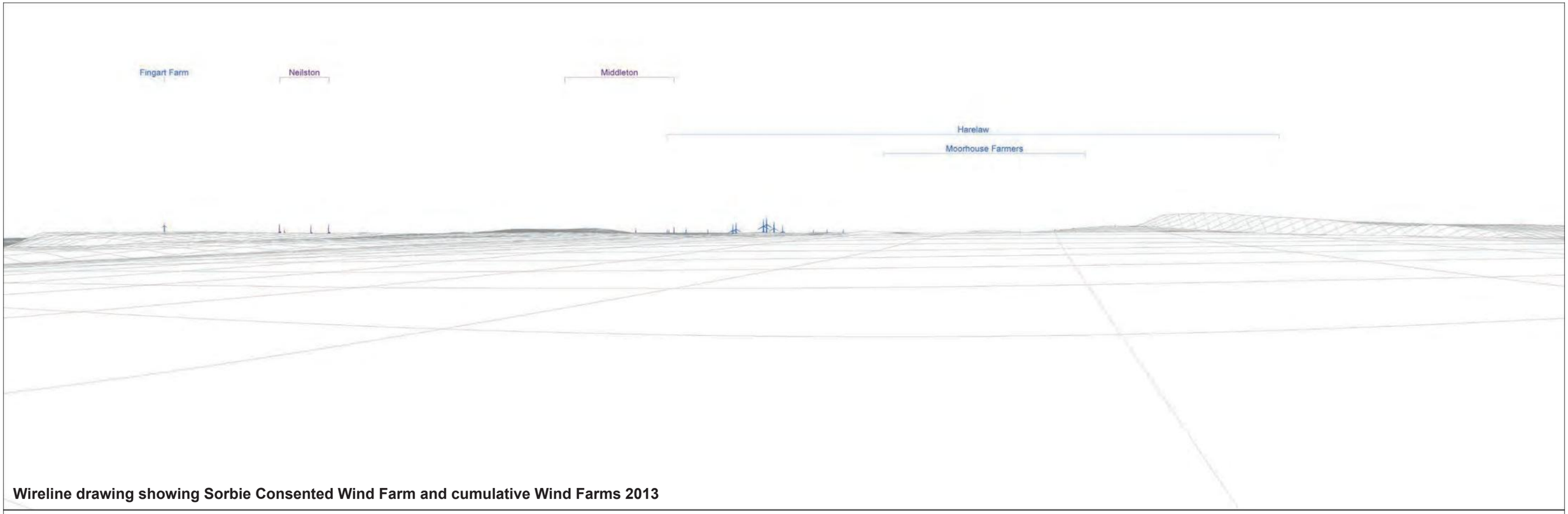
**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**



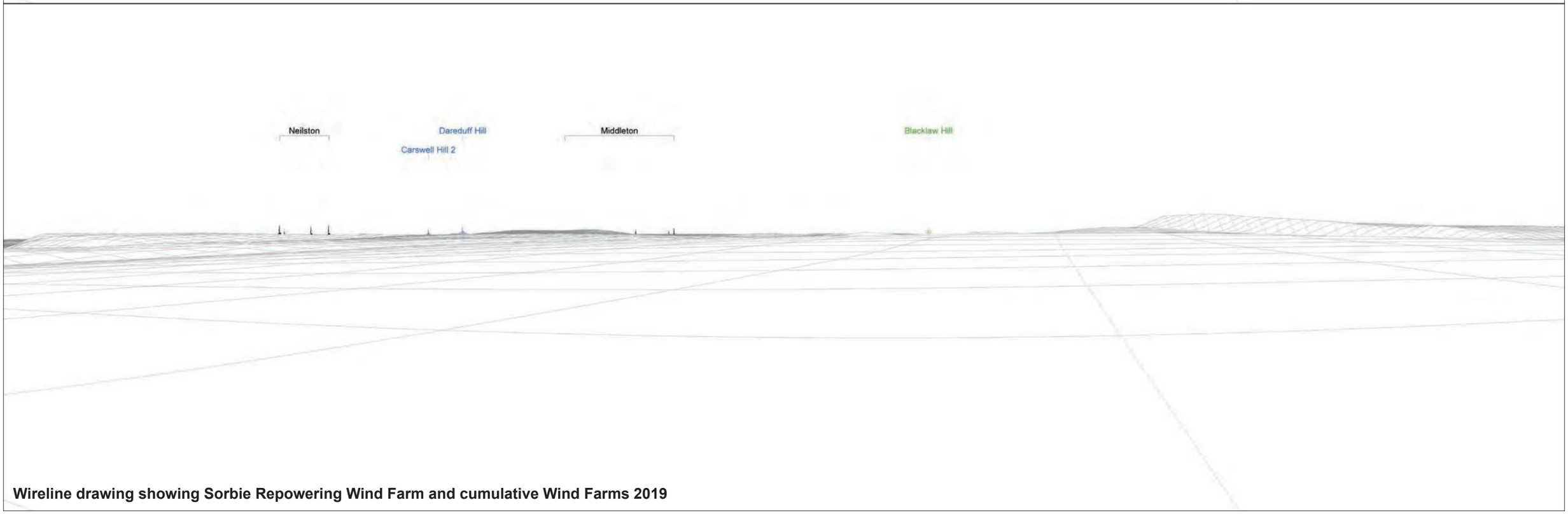

**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 234380 E 653045 N | | 90° (cylindrical projection) |
| **Eye level:** | 85.41 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 232.00° | | |
| **Nearest turbine:** | 12.275 km | | |

**Figure: 31c**
**Viewpoint 13: A735 Dunlop, West View Terrace**



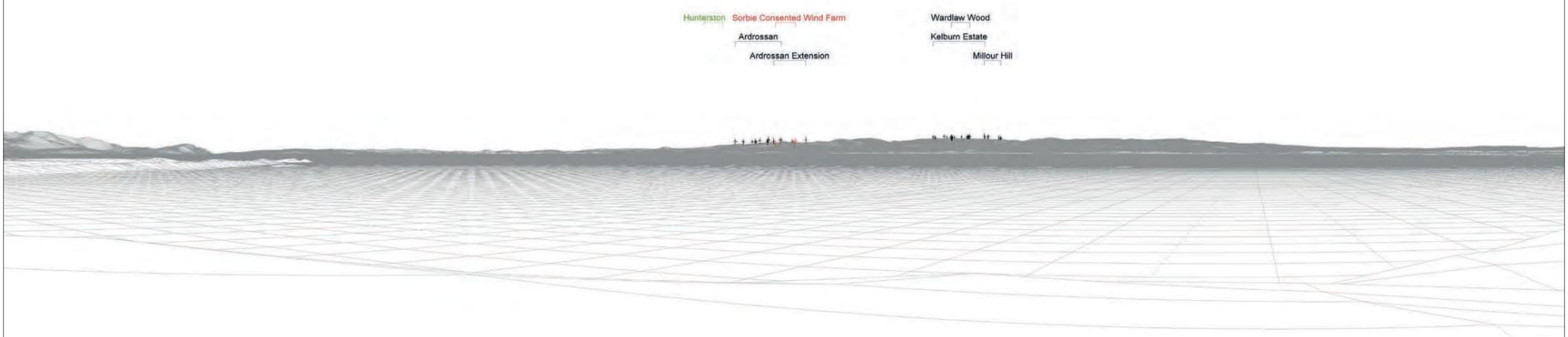

**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**




**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 234380 E 653045 N | | 90° (cylindrical projection) |
| **Eye level:** | 85.41 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 232.00° | | |
| **Nearest turbine:** | 12.275 km | | |

**Figure: 31d**
**Viewpoint 13: A735 Dunlop, West View Terrace**

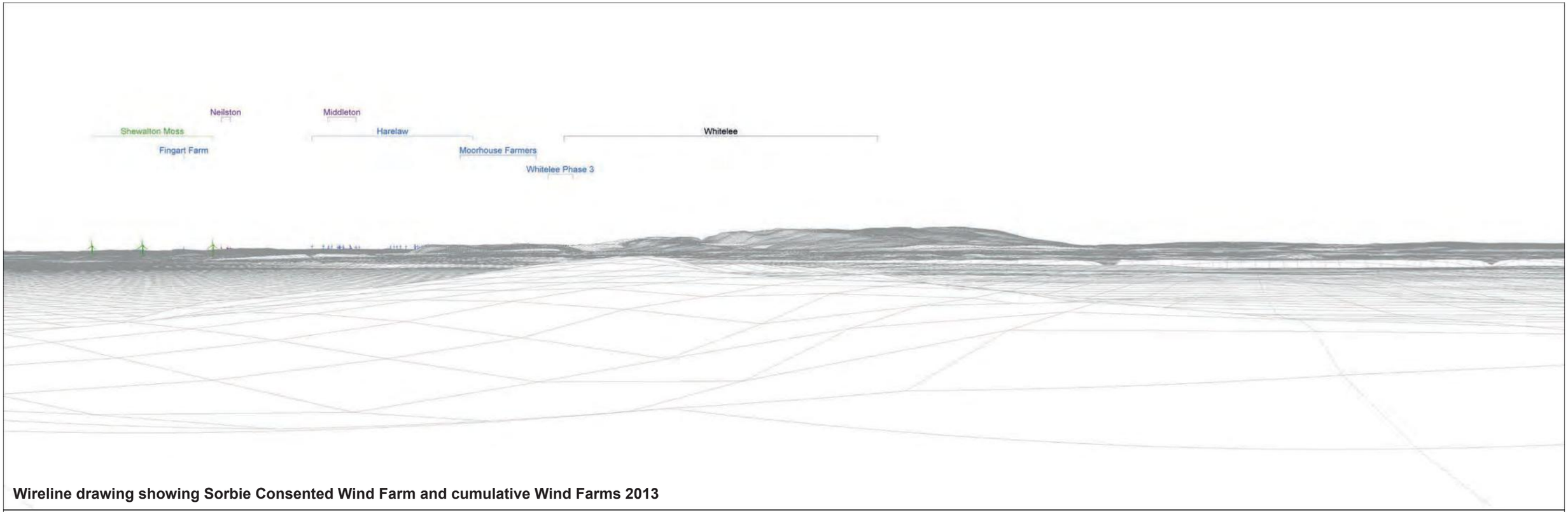



**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**

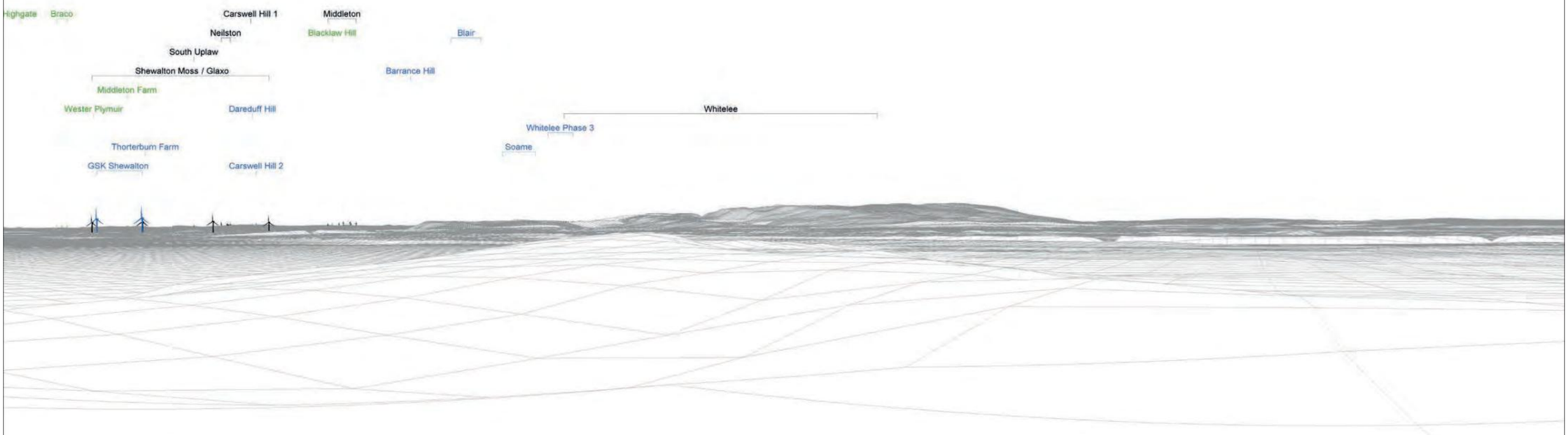
**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 231742 E 631200 N | | 90° (cylindrical projection) |
| **Eye level:** | 11.33 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 333.00° | | |
| **Nearest turbine:** | 15.672 km | | |

**Figure: 32b**
**Viewpoint 14: Troon Harbour**



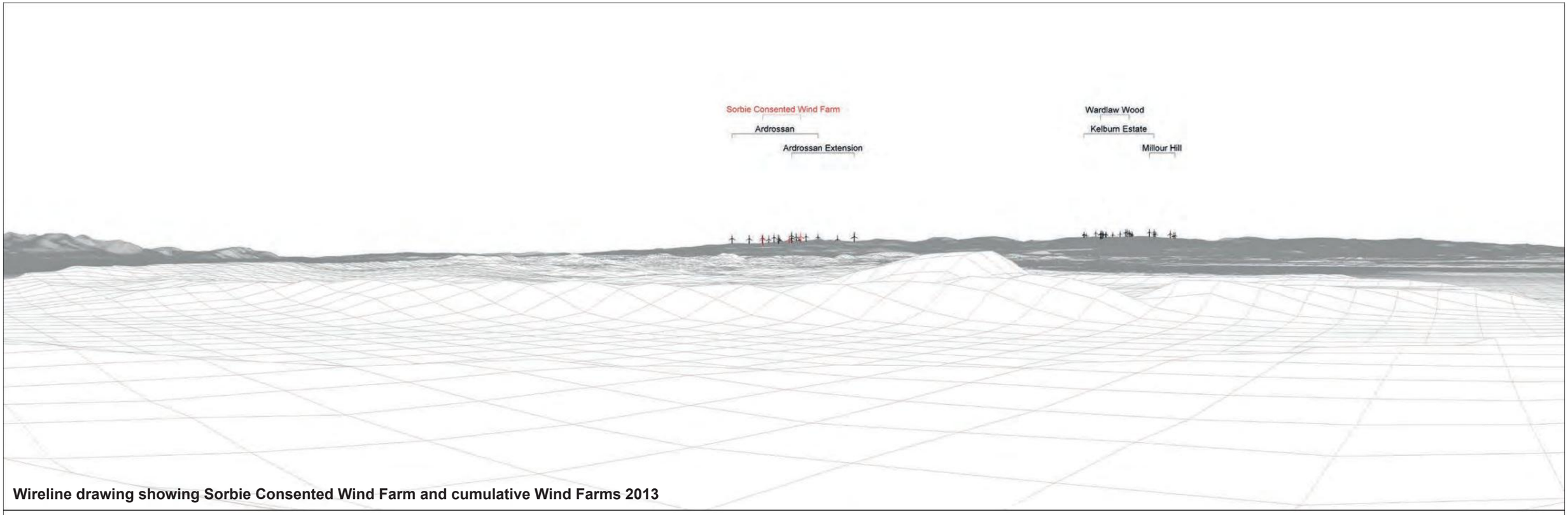

**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**



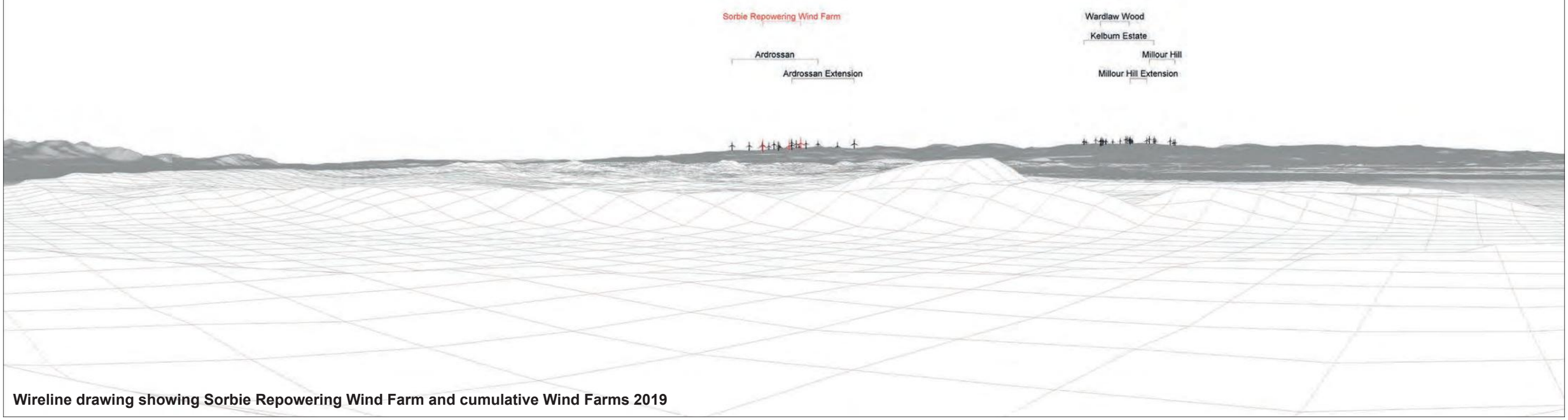

**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 231742 E 631200 N | | 90° (cylindrical projection) |
| **Eye level:** | 11.33 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 63.00° | | |
| **Nearest turbine:** | 15.672 km | | |

**Figure: 32c**
**Viewpoint 14: Troon Harbour**



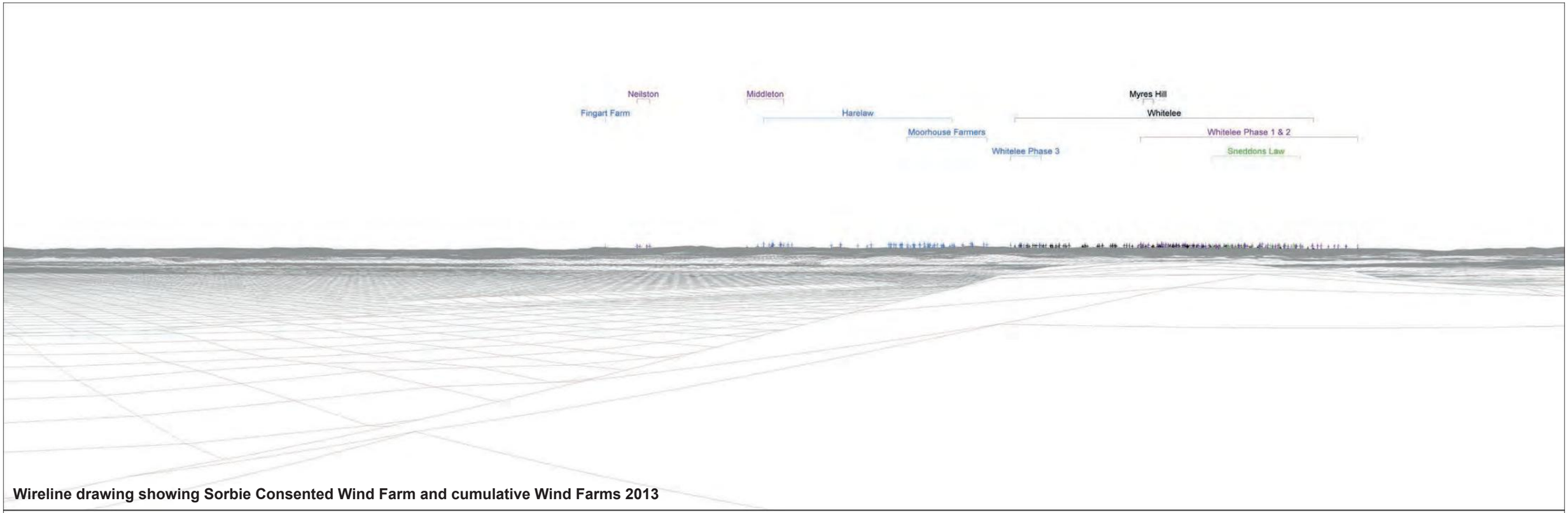

**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**



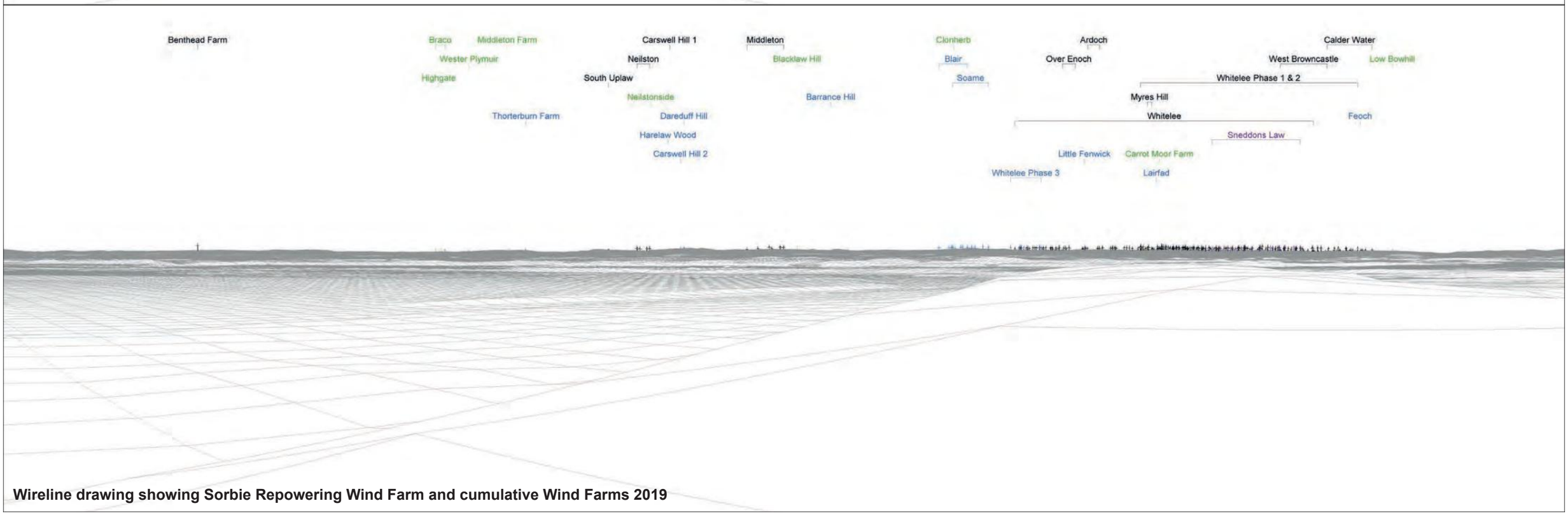

**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 230550 E 638021 N | | 90° (cylindrical projection) |
| **Eye level:** | 14.37 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 321.00° | | |
| **Nearest turbine:** | 9.244 km | | |

**Figure: 33b**
**Viewpoint 15: Irvine Bay**



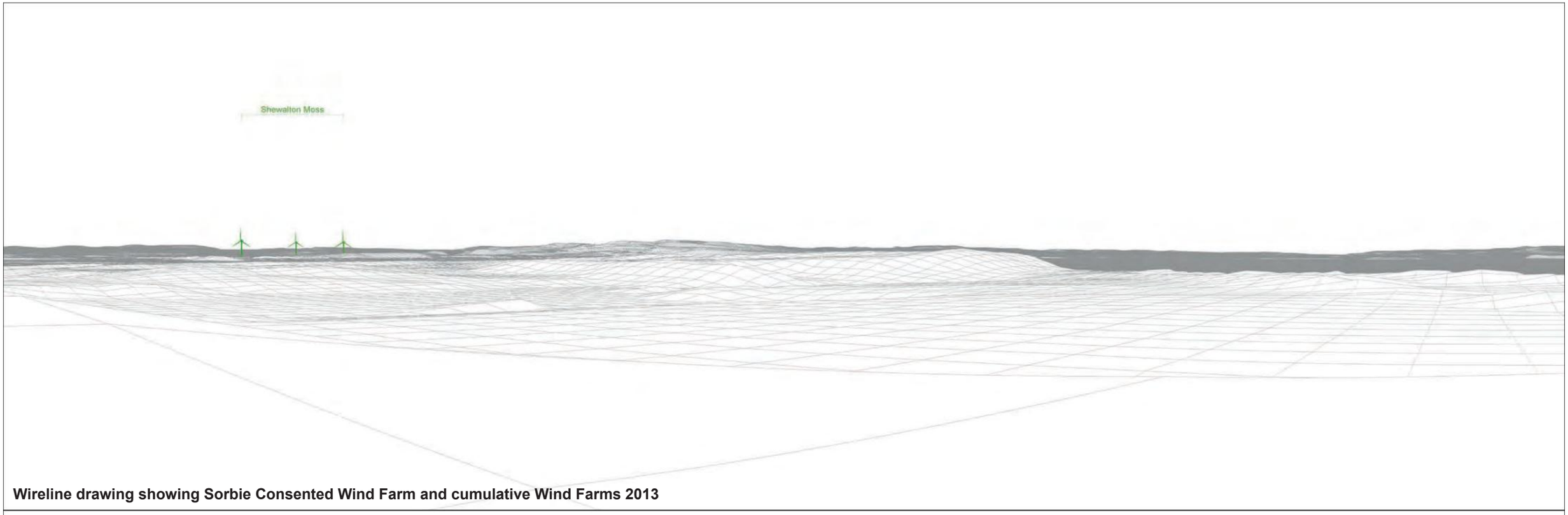

**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**



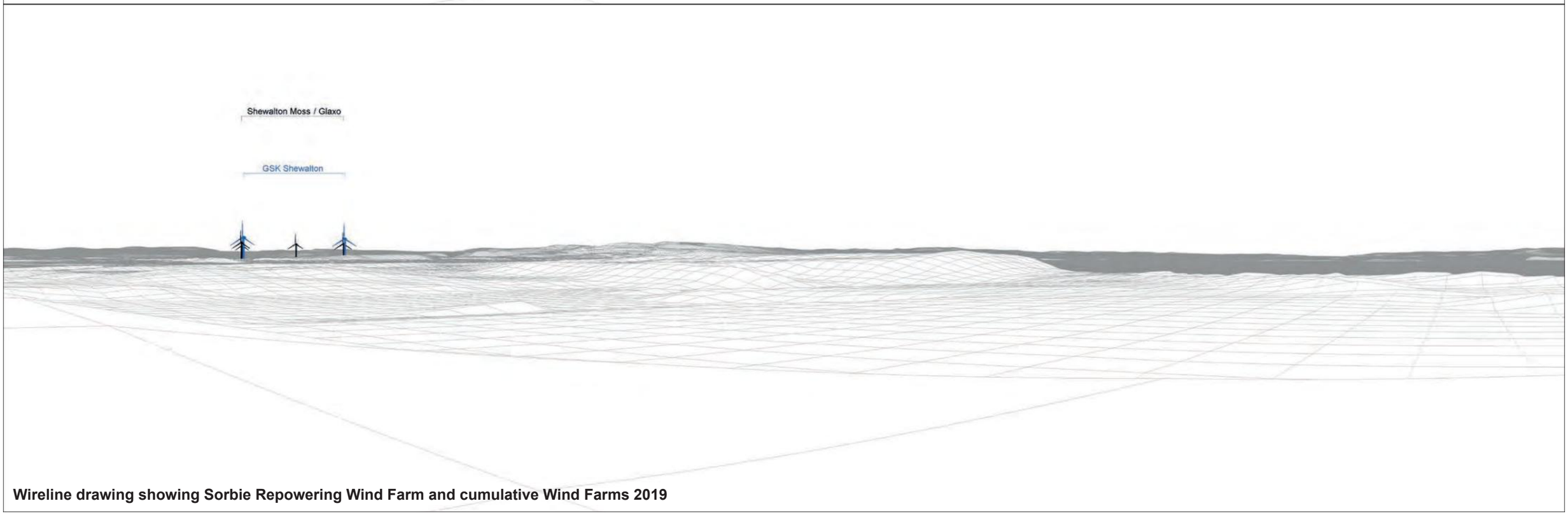

**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 230550 E 638021 N | | 90° (cylindrical projection) |
| **Eye level:** | 14.37 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 51.00° | | |
| **Nearest turbine:** | 9.244 km | | |

**Figure: 33c**
**Viewpoint 15: Irvine Bay**



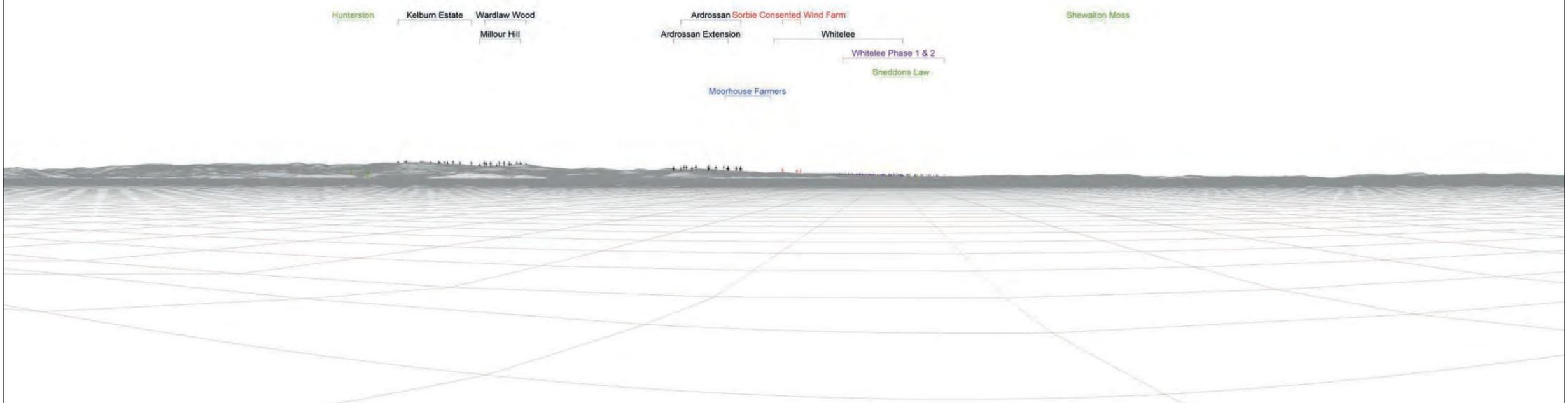

**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**



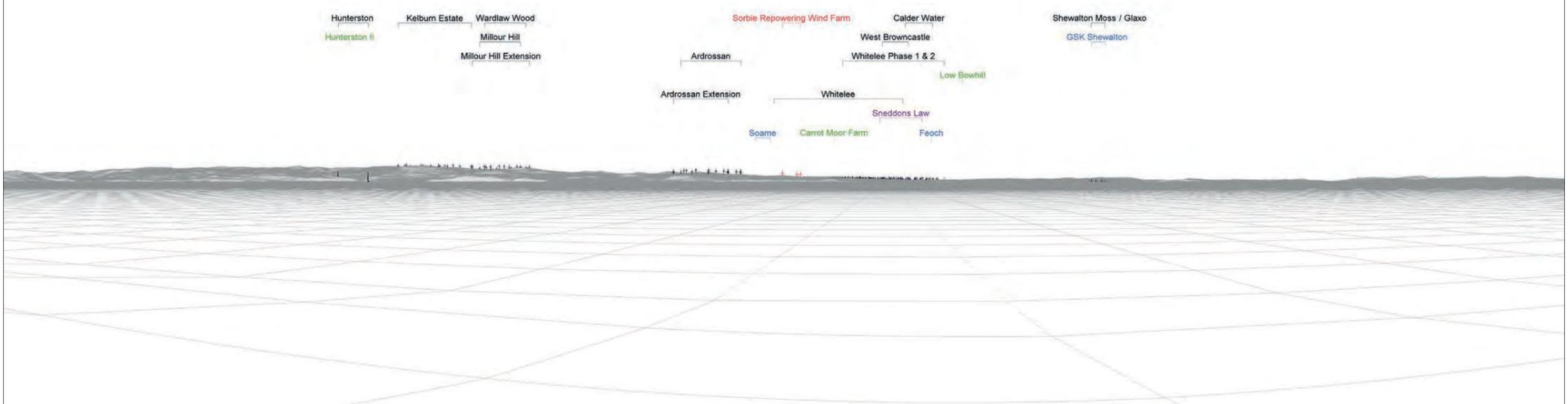

**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 230550 E 638021 N | | 90° (cylindrical projection) |
| **Eye level:** | 14.37 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 141.00° | | |
| **Nearest turbine:** | 9.244 km | | |

**Figure: 33d**
**Viewpoint 15: Irvine Bay**



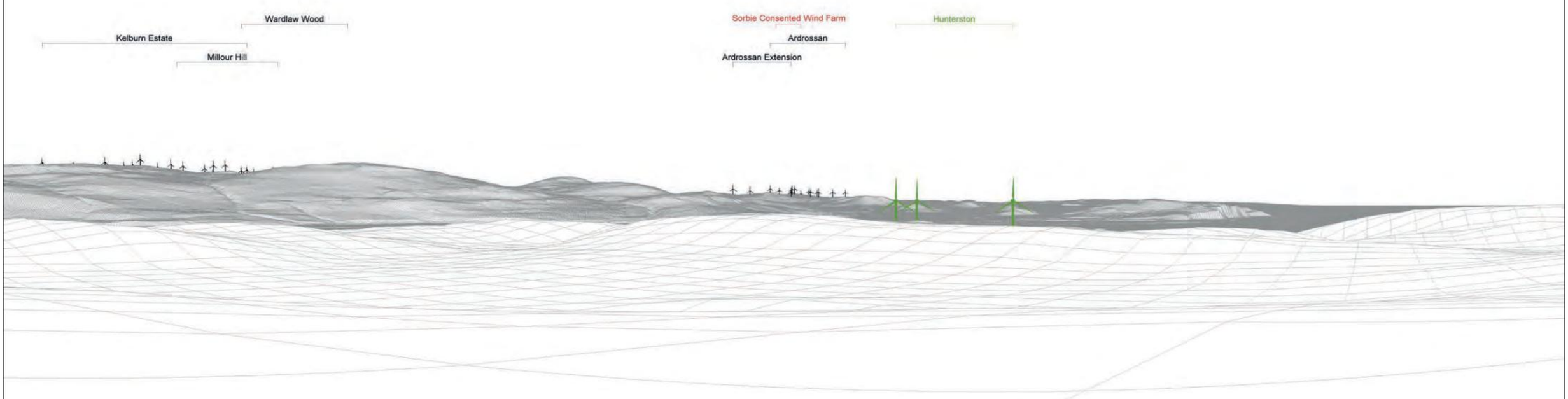

**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**



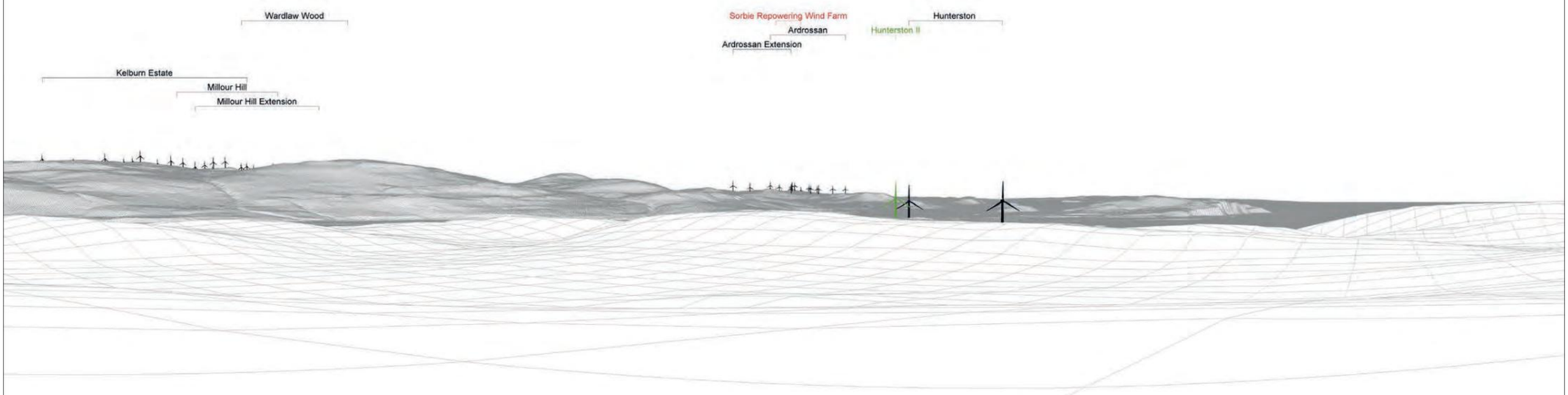

**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 202570 E 643272 N | | 90° (cylindrical projection) |
| **Eye level:** | 4.15 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 84.00° | | |
| **Nearest turbine:** | 21.928 km | | |

**Figure: 34b**
**Viewpoint 16: Corrie Arran**



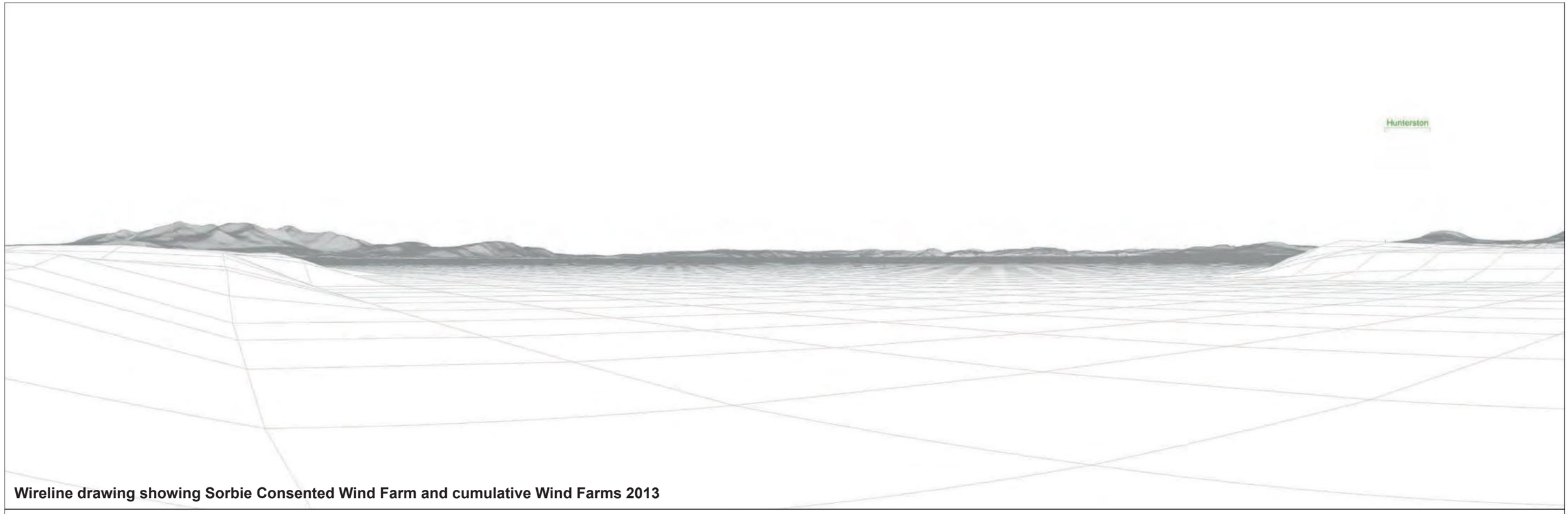

**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**



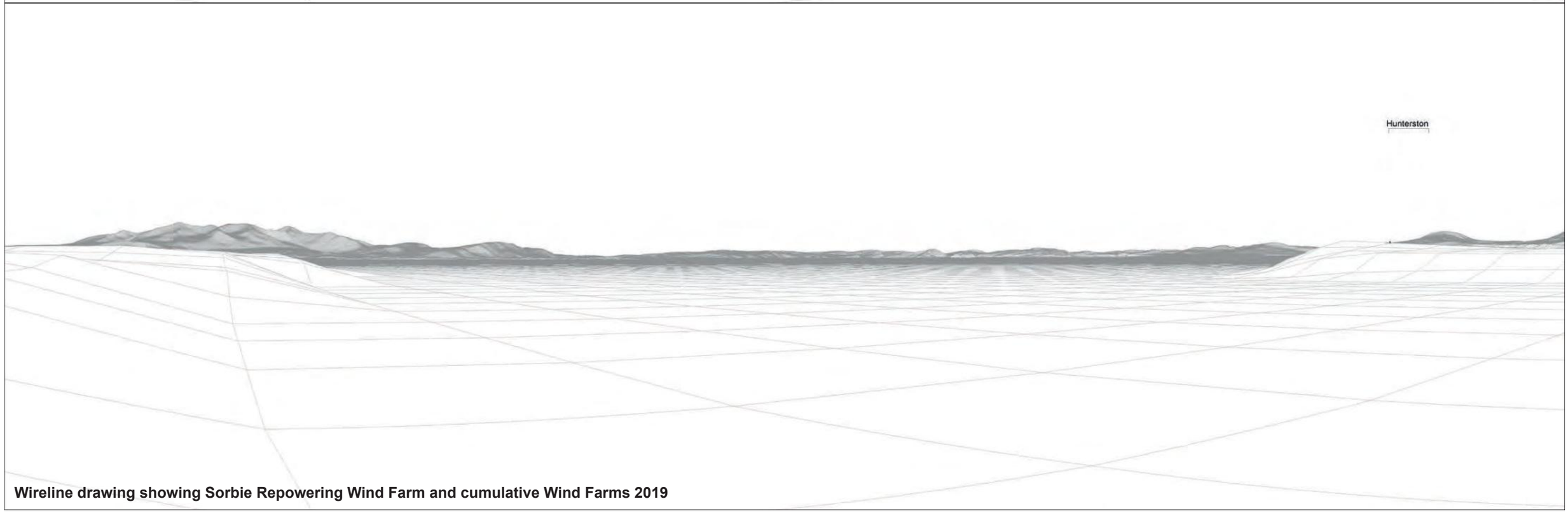

**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 216791 E 656998 N | | 90° (cylindrical projection) |
| **Eye level:** | 127.29 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 146.00° | | |
| **Nearest turbine:** | 13.798 km | | |

**Figure: 35b**
**Viewpoint 17: Barbay Hill, Great Cumbrae**



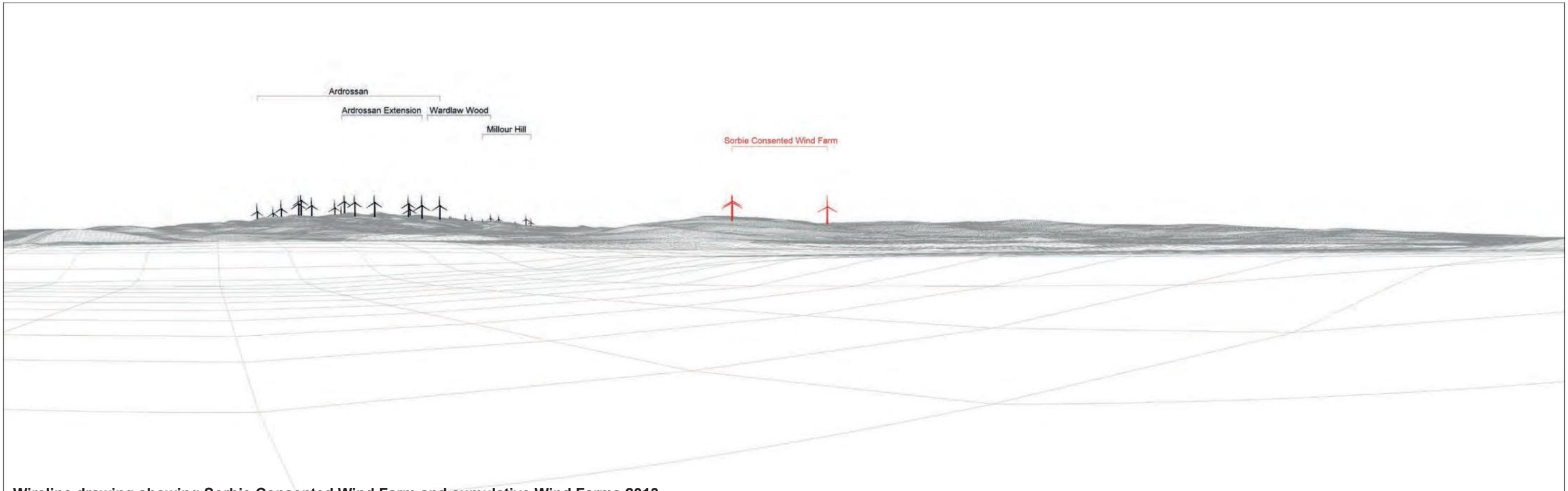

**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**



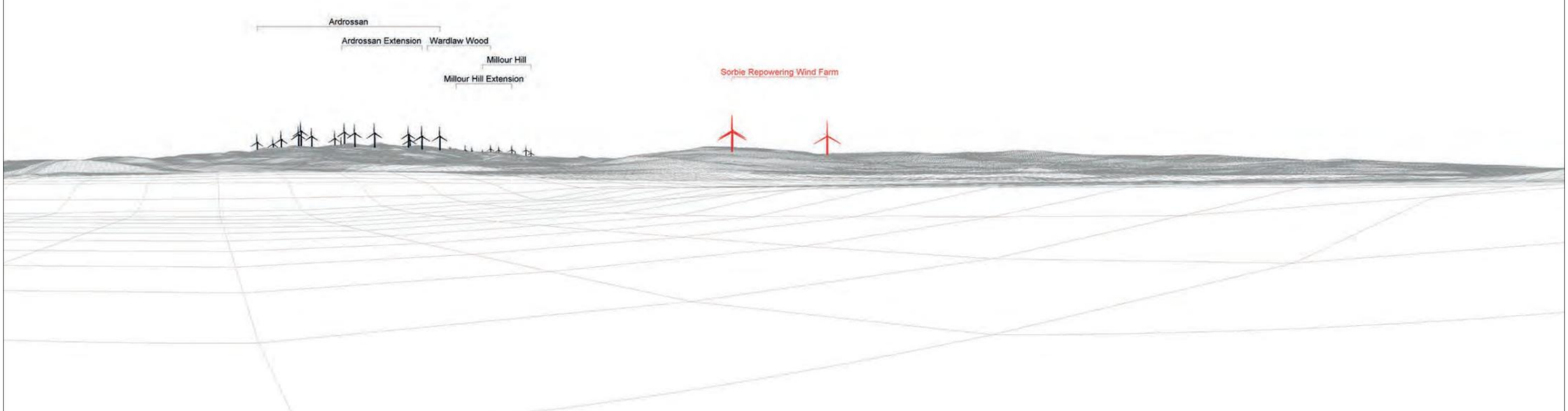

**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 222703 E 642337 N | | 90° (cylindrical projection) |
| **Eye level:** | 3.30 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 303.00° | | |
| **Nearest turbine:** | 3.405 km | | |

**Figure: 36b**
**Viewpoint 18: Ardrossan Harbour**




**Wireline drawing showing Sorbie Consented Wind Farm and cumulative Wind Farms 2013**




**Wireline drawing showing Sorbie Repowering Wind Farm and cumulative Wind Farms 2019**

| | | | |
|---|---|---|---|
| **OS reference:** | 222703 E 642337 N | | 90° (cylindrical projection) |
| **Eye level:** | 3.30 m AOD | **Principal distance** | 255 mm |
| **Direction of view:** | 33.00° | | |
| **Nearest turbine:** | 3.405 km | | |

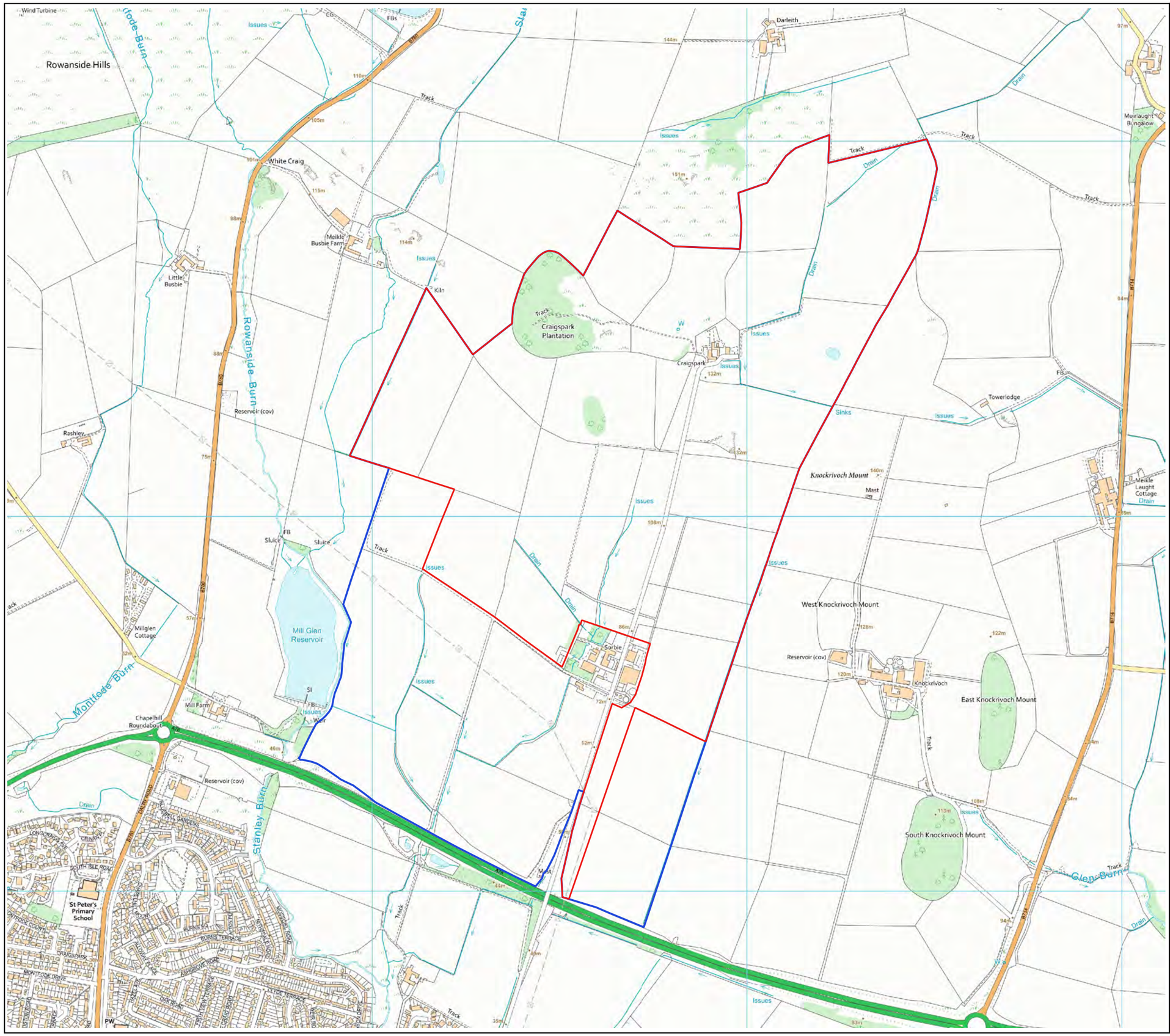
**Figure: 36c**
**Viewpoint 18: Ardrossan Harbour**

**ENERGIEKONTOR UK LTD**

SCOTLAND
11 Somerset Place
GLASGOW
G3 7JT
T: +44 (0)141 354 6544

ENGLAND
4330 Park Approach
Thorpe Park
LEEDS
LS15 8GB
T: +44 (0)113 204 4850

info@energiekontor.co.uk
www.energiekontor.co.uk




EnergieKontor

**Sorbie Wind Farm**


Office England:
4330 Park Approach
Leeds
LS15 8GB

T:+44 (0)113 204 4850

Office Scotland:
11 Somerset Place
Glasgow
G3 7JT

T:+44 (0)141 354 6544

www.energiekontor.co.uk


## Figure 1.1a: Site Location Plan

**Key:**

- Planning Application Area
- Land Under the Applicant's Control

0 50 100 150 200 250 m

N

Drawn by: MB Scale:1:10,000 @ A3 Date: 30/01/20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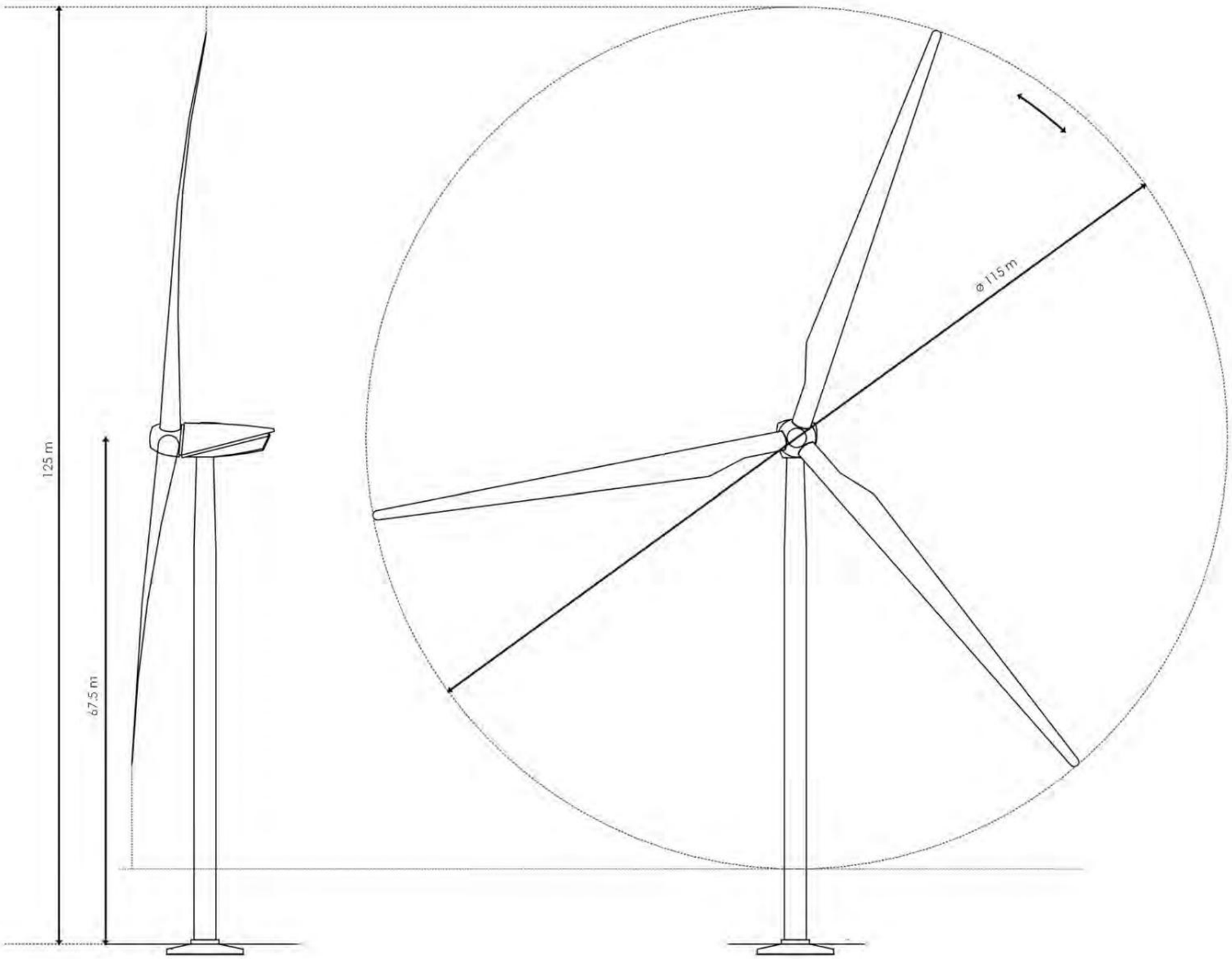


EnergieKontor

**Sorbie Wind Farm**

Office England:
4330 Park Approach
Leeds
LS15 8GB

T:+44 (0)113 204 4850

Office Scotland:
11 Somerset Place
Glasgow
G3 7JT

T:+44 (0)141 354 6544

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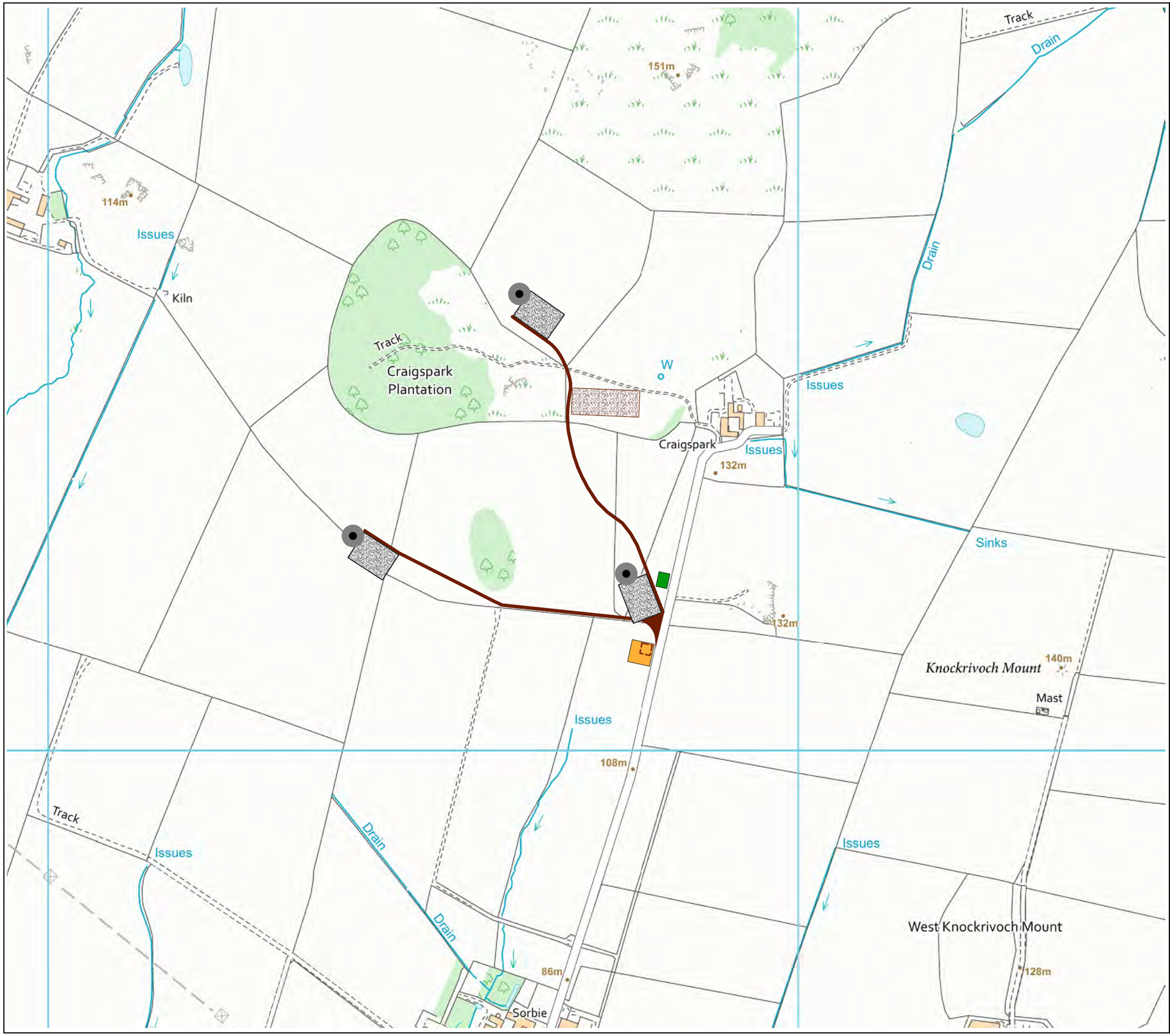
**Figure 1.2: Turbine Elevation**

NOTES:

For indicative purposes only

0 5 10 15 20 25 m

Drawn by: AF Scale:1:600 @ A3 Date: 24/04/2019




EnergieKontor

**Sorbie Wind Farm**

Office England:
4330 Park Approach
Leeds
LS15 8GB

T:+44 (0)113 204 4850

Office Scotland:
11 Somerset Place
Glasgow
G3 7JT

T:+44 (0)141 354 6544

www.energiekontor.co.uk

**Figure 1.3: Site Layout**

**Key:**

- Wind Turbines
- Turbine Foundations
- Crane Pads
- Substation
- Site Compound
- Battery Storage Area
- Access Tracks

0 50 100 150 200 250 m

N

Drawn by: AF Scale:1:5,000 @ A3 Date: 15/11/19

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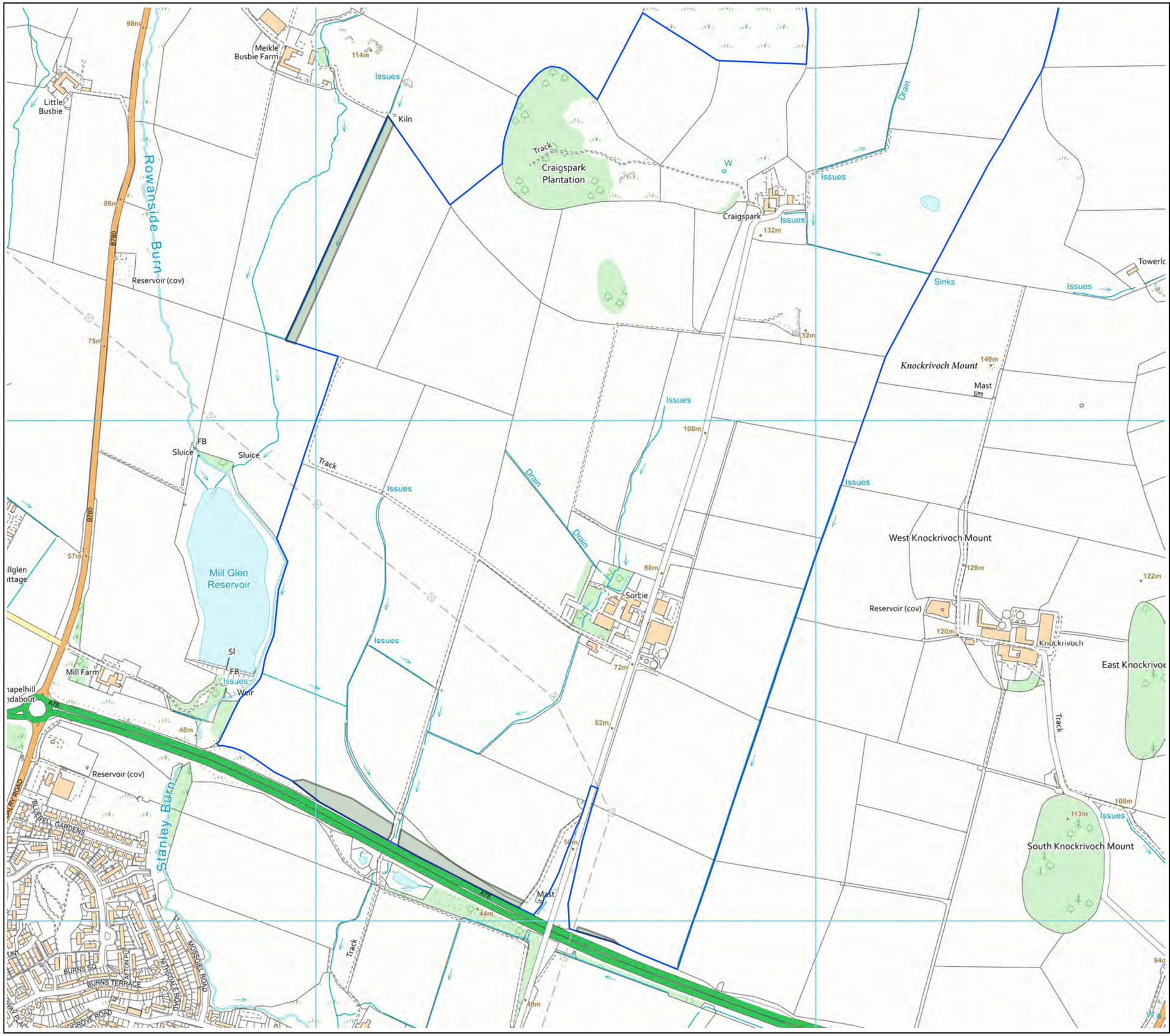


EnergieKontor

**Sorbie Wind Farm**

Office England:
4330 Park Approach
Leeds
LS15 8GB

T:+44 (0)113 204 4850

Office Scotland:
11 Somerset Place
Glasgow
G3 7JT

T:+44 (0)141 354 6544

www.energiekontor.co.uk

## Figure 1.4a Woodland Planting Proposals

**Key:**

- Land Under the Applicant's Control
- New Woodland Planting

0 50 100 150 200 250 m

N

Drawn by: MB Scale:1:7,500 @ A3 Date: 30/01/20

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North Ayrshire Council
Comhairle Siorrachd Àir a Tuath

KAREN YEOMANS : Executive Director – (Economy & Communities)

No N/18/01061/PP
(Original Application No. N/100145299-001)

CONDITIONAL PLANNING PERMISSION Type of Application: Local Application

TOWN AND COUNTRY PLANNING (SCOTLAND) ACT, 1997,
AS AMENDED BY THE PLANNING ETC (SCOTLAND) ACT 2006.
TOWN AND COUNTRY PLANNING (DEVELOPMENT MANAGEMENT PROCEDURE) (SCOTLAND)
REGULATIONS 2013

To : Energiekontor UK Ltd F.A.O. Mr Michael Briggs
4330 Park Approach
Thorpe Park
Leeds
England
LS15 8GB

With reference to your application received on 29 November 2018 for planning permission under the above mentioned Acts and Orders for :-

Section 42 planning application for variation of condition 3 of planning permission 13/00627/PP

at Sorbie Farm
Ardrossan
Ayrshire
KA22 7NP

North Ayrshire Council in exercise of their powers under the above-mentioned Acts and Orders hereby grant planning permission, in accordance with the plan(s) docquetted as relative hereto and the particulars given in the application, subject to the following conditions and associated reasons :-

Condition 1. That, in condition 3 as set out in Appendix 1 attached to the decision letter of The Scottish Government (ref. AIR-NAY-001) dated 30th November 2015, the wording "6 months" and "6 month" shall be substituted for "5 months" and "5 month" respectively.

Reason 1. To ensure that any turbines that become redundant are removed promptly and to protect the visual amenity of the area.

Condition 2. That, for the avoidance of doubt, all other conditions as set out in Appendix 1 attached to the decision letter of The Scottish Government (ref. AIR-NAY-001) dated 30th November 2015 shall continue to have effect.

Reason 2. To ensure that, in all other respects, the development is implemented in accordance with the decision letter of The Scottish Government dated 30th November 2015.

Reason(s) for approval 1. The proposal complies with the relevant provisions of the Local Development Plan and there are no other material considerations that indicate otherwise.

Dated this : 11 January 2019

.....
for the North Ayrshire Council

Sorbie Farm Ardrossan Ayrshire KA22 7NP
No N/18/01061/PP

**Drawings relating to decision**

| Drawing Title | Drawing Reference | Drawing Version |
|---|---|---|
| Location Plan | Fig 1.1 | |
| Location Plan | Fig 1.2 | |

(See accompanying notes.) (The applicant's attention is particularly drawn to note 5 (limit of duration of planning permission))

**ECONOMY & COMMUNITIES**
**Executive Director: Karen Yeomans**
**Cunninghame House, Irvine KA12 8EE**
**Tel: 01294 310000 Fax: 01294 324309**
**www.north-ayrshire.gov.uk**

North Ayrshire Council
Comhairle Siorrachd Àir a Tuath

# NOTIFICATION OF INITIATION OF DEVELOPMENT

**Please return notice when you intend to commence development**

11 January 2019

TO:

Enforcement Officer
Planning Services
Cunninghame House
Irvine
North Ayrshire
KA12 8EE

Our Ref: N/18/01061/PP

**Decision:** Approved subject to Conditions **Decision Date:** 11 January 2019

| DETAILS OF APPLICANT AND/OR DEVELOPER | DETAILS OF OWNER | DETAILS OF AGENT IF APPLICABLE |
|---|---|---|
| | | |

**Description of Development**: Section 42 planning application for variation of condition 3 of planning permission 13/00627/PP

**Location of Development:** Sorbie Farm Ardrossan Ayrshire KA22 7NP

Date when work commences: _____

Signed: _____

Applicant/Agent* _____

* Delete where applicable

**Please read the following and retain for your information.**

1. Work must be carried out in accordance with the relevant docquetted plans and any conditions on the decision notice.

2. A grant of Planning Permission does not authorise work under the Building (Scotland) Act 2003.

3. A separate Building Warrant may be required. Please contact (01294) 324348 to ascertain the need for a warrant.

4. Should the docquetted plans not correspond with what you intend to construct/build, you must seek the Authority of the Council before proceeding.

5. If the development you intend to undertake is either a national or major development and of a type specified in Schedule 3 of the Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013 you will be required to display a site notice.

**ECONOMY & COMMUNITIES**
**Executive Director: Karen Yeomans**
**Cunninghame House, Irvine KA12 8EE**
**Tel: 01294 310000 Fax: 01294 324309**
**www.north-ayrshire.gov.uk**

North Ayrshire Council
Comhairle Siorrachd Àir a Tuath

# NOTIFICATION OF COMPLETION OF DEVELOPMENT

**Please return notice when you have completed the development**

11 January 2019

TO:

Enforcement Officer
Planning Services
Cunninghame House
Irvine
North Ayrshire
KA12 8EE

Our Ref: N/18/01061/PP

**Decision:** Approved subject to Conditions **Decision Date:** 11 January 2019

| DETAILS OF APPLICANT AND/OR DEVELOPER | DETAILS OF OWNER | DETAILS OF AGENT IF APPLICABLE |
|---|---|---|
| | | |

**Description of Development**: Section 42 planning application for variation of condition 3 of planning permission 13/00627/PP

**Location of Development:** Sorbie Farm Ardrossan Ayrshire KA22 7NP

Date when works complete: _____

Signed: _____

Applicant/Agent* _____

*Delete where applicable

**Please read the following and retain for your information.**

1. Work must have been carried out in accordance with the relevant docquetted plans and any conditions on the decision notice.

2. A grant of Planning Permission does not authorise work under the Building (Scotland) Act 2003.

3. A separate Building Warrant may be required. Please contact (01294) 324348 to ascertain the need for a warrant.

4. Should the docquetted plans not correspond with what you intend to construct/build, you must seek the Authority of the Council before proceeding.

5. If the development you intend to undertake is either a national or major development and of a type specified in Schedule 3 of the Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013 you will be required to display a site notice.

North Ayrshire Council
Comhairle Siorrachd Àir a Tuath

TOWN AND COUNTRY PLANNING (SCOTLAND) ACT 1997
AS AMENDED BY THE PLANNING ETC (SCOTLAND) ACT 2006.
TOWN AND COUNTRY PLANNING (DEVELOPMENT MANAGEMENT PROCEDURE) (SCOTLAND)
REGULATIONS 2013 – REGULATION 28

KAREN YEOMANS : Executive Director – (Economy & Communities)

**FORM 2**

1. If the applicant is aggrieved by the decision to refuse permission for or approval required by a condition in respect of the proposed development, or to grant permission or approval subject to conditions, the applicant may require the planning authority to review the case under section 43A of the Town and Country Planning (Scotland) Act 1997 within three months from the date of this notice. The notice of review should be addressed to Committee Services, Committee Services, Chief Executive's Department, Cunninghame House, Irvine, North Ayrshire, KA12 8EE.

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, the owner of the land may serve on the planning authority a purchase notice requiring the purchase of the owner of the land's interest in the land in accordance with Part 5 of the Town and Country Planning (Scotland) Act 1997.

The Directorate for Local Government and Communities
Planning and Architecture Division: Planning Decisions

The Scottish Government

LEGACY 2014
XX COMMONWEALTH GAMES
SCOTLAND

Our ref: AIR-NAY-001
28 September 2015

Dear Mr Gillies

**NOTICE OF INTENTION**

**TOWN AND COUNTRY PLANNING (SCOTLAND) ACT 1997**
**ERECTION OF 3 WIND TURBINES AND ASSOCIATED INFRASTRUCTURE AT SORBIE FARM, NORTH OF ARDROSSAN, NORTH AYRSHIRE, KA22 7NP**

1. We refer to the planning application submitted on behalf of Sorbie Windfarm Limited for the above mentioned development.

2. On 18 August 2014, Scottish Ministers issued a Direction, under Section 46 of the Town and Country Planning (Scotland) Act 1997, requiring the above application to be referred to them for determination. This was because of the proposed development's potential adverse impact upon the safe provision of the primary surveillance radar display for Glasgow Prestwick Airport.

3. The application was considered on the basis of unaccompanied site inspections on 22 October and 19 November 2014, hearing sessions on 28 January 2015 and an accompanied site inspection on 29 January 2015 by Dan Jackman BA(Hons) MRTPI, a reporter appointed for that purpose. A copy of Mr Jackman's report is enclosed for your information.

**The Report**

4. Background to the proposal is provided in chapter 1. All other relevant information is contained between chapters 2 and 5 and the reporter's overall conclusions and recommendation appear in chapter 6.

**Scottish Ministers' Decision**

5.. Scottish Ministers have carefully considered the written submissions and the reporter's conclusions and recommendation. They accept the reporter's conclusions and recommendation and adopt them for the purpose of their own decision.

6.. Accordingly, Scottish Ministers hereby give notice that they are minded to grant planning permission for the erection of 3 wind turbines and associated infrastructure at Sorbie Farm, North of Ardrossan, North Ayrshire, KA22 7NP subject to conditions, as set out in Appendix 1 of the report, and to the satisfactory conclusion of a planning obligation or suitable alternative binding agreement as set out in paragraph 6.85 of the report.

7. Planning permission will not be granted until a planning obligation, or suitable alternative binding agreement, has been concluded to the satisfaction of Scottish Ministers. Scottish Ministers, therefore, propose to defer their formal decision on the planning application, in the first instance for a period of 3 months to enable these actions to be completed.

8. A copy of this letter and the reporter's report has been sent to North Ayrshire Council, National Air Traffic Services (NATS), Glasgow Prestwick Airport and Mr and Mrs Slater. A copy of the letter has been sent to other interested parties.

Yours sincerely

**Annex A**

Directorate for Planning and Environmental Appeals

# Report to the Scottish Ministers

The Scottish Government

## TOWN AND COUNTRY PLANNING (SCOTLAND) ACT 1997

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Report by Dan Jackman, a reporter appointed by the Scottish Ministers

- Case reference: AIR-NAY-001
- Site Address: Sorbie Farm, Ardrossan, North Ayrshire, KA22 7NP
- Application for planning permission, ref. 13/00627/PP dated 24 October 2013, called-in by notice dated 18 August 2014
- The development proposed: Erection of 3 wind turbines and associated infrastructure
- Date of hearing sessions : 28 January 2015
- Date of site inspections: 22 October 2014, 19 November 2014 and 29 January 2015

Date of this report and recommendation: 3 September 2015

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Directorate for Planning and Environmental Appeals

Summary of Report into Called-In Planning Application

The Scottish Government

**The erection of 3 wind turbines and associated infrastructure at Sorbie Farm, North of Ardrossan, North Ayrshire, KA22 7NP**

| | |
|---|---|
| • Case reference | AIR-NAY-001 |
| • Case type | Called in application |
| • Reporter | Dan Jackman |
| • Applicant | Sorbie Wind Farm Limited |
| • Planning authority | North Ayrshire Council |
| • Other parties | Mr and Mrs Slater, National Air Traffic Services and Glasgow Prestwick Airport |
| • Date of application | 24 October 2013 |
| • Date case received by DPEA | 18 August 2014 |
| • Methods of consideration and dates | Unaccompanied site inspections on 22 October 2014 and 19 November 2014<br>Accompanied site inspection 29 January 2015<br>Hearing sessions on 28 January 2015 |
| • Date of report | 3 September 2015 |
| • Reporter's recommendation | That planning permission be granted |

**Ministers' reasons for call in:**

Because of the proposed development's potential adverse impact upon the safe provision of the primary surveillance radar display for Glasgow Prestwick Airport

**The site:**

The site is located approximately 1 kilometre north of the edge of Ardrossan on agricultural land mainly used for cattle grazing. The western boundary of the site is formed by the B780. The other boundaries relate to existing field boundaries. Approximately 1.4 kilometres to the North West of the site is the operational Ardrossan Wind Farm, which comprises 12 turbines with a tip height of 100 metres and a further three turbines with a tip height of 106.5 metres.

**Proposed development**

The applicant is Sorbie Wind Farm Limited, a wholly owned subsidiary of Velocita Energy Developments Limited. The development would consist of:

- 3 X 2.3 Mega Watt wind turbines, each of a maximum height to blade tip of 104.3 metres
- Associated infrastructure including control building/substation, turbine lay down areas and temporary crane hardstandings
- Construction of new access tracks and upgrading existing
- Temporary construction compound
- Erection of one permanent anemometer mast
- A new access onto the B 780

**Case for Sorbie Wind Farm Limited:**

The wind farm would be seen in the context of the existing Ardrossan Wind Farm. It would not give rise to any unacceptable impacts. The council's Local Review Body was satisfied that there would be no unacceptable landscape and visual impacts.

Aviation radar matters have now been resolved and the original objections withdrawn. All other impacts are acceptable or can be made acceptable with appropriate mitigation, secured by planning conditions. The conditions have very largely been agreed with the council. Whilst there are tensions with the Landscape Capacity Study for Wind Farm Development in North Ayrshire (Landscape Capacity Study 2009) and the Ayrshire Supplementary Planning Guidance (SPG) on Wind Farm Development (Ayrshire Supplementary Guidance), overall the proposal complies with Policy PI 9 and with the development plan as a whole.

The proposal can draw significant support from Scottish Planning Policy and other Scottish Government guidance. It has a number of important benefits. Planning permission should therefore be granted.

**Case for North Ayrshire Council:**

The proposal does not completely comply with the provisions of the development plan. However, other material considerations outweigh any concerns. In particular, weight should be attached to the findings of the site specific landscape and visual impact assessment. The council does not consider that the proposal would result in a significant adverse effect on the landscape.

Subject to appropriate conditions and a Section 75 Planning Obligation relating to restoration and decommissioning, planning permission should be granted.

**Case for Mr and Mrs Slater:**

Overall, the proposal is significantly contrary to the provisions of the development plan. All the independent professionals who have assessed the proposal have recommended that planning permission should be refused. There are a number of concerns relating to the noise assessment meaning that the conclusions cannot be relied upon. Any benefits in terms of electricity generation and jobs would be small. The suggestion of any community

benefit fund is not relevant to the decision. Planning permission should therefore be refused.

**Case for National Air Traffic Services (NATS) and Glasgow Prestwick Airport:**

Matters have developed since the planning application was called in. A private agreement has been reached between Sorbie Wind Farm Limited and NATS, who have withdrawn their original objection. Agreement has also been reached with Glasgow Prestwick Airport over appropriate mitigation measures and subject to a suspensive condition, Glasgow Prestwick Airport has also withdrawn their objection.

**Reporter's reasoning:**

1. Assessment against the provisions of the development plan

The development plan consists of the North Ayrshire Council Local Development Plan, formally adopted on 20 May 2014. The main relevant policy is Policy PI 9, which relates specifically to renewable energy proposals, including wind farms.

The proposal complies with 7 of the 9 relevant criteria of Policy PI 9. The proposal would not comply with criteria c) and i). As the policy requires all criteria to be met, the proposal is contrary overall with Policy PI 9. As Policy PI 9 is the dominant policy of the development plan the proposal does not overall comply with the provisions of the development plan.

2. Assessment against other material considerations

Notwithstanding the contents of the Landscape Capacity Study 2009 and the Ayrshire Supplementary Guidance, it is considered that the proposal would have acceptable landscape and visual impacts as it would mainly be seen in the context of the existing Ardrossan Wind Farm. The original objections regarding impact on aviation radars have now been withdrawn. The proposal could operate within the minimum noise limits set out in The Assessment and Rating of Noise from Wind Farms (ETSU-R-97). Overall, the proposal can draw considerable support from Scottish Planning Policy.

3. Final conclusions

Although the proposal does not accord overall with the relevant provisions of the development plan, granting planning permission can be justified because of the support given by Scottish Planning Policy for environmentally acceptable wind farm proposals. However, a Section 75 Planning Obligation is recommended in this case in order to ensure appropriate restoration and decommissioning of the site.

Scottish Government Directorate for
Planning and Environmental Appeals

4 The Courtyard
Callendar Business Park
Callendar Road
Falkirk
FK1 1XR

DPEA case reference: AIR-NAY-001

The Scottish Ministers
Edinburgh

Ministers

In accordance with my minute of appointment dated 18 August 2014, I carried out an examination of the called in planning application for 3 wind turbines and associated infrastructure at Sorbie Farm, Ardrossan, North Ayrshire.

Sorbie Wind Farm Limited submitted the planning application on 24 October 2013. On 26 March 2014 they lodged a review against non-determination of the planning application. On 18 June 2014 the Local Review Body decided to grant planning permission subject to a number of matters, including notifying Scottish Ministers under the terms of the Town and Country Planning (Safeguarding Aerodromes, Technical Sites and Military Explosive Storage Areas) (Scotland) Direction 2003. After due consideration, Scottish Ministers called in the application on 18 August 2014.

I held a pre-examination meeting on 20 November 2014 where it was agreed that there should be a planning policy hearing session, a conditions hearing session and an inquiry session for radar matters. In the event, the inquiry session was replaced by an agreed written statement. The hearing sessions took place on 28 January 2015. Closing submissions were exchanged in writing, with the final closing submission (on behalf of the Sorbie Wind Farm Limited) being lodged on 19 March 2015.

I conducted unaccompanied inspections of the view points and surrounding road network on 22 October 2014 and 19 November 2014. An accompanied inspection of the site and Mr and Mrs Slater's property took place on 29 January 2015.

Chapter 1 of my report gives background information to the application, including a summary of the main policy documents. Chapters 2,3,4 and 5 summarise the case for the main parties. My reasoning, conclusions and recommendations are set out in chapter 7. Any document referencing number refers to the list of documents contained in Appendix 4.

## CHAPTER 1: BACKGROUND

### Site description

1.1 The site is located approximately 1 kilometre north of the edge of Ardrossan on agricultural land mainly used for cattle grazing. The western boundary of the site is formed by the B 780. The other boundaries relate to existing field boundaries. Approximately 1.4 kilometres to the North West of the site is the operational Ardrossan Wind Farm, which comprises 12 turbines with a tip height of 100 metres and a further three turbines with a tip height of 106.5 metres.

1.2 The site rises from the south to the north with a maximum height of 157 metres on a wooded hill called Craigspark Plantation. Close to the hill is a disused farm house and buildings also called Craigspark. Within and adjacent to the site are several farm houses and residential properties. The site location and site layout are shown in Fig 1.1 and 1.2 of volume 2 of the Environmental Appraisal (CD01).

### Proposed development

1.3 The applicant is Sorbie Wind Farm Limited, a wholly owned subsidiary of Velocita Energy Developments Limited. In summary the development would consist of:

- 3 X 2.3 Mega Watt wind turbines, each of a maximum height to blade tip of 104.3 metres
- Associated infrastructure including control building/substation, turbine lay down areas and temporary crane hardstandings.
- Construction of new access tracts and upgrading existing
- Temporary construction compound
- Erection of one permanent anemometer mast

1.4 The proposed main access to the site is from the B 780 and will require a new access in the North West corner of the site. A more detailed project description is contained in chapter 2 of the environmental appraisal and in figs 1.2, 2.2-2.14 of volume 2 (CD01).

### Consultation responses

1.5 The planning application was submitted to North Ayrshire Council on 24 October 2013. The council carried out a consultation process and between November 2013 – March 2014 received the following replies as set out below.

1.6 **Clyde Muirshiel Regional Park** – Objected to the proposal because:

- Although outside the regional park, the turbines would be highly visible to anyone coming towards its southern flank
- The proliferation of turbines will impinge on the visitor's perception of the Regional Park as a place of tranquillity and naturalness

- Unacceptable cumulative landscape and visual effects in association with the existing Ardrossan Wind Farm and the Dalry/Kelburn/Milour Hill Wind Farm Group
- Turbine 1 should be located at least 50 metres from Craigburn Plantation in order to avoid harming foraging bats
- There would be cumulative detrimental effects on birds from existing and proposed wind turbines in the area due to collisions, displacement and loss of habitat

1.7 **Glasgow Airport** – There is no conflict with our safeguarding criteria and therefore we have no objection.

1.8 **North Ayrshire Council Environmental Health** – No objections subject to conditions regarding noise, private water supplies and operational times for construction works.

1.9 **North Ayrshire Council Roads** – No objections subject to conditions

1.10 **Ministry of Defence** – No objection. However, the Ministry of Defence would like to be advised when construction starts and ends, height of construction equipment and the latitude and longitude of every turbine.

1.11 **Royal Society for the Protection of Birds (Scotland)** – No objection

1.12 **Scottish Natural Heritage** – From several nearby viewpoints the proposal would contrast with the scale and design of the larger Ardrossan Wind Farm. Scottish Natural Heritage would recommend a lower turbine height to allow closer spacing in order to achieve a more compact layout.

1.13 **Scottish Water** – No objection

1.14 **Scottish Environment Protection Agency** – No objection to the planning application but reminds the applicant of the need to follow other associated regulatory requirements and best practice advice.

1.15 **West of Scotland Archaeology Service** – No objection subject to a condition requiring approval of a written scheme of investigation.

1.16 **Glasgow Prestwick Airport** and **National Air Traffic Services (NATS)** were also consulted on the planning application. Both parties' position changed as the circumstances surrounding the application developed. The case for Glasgow Prestwick Airport and NATS is set out in more detail in chapter 5.

**Representations**

1.17 The council carried out the usual neighbour notification procedure and the application was advertised in the local press on 6th November 2013. Five letters of objection were received. Anyone making representations were invited by the council to

make further representations to the Local Review Body. Mr and Mrs Slater, occupiers of a nearby residential property made representations at the time of the planning application, to the Local Review Body and participated in the hearing sessions. The case for Mr and Mrs Slater is set out in more detail in chapter 4.

1.18 The key points made in the letters of objection are as follows:

- Wind turbines are inefficient, reliant on public subsidies and overall do not reduce carbon dioxide immissions
- The proposal would not abide with Article 7 of the Aarhus Convention
- Other countries are not deciding to erect any more wind turbines because they are problematic
- There was insufficient publicity surrounding the application
- The proposal is too close to residential areas
- As Ardrossan expands northwards up to the A 78 bypass, even more residents would be adversely affected by the development
- The proposal would be more visually intrusive than the existing Ardrossan Wind Farm
- Adverse cumulative landscape and visual impacts in combination with Ardrossan and Dalry group of wind farms and the Benthead Farm wind turbine
- The proposal is contrary to the council's published planning guidelines
- The information on the cumulative number of turbines in the area is out of date
- Adverse impacts on human health due to noise, infra sound and low frequency noise. These impacts have been widely supported by people living near turbines and academic research
- The proposal would cause shadow flicker and the interruption of TV reception
- Detrimental to the tourism in the local area
- Economic benefits from wind turbine development are over stated
- Wind turbines cause harmful effects to livestock and wild life
- The proposal would create an unfortunate precedent for the erection of more turbines

1.19 Twenty two letters of support were received by the council making the following key comments:

- The proposal would not detract from the surroundings due to its close relationship with the existing Ardrossan Wind Farm
- The applicant is proposing a generous community benefit package
- The proposal would create jobs, particularly during construction
- The proposal would help meet renewable energy targets

1.20 On 6 January 2015 the Directorate of Planning and Environmental Appeals received a letter from the campaign group Save Your Regional Park claiming that they had objected to the planning application on 27 November 2013 and had also attended the Local Review

Body meeting. The Council had not passed this information on and that Save Your Regional Park would like to address the hearing session (arranged for 28 January 2015).

1.21 On 7 January 2015 the council confirmed to the Directorate for Planning and Environmental Appeals that they had no record of a submission from Save Your Regional Park.

1.22 I ruled that I would accept Save Your Regional Park's written submission but because there was no mention made of planning policy matters and that the aviation session had become an agreed written statement that they could not participate in the hearing session. The key points made were:

- The proposal would detrimentally contribute to the cumulative impact of 41 turbines within or on the edge of Clyde Muirshiel Regional Park adding to an already "over-turbined vista"
- Impact on airport and flight radar
- Harmful impact on tourist businesses
- Too close to houses likely to cause nausea and sleeplessness

**Council's decision**

1.23 The planning application was submitted by Sorbie Wind Farm Limited on 24 October 2013 and registered by the council on 30 October 2013. On 26 March 2014, Sorbie Wind Farm Limited lodged a review against non-determination of the planning application.

1.24 The notice of review, the representations from the interested parties and the applicant's response to those representations, together with all supporting information were submitted to the Local Review Body on 28 May 2014. The Local Review Body considered that they required a planning officer's report (see Appendix 3) and to visit the site. The site visit took place on 2 June 2014.
1.25 The Local Review Body considered all the submitted information including the planning officer's report and Sorbie Wind Farm Limited's comment on the report on 18 June 2014. The minutes of that meeting state that:

*"The Local Review Body agreed to grant the application subject to:*

*a) notification under the terms of the Town and Country Planning (Safeguarding Aerodromes, Technical Sites and Military Explosive Storage Areas) (Scotland) Direction 2003.*

*b) The applicant's demonstrating that mitigation measures, and the delivery and implementation of these mitigation measures, have been agreed with Glasgow Prestwick Airport to alleviate any potential adverse impact on Glasgow Prestwick Airport's primary surveillance radar system.*

*c) The applicant's demonstrating that mitigation measures, and the delivery and implementation of those mitigation measures, have been agreed with National Air Traffic*

*Services to alleviate any potential impact on the Lowther Hill primary radar and air traffic management operation of National Air Traffic Services.*

*d) The applicant's entering into a Section 75 agreement in order:*

*i) to secure financial bonds to provide for the restoration of the site: and*

*ii) to secure an annual community benefit payment and the submission of an annual report accounting for the disbursement of the community benefit funding; and*

*e) The planning conditions set out in the planning officer's report*

**Notification of the planning application**

1.26 On 24 June 2014, North Ayrshire Council notified Scottish Ministers under the terms of the above direction. During that process, NATS considered that mitigation was possible and were content for planning permission to be granted subject to a suspensive planning condition. However, Glasgow Prestwick Airport maintained their objection. Therefore, on 18 August 2014, Scottish Ministers' directed North Ayrshire Council to refer the application to them for determination after an examination by the appointed Reporter.

1.27 On 20 November 2014 a pre-examination meeting was held where it was agreed that there should be a planning policy hearing session, a conditions hearing session and an inquiry session for radar matters (see Appendix 5 for a note of the meeting). In the event, the inquiry session was replaced by an agreed written statement. The hearing sessions took place on 28 January 2015.

1.28 On 13 May 2015, whilst the report to Scottish Ministers was being drafted, Glasgow Prestwick Airport informed the Directorate for Planning and Environmental Appeals that they withdrew their objection subject to a suspensive planning condition.

**Planning policy background**

*Development plan*

1.29 The development plan consists of the North Ayrshire Local Development Plan formally adopted on 20th May 2014 (see CD 04). The local development plan includes the strategic aims and vision for the area, a general policy that would apply to any development, policies that apply to specific types of development (e.g. renewable energy proposals) and policies designed to protect the natural and historic environment.

1.30 Policy PI 9 relates to renewable energy proposals, including proposals for wind turbines and states:

*"Proposals for the development of wind turbines, wind farms, biomass, solar powered, thermal, wave or run-of-river renewable energy development, or microrenewables, shall accord with the LDP subject to the proposal satisfying the following criteria:*

*(a) the development is appropriate in design and scale to its surroundings; AND*

*(b) it can be demonstrated that there is no unacceptable adverse impact on the intrinsic landscape qualities of the area (especially for areas with a specific landscape designation, and coastal areas); AND*

*(c) in the case of individual wind turbine or wind farm development, that the proposed development is not in an area designated as "high sensitivity" in the "landscape Capacity Study for Wind Farm Development in North Ayrshire"; AND*

*(d) the proposal shall not result in unacceptable intrusion, or have an unacceptable adverse effect on the natural, built, cultural or historic heritage of the locality; AND*

*(e) it can be demonstrated that there are no unacceptable adverse impacts on the operation of tourism or recreation interests; AND*

*(f) it can be demonstrated that there are no unacceptable adverse effects on telecommunications, transmitting, receiving, or radar systems for civil, broadcasting, aviation or defence interests can be effectively overcome; AND*

*(g) the proposal can be satisfactorily connected to the national grid without causing any unacceptable negative environmental impacts; AND*

*(h) when considered in association with existing sites, sites formally engaged in the Environmental Assessment process or sites with planning permission, including those in neighbouring authorities, there are no unacceptable impacts due to the cumulative impact of development proposals; AND*

*(i) in the case of individual wind turbine and wind farm development, that the proposal satisfies the contents of the Ayrshire Supplementary Guidance: Wind Farm Development (October 2009); AND*
*(j) where appropriate, applicants will be required to demonstrate consideration of co-location with significant electricity or heat users.*

*The Council will require that any redundant apparatus will be removed within 6 months of it becoming non-operational and that the site will be restored, unless it can be demonstrated that said apparatus will return to productive use within a reasonable timeframe."*

1.31 The General Policy applies to any development proposal and sets out a framework for assessment that includes consideration of design, amenity and landscape character. The policy can be found at page 8 of CD 4.

1.32 The site is located within countryside as shown on the proposals map. Policy ENV 1 sets out the criteria for determining proposals (other than housing) for development in the countryside (see page 55 of CD 4). Policies ENV 4, ENV 5 and ENV 6 relate to farm land, farm diversification and economic development in rural area. They can be found at pages 59 -61 of CD 4.

1.33 Policy ENV 7 relates to Special Landscape Areas (see page 61 of CD 4). The site is not located within any of the identified Special Landscape Areas shown on the proposals map. However, some parties have raised the issue of the impact on Clyde Muirshiel Regional Park which is an identified Special Landscape Area.

1.34 Policy ENV 9 relates to nature conservation (see page 63 of CD4). Policies HE 1 Conservation Areas, HE 2 Listed Buildings, HE 4 Scheduled Ancient Monuments and Archaeological sites and HE 5 Historic Landscapes can be found at pages 49 -52 of CD 4.

*Scottish Government Policy and Advice*

1.35 Scottish Planning Policy was published in June 2014. It sets out Scottish Ministers' priorities for the operation of the planning system. The overall policies are set out in page 9 -17 of CD 15. Advice in relation to onshore wind is included in paragraphs 161 – 174 (see page 38 – 41 of CD 15). This includes Table 1: Spatial Frameworks (Page 39 CD 15), which is intended to assist planning authorities in developing their own spatial framework.

1.36 Scottish Government energy policy and the inter-relationship with the planning system is set out in a range of documents – see CD 14, 16, 17, 18, 19, 20 and 21. The Scottish Government has also published guidance on dealing with aviation objections and associated negative conditions in wind turbine consents (see CD 22). The key part of this guidance states:

*"planning authorities should consider the views of relevant consultees on the matter and, where applicable, evidence confirming the technical mitigation already identified in theory. Evidence of the likelihood of a technical solution being realised within a reasonable timeframe will therefore be a relevant consideration in deciding whether or not to give consent with negative conditions to address aviation issues."*

*North Ayrshire Council's guidance and advice - landscape capacity studies*

1.37 The Landscape Capacity Study for Wind Farm Development within North Ayrshire 2009 (Landscape Capacity Study 2009 - CD 6) is in two parts. Part 1 or phase 1 looked at the upland area of mainland North Ayrshire. Phase 2 considered the remainder of North Ayrshire. The site is located within the phase 1 study but is close to the division between the two areas.

1.38 The aim of the study is to provide advice on landscape and visual issues relating to wind farm development and indicate areas where wind turbines could be located with least impact and those areas where development would be unacceptable. The study is cross referenced in criterion c) of Policy PI 9 (see page 76 of CD 4).

1.39 Figure 4 of the phase 1 study (before page 18 of CD 6), identifies the detailed landscape character sub divisions. The site is located within the Haupland Moor sub division of the rugged moorland. The assessment for this sub division is included in pages 27 – 28 of CD 6. The summary table is set out in page 40 of CD 6 and for Haupland Moor states that it is of high sensitivity and has no capacity.

1.40 Figure 3 of the phase 2 study (before page 19 CD 6) shows the detailed landscape classifications. The area adjacent to the site is identified as the Ayrshire lowlands. The assessment for the Ayrshire lowlands is included in page 21 – 23 of the phase 2 study (CD 6). The summary table is shown on page 47 of the phase 2 study and states that the sensitivity is medium-high with limited capacity.

1.41 The different turbine typologies that are used in the study are set out on page 9 of phase 1 and page 10 of phase 2.

1.42 The North Ayrshire Supplementary Landscape Wind Capacity Study 2013 (CD 7) is intended to supplement the 2009 study. The 2013 study is not referred to in the local development plan.

1.43 Figure 3 (after page 19 of CD 7) shows the landscape character types for North Ayrshire. The site falls within 19e rugged moorland hills and valleys Haupland Moor. However it is also adjacent to 7a – North Ayrshire lowlands. The detailed assessment for 7a North Ayrshire lowlands is at pages 47 – 49 of CD 7 and for 19e rugged moorland hills and valley Haupland Moor pages 77 – 79 of CD7. The summary table for different turbine typologies is set out at pages 105 – 106 of CD 7.

*North Ayrshire Council's guidance and advice – Supplementary guidance*

1.44 The Ayrshire Supplementary Planning Guidance (SPG) on Wind Farm Development 2009 (Ayrshire Supplementary Guidance) is included as CD 12. It is intended to apply to the whole of Ayrshire. However, it is also cross referenced in criterion (i) of Policy PI 9 of the local development plan (see page 77 of CD 4).

*Other published guidance and advice*

1.45 The Assessment and rating of noise from wind farms (ETSU-R-97 – CD 5) provides guidance on the methodology for assessing wind farm noise and sets out acceptable noise limits. A good practice guide to the application of ETSU-R-97 for the assessment and rating of wind turbine noise was published by the Institute of Acoustics in May 2013 (CD 29). It provides technical advice in relation to best practice in interpreting the principles set out in ETSU-R-97.

## CHAPTER 2: CASE FOR SORBIE WIND FARM LIMITED

### Planning policy

*Development plan*

2.1 The development plan consists of the North Ayrshire Council Local Development Plan, formally adopted on 20th May 2014. It was agreed with the council that the General Policy, Policy ENV 1 and Policy PI 9 were directly relevant. However, Sorbie Wind Farm Limited considers that Policies ENV 4, ENV 5, ENV 6, ENV 7, ENV 9, HE 1, HE 2, HE 4 and HE 5 are also relevant. In assessing a proposal against the provisions of the development plan it is necessary to consider the development plan as a whole, including its objectives and all relevant policies.

2.2 All parties at the hearing agreed that the proposal complied with Policy ENV 1. Sorbie Wind Farm Limited's position in relation to Policy PI 9 is set out in the following table:

| Criterion | Topic | Complies/Contrary |
|---|---|---|
| (a) | Design and scale | Complies |
| (b) | Landscape impact | Complies |
| (c) | Not located in a high sensitivity landscape as set out in the Landscape Capacity Study 2009 | Complies |
| (d) | Unacceptable intrusion on natural, built, cultural or historic heritage | Complies |
| (e) | No adverse impacts on tourism or recreation | Complies |
| (f) | Adverse effects on telecommunication transmitting, receiving and radar systems can be overcome | Complies |
| (g) | Satisfactorily connect to national grid | Complies |
| (h) | Cumulative impact | Complies |
| (i) | Complies with the Ayrshire Supplementary Guidance: Wind Farm Development | Complies |
| (j) | Co-located with significant electricity or heat users | Not relevant |

2.3 Criteria a) and b) essentially relate to landscape and visual impacts. The detailed assessment of the landscape and visual impacts is set out in paragraphs 2.22 – 2.33 below. However, in summary, Sorbie Wind Farm Limited considers that the landscape and visual impacts are acceptable. Criteria a) and b) are therefore complied with.

2.4 In relation to criterion c), Figure 9 of CD 6 does not show the site within the study area. In any event, for the reasons set out in more detail in paragraphs 2.22 – 2.33 below, the immediate area surrounding the site is not considered to be of high sensitivity. Greater weight should be attached to a site specific landscape and visual impact assessment compared to a strategic level landscape capacity study. The most important areas of high sensitivity have been avoided and therefore the proposal complies with the general objectives of the Landscape Capacity Study 2009 (CD 6). The proposal therefore complies with criterion c).

2.5 The submitted environmental appraisal demonstrates that there would be no unacceptable adverse effect on natural, cultural or historic heritage. The proposal therefore complies with criterion d). There is no reason to suppose there would be any adverse impacts on the operation of tourism or recreation interests. The proposal therefore complies with criterion e).

2.6 It is accepted that the proposal could have an adverse impact on radar systems. However, mitigation measures have been identified and agreements reached with both NATS and Glasgow Prestwick Airport. Subject to a suspensive condition, criterion f) can be complied with.

2.7 A grid connection has been agreed and has been assessed in the environmental appraisal. Criterion g) has therefore been met. Criterion h) relates to cumulative impact. Cumulative landscape and visual impacts and cumulative noise in relation to the nearby operational Ardrossan Wind Farm have been assessed and considered to be acceptable. The proposal complies with criterion h).

2.8 The proposal does not comply with every aspect of the Ayrshire Supplementary Guidance (CD 12). However, the aim of the guidance is to be supportive of wind energy proposals. The guidance is relatively dated and the spatial guidance provided would not now comply with Scottish Planning Policy. Although the supplementary guidance is referred in the development plan, the guidance is not part of the development plan itself. Overall, it is considered that the proposal complies with the general aims of the supplementary guidance. The proposal therefore complies with criterion i). Criterion j) is not relevant.

2.9 The wording of Policy PI 9 makes it clear that each of the criteria have to be satisfied. However, in assessing compliance with the individual criterion, particularly where these relate to other documents (for example, criteria c) and i)) it is important to make an overall assessment, considering the purpose and objectives of the document as well as any detailed policy statements. On this basis it is considered that the proposal complies with Policy PI 9.

2.10 Even if it was accepted that criteria c) and i) were breached, this would not mean that overall, the proposal was contrary to the development plan when considered as a whole. It should be noted that although the council at the hearing considered that there was a technical breach with criteria c) and i), overall, the proposal was acceptable to the council.

2.11 The General Policy applies to all development proposals, including for a wind farm. There are several criteria which are relevant including; design, amenity and landscape impact. All the relevant matters have been assessed in the environmental appraisal and found to be acceptable. It is therefore considered that the proposal complies with the General Policy.

2.12 Policy ENV 4 aims to protect agricultural land. The site is classified as grade 3.2 land, where Policy ENV 4 seeks to ensure that there would be no detrimental impact on the farming unit. There would be a negligible loss of agricultural land and the existing dairy farm operation would not be affected. The proposal complies with Policy ENV 4.

2.13 Policy ENV 5 and ENV 6 relate to farm diversification and the diversification of the rural economy. The proposal would comply with the criteria set out in both policies and would assist in achieving the planning objective of assisting the development of both the farm unit and the rural economy in general.

2.14 Policy ENV 7 seeks to protect Special Landscape Areas. The nearest designation to the proposal is the Clyde Muirshiel Regional Park. The landscape and visual impact upon the regional park has been assessed and found to be acceptable. The proposal therefore complies with Policy ENV 7.

2.15 Policy ENV 9 relates to nature conservation. The impact of the proposal upon ecology and ornithology was assessed in the environmental appraisal and found to be acceptable. The proposal therefore fully complies with Policy ENV 9.

2.16 Policies HE 1, HE 2, HE 4 and HE 5 deal with conservation areas, listed buildings, archaeological sites and historic gardens and designed landscapes respectively. It was found, subject to conditions, that no unacceptable impacts would occur and therefore the proposal complies with the above policies.

*Other planning policy*

2.17 Scottish Planning Policy (CD 15) sets out the policy principles for the planning system. In paragraph 32 it states that where proposals accord with an up to date development plan the proposal should be considered to be acceptable in principle. In relation to wind farms, the planning system should support the changes necessary to meet Scottish Government energy targets.

2.18 Scottish Government energy policy is set out in several documents. It is clear that the targets remain challenging and are not “caps” to be set aside if likely to be achieved. Paragraph 169 sets out the considerations that should be taken into account when considering the benefits and impacts of a proposal. Policy PI 9 of the local development plan adopts a generally similar approach.

2.19 It is accepted that because the proposal is within 2 km from Ardrossan the site would fall into group 2 – Areas of Significant Protection as set out in Table 1 page 39 of CD 15. However, the landscape and visual impact of the proposal upon nearby settlements and houses has been assessed in detail and found to be acceptable.

2.20 It should be noted that the Ayrshire Supplementary Guidance would no longer be compliant with the guidance given in relation to producing a spatial framework and this means that less weight can be attached to its conclusions.

2.21 Overall, the proposal has a number of important benefits and can draw considerable support from Scottish Government energy and planning policy.

**Landscape and visual Impact**

*Introduction*

2.22 The environmental appraisal included a landscape and visual impact assessment prepared using a recognised methodology (see chapter 4 and associated figures in CD 1). The purpose of the assessment was to establish the baseline, identify the potential landscape and visual effects and to determine their significance.

2.23 The assessment used the same landscape character types as those used in the Landscape Capacity Study 2009 (CD 6). The landscape character types adjacent to the site are shown in detail in figure 4.4 of volume 2 of CD 1. The assessment considered national and local landscape designations, including historic gardens and designed landscapes. The various designations are shown in figure 4.5. The designations are overlain with the zone of theoretical visibility in figure 4.23. Figure 4.24 shows the zone of theoretical visibility, landscape planning designations and the estimated area where significant effects would occur within 10 km of the site.

2.24 The assessment includes the visual implications from settlements, road corridors, rail corridors, long distance footpaths and attractions. Cumulative landscape and visual impacts are also considered. Eighteen representative viewpoints were identified and assessed (see table 4.12, page 4.36 of CD 1) and summarised below:

| Viewpoint | Name | Distance | Significance of effect |
|---|---|---|---|
| 1 | B780 near site | 1.0 km | Significant |
| 2 | Ardrossan, Chapelhill | 1.5 km | Significant |
| 3 | A78 Layby | 1.5 km | Significant |
| 4 | B780 & B781 junction | 2.6 km | Significant |
| 5 | B714, Muirslaught Farm | 1.3 km | Significant |
| 6 | Kaim Hill | 8.0 km | Not Significant |
| 7 | Stevenston, Cambuskeith Road | 3.3 km | Significant |
| 8 | A77 near Kilmarnock | 20.0 km | Not Significant |
| 9 | Blair Estate | 6.5 km | Not Significant |
| 10 | Beith, A 737 Roundabout | 12.3 km | Not Significant |

| | | | |
|---|---|---|---|
| 11 | A760 near Kilbirnie | 10.5 km | Not Significant |
| 12 | Dalry Train Station | 6.3 km | Not Significant |
| 13 | Dunlop, West View Terrace | 16.5 km | Not Significant |
| 14 | Troon Harbour | 15.7 km | Not Significant |
| 15 | Irvine Bay | 9.2 km | Not Significant |
| 16 | Corrie, Arran | 22.0 km | Not Significant |
| 17 | Barbay Hill, Great Cumbrae | 13.8 km | Not Significant |
| 18 | Ardrossan Harbour | 3.4 km | Significant |

*Landscape effects*

2.25 There would be limited direct physical effects on the Haupland Muir landscape character type. It is considered that the site is in a transitional position between a number of landscape character types. In particular, between Haupland Muir and the Ayrshire lowlands. The site has elements of both. There are certain small scale features (for example trees, farm buildings) but there are also examples of larger scale man made features. These include the existing Ardrossan Wind Farm and pylons.

2.26 It is considered that there would be an indirect landscape effect on the surrounding landscape character types but this effect is localised. The baseline landscape character already includes wind farms. There is no visibility from most of the regional park. Where visibility occurs, it is in association with the existing wind farms. The effect of the proposal is to marginally increase the extent of the influence of wind farms, such that they would appear as repeating components. However, the proposal would not introduce a new feature to the landscape.

*Visual effects*

2.27 The significant visual effects, including from roads are localised and within 5 km of the site. Figure 4.16 (volume 2 CD 1) shows that there would be very few locations where the proposed wind farm would be seen on its own. It would generally be seen in association with the existing Ardrossan Wind Farm.

2.28 The proposal has been designed to be of a consistent scale with the existing Ardrossan Wind Farm. From many viewpoints it would be seen as a single wind farm. There would be minimal visual effects over and above the impacts due to the existing wind farms.

2.29 The visual impact upon Tower Lodge was separately assessed (see CD 27). Significant effects would occur but these changes to views would not be of such a magnitude that the property would become an unpleasant place to live.

*Landscape Capacity Study 2009*

2.30 It is the case that the Landscape Capacity Study 2009 (CD 6) concludes that there is no capacity for a wind farm such as the proposal. However the 2009 study is not part of the development plan and has generally adopted an unduly restrictive approach to wind farm development. The site has not been included in some of the figures and may not have been assessed properly. In any event, the conclusions of a site specific assessment should be preferred to the conclusions from a high level general landscape capacity study.

2.31 It should be noted that the aim of the Landscape Capacity Study 2009 is to direct wind farms away from the most sensitive landscapes. It is considered that the proposal consolidates existing wind farm's visual and landscape influences and avoids the most sensitive landscapes. The proposal is therefore consistent with the overall objectives of the Landscape Capacity Study 2009.

2.32 Mr Slater is incorrect to assert that the council's landscape advisor and Scottish Natural Heritage objected to the proposal. There is no site specific assessment carried out by the council's landscape advisor before the examination. A fair reading of the consultation response from Scottish Natural Heritage would not characterise it as an objection.

*Conclusion*

2.33 The proposal would result in some significant landscape and visual effects but they are localised. This is inevitable for any commercial scale wind farm. The landscape is already influenced by two groups of existing wind farms. The proposal would generally be seen as a part of or in association with the existing Ardrossan Wind Farm. The proposal would not unacceptably impact on sensitive landscapes and is therefore consistent with the general aims of the Landscape Capacity Study 2009. Overall, the proposal is considered to have acceptable landscape and visual effects.

**Noise**

2.34 The Assessment and Rating of Noise From Wind Farms (ETSU-R-97 - see CD 5), forms the basis for any noise assessment. The guidance in ETSU-R-97 was followed in preparing the noise assessment as set out in chapter 9 of the environmental appraisal and associated technical appendices. The assessment process i) identified potential receptors, ii) established the representative background noise levels, iii) established the acceptable noise limits based on the recommendations in ETSU-R-97, iv) predicted the likely noise levels, including cumulative noise, and finally v) compared the predicted noise levels with the acceptable limits.

2.35 Based on the background noise survey, Table 9.5 (see page 9-5 of volume 1 - CD 1) shows the acceptable noise limits using 35 dBA or + 5 dBA over background noise, whichever is the greater. It should be noted that 35 dBA is considered by ETSU-R-97 to be the lowest appropriate noise level for a wind farm.

2.36 Table 9.6 (also page 9-5 of CD 1) shows the predicted noise levels at each of the identified receptors. The related noise contours are shown in figure 9.1 of volume 2 of CD1.

Table 9.7 (page 9.6 of CD 1) demonstrates that the predicted noise levels would comply with the lowest levels set out in ETSU-R-97.

2.37 The noise assessment included a cumulative noise assessment taking into account the operational Ardrossan Wind Farm. However, this assessment predated the guidance published in the Good Practice Guide To The Application Of ETSU-R-97 For The Assessment And Rating Of Wind Turbine Noise (CD 29). The technical note (CD 31) considered at the hearing updated the assessment.

2.38 The noise conditions have been largely agreed with the Council. Thirty seven point 5 dBA has been put forward as appropriate on behalf of Sorbie Wind Farm Limited as that was the limit the council's environmental health officer initially considered acceptable. The wind farm could also operate at the lower limit of 35 dBA, the council's latest position, with minimal curtailment and loss of output.

*Mr Slater's comments*

2.39 Mr Slater had a number of criticisms of ETSU-R-97 and the methodology followed. Mr Slater's noise consultant also had a number of detailed technical criticisms of the approach used in setting the cumulative limits.

2.40 Sorbie Wind Farm Limited stands by the approach set out in the environmental appraisal and technical note (CD 31). The detailed responses to the technical criticisms are set out in the Rebuttal to Mr Bowdler by Michael Reid. The key points to note are that the noise from Ardrossan was filtered out from the background noise assessment. ETSU-R-97 makes it clear that the background noise assessment is intended to be generally representative. Whilst Mr Bowdler had a number of detailed technical criticisms he accepted that the general approach was correct.

2.41 The lack of any specific noise limits for the Ardrossan Wind Farm need not be a fundamental obstacle. There are conditions in place and the contents of the respective environmental statements make it clear what the intention was. In practice, if a reasonable complaint was received, it could be resolved. The council also has powers under the Environmental Protection Act

*Conclusion*

2.42 Planning conditions can be applied to make sure that cumulative noise levels comply with ETSU-R-97 limits. The noise levels will therefore be acceptable. There is therefore no reason to refuse planning permission on the grounds of noise.

**Radar**

2.43 The only reason that the planning application was called in was due to the potential impact on aviation radars. Sorbie Wind Farm Limited were aware that the matter needed addressing but were confident that a range of mitigation measures were available. The

council's Local Review Body chose the unusual approach of proposing to hold the issuing of the decision notice rather than attaching a suspensive planning condition as suggested by Sorbie Wind Farm Limited.

2.44 However, in the event, the objections made by NATS and Glasgow Prestwick Airport have now been resolved. There is a private agreement with NATS. Glasgow Prestwick Airport has confirmed that subject to a suspensive condition, they no longer have any objection. It should be added that in Glasgow Prestwick Airport's final response (see letter dated 13 May 2015) they stated that the proposed mitigation measures would assist in providing a regional solution that could help other wind farm proposals.

**Other matters**

2.45 Chapters 5 and 6 of the environmental appraisal considered the impacts of the proposal on ecology and birds. The site is mainly agricultural land used for animal pasture. It has no particular ecological value. Although Clyde Muirshiel Regional Park objected in terms of impact on birds, these concerns were not shared by Scottish Natural Heritage or the Royal Society for the Protection of Birds. The council had no concerns in relation to ecological or ornithological impacts. It is concluded that there are no unacceptable ecological or ornithological impacts.

2.46 The environmental appraisal considered other matters including hydrology, archaeology, cultural heritage and shadow flicker. Subject to conditions, neither the council nor its consultees had any other objections.

2.47 There is no reason to consider that an additional three turbines will have any significant impact on tourism. The proposal could also create up to 30 jobs during construction, allow local suppliers to win contracts, assist the development of the farm business and result in the setting up of a community benefit fund of up to £34,000 a year.

**Conditions and Section 75 Planning Obligations**

2.48 The planning conditions are largely agreed between Sorbie Wind Farm Limited and the council. The only area of disagreement is the proposed noise levels (See Appendix 2). In any event, Sorbie Wind Farm Limited is confident that the proposal could successfully operate using the council's noise levels should Scottish Ministers' consider that necessary.

2.49 The council have been unable to specify a financial sum for a restoration bond. Whilst the council's preference is for a Section 75 Planning Obligation there is no reason why the matter of restoration cannot be controlled by condition and there are many examples where this has happened. Sorbie Wind Farm Limited is committed to providing a community benefit fund. However, a Section 75 Planning Obligation is not necessary to achieve this and in any event, is not necessary to make the scheme acceptable.

**Overall conclusion**

2.50 The wind farm would be seen in the context of the existing Ardrossan Wind Farm. It would not give rise to any unacceptable impacts. The council's Local Review Body was satisfied that there would be no unacceptable landscape and visual impacts.

2.51 Aviation radar matters have now been resolved and the original objections withdrawn. All other impacts are acceptable or can be made acceptable with appropriate mitigation, secured by planning conditions. The conditions have very largely been agreed with the council. Whilst there are tensions with the Landscape Capacity Study 2009 and Ayrshire Supplementary Guidance, overall the proposal complies with Policy PI 9 and with the development plan as a whole.

2.52 The proposal can draw significant support from Scottish Planning Policy and other Scottish Government guidance. It has a number of important benefits. Planning permission should therefore be granted.

## CHAPTER 3: CASE FOR NORTH AYRSHIRE COUNCIL

### Planning policy

3.1 The development plan consists of the North Ayrshire Local Development Plan, adopted on 20 May 2014. It is up to date and consistent with Scottish Planning Policy.

3.2 The directly relevant policies are the General Policy, Policy ENV 1 and Policy PI 9. There was no dispute between any of the parties attending the hearing that the proposal complies with Policy ENV 1 by virtue of meeting criterion c), essential public infrastructure that has a specific operational need.

3.3 The council's position in relation to the criterion listed in Policy PI 9 is as set out in the following table:

| Criterion | Topic | Complies/Contrary |
|---|---|---|
| (a) | Design and scale | Complies |
| (b) | Landscape impact | Complies |
| (c) | Not located in a high sensitivity landscape as set out in the Landscape Capacity Study 2009 | Contrary |
| (d) | Unacceptable intrusion on natural, built, cultural or historic heritage | Complies |
| (e) | No adverse impacts on tourism or recreation | Complies |
| (f) | Adverse effects on telecommunication transmitting, receiving and radar systems can be overcome | Complies |
| (g) | Satisfactorily connect to national grid | Complies |
| (h) | Cumulative impact | Complies |
| (i) | Complies with the Ayrshire Supplementary Guidance: Wind Farm Development | Contrary |
| (j) | Co-located with significant electricity or heat users | Not relevant |

3.4 The proposal cannot comply with criterion c) because the site is located in the Haupland Muir landscape character type, which is identified as having high sensitivity. The proposal cannot comply with criterion i) because the site is within 2 kilometre of Ardrossan and falls within a high sensitive landscape character type.

3.5 All the criteria in Policy PI 9 have to be complied with. Although the breaches of criteria c) and i) are technicalities, overall the proposal cannot comply with Policy PI 9. The council considers that the proposal complies with the relevant criteria of the General Policy.

3.6 On behalf of Sorbie Wind Farm Limited other policies of the local development plan are identified as being relevant. In the council's view, these other policies, whilst not being irrelevant are not directly relevant to the consideration of the application. They largely duplicate matters that are already assessed by Policy PI 9.

3.7 In the opinion of the council, whilst the proposal is supported by the general strategy of the development plan there remains a technical breach with two of the criteria in Policy PI 9. However, members of the Local Review Body attached more weight to the site specific landscape and visual impact assessment. They considered that the landscape was already influenced by human activity and that a clear visual gap would be retained between the two existing groups of wind farms in North Ayrshire. They did not consider that the proposal would result in a significant adverse effect on the landscape.

3.8 The Local Review Body concluded, that subject to aviation issues being addressed, that so far as there was any minor breach with the provisions of the development plan, these were outweighed by other material considerations.

**Other matters**

*Noise*

3.9 The matter of cumulative noise was only raised at the hearing itself. The council agrees that ESTU-R-97 remains the basis for assessing the noise from wind farms but considers that the appropriate day time limit should be 35 dBA or plus 5 dBA above background noise levels, whichever is the greater.

*Conditions and planning obligations*

3.10 The council has largely agreed the conditions with the applicant and these are contained in Appendix 2. It remains of the view that a condition and a planning obligation is necessary to ensure a robust mechanism is in place to achieve the proper decommissioning and restoration of the site.

3.11 Although not a matter for Scottish Ministers, the council's preference is that any community benefit proposals are also managed through the provisions of a Section 75 Planning Obligation.

**Conclusion**

3.12 Overall, whilst the proposal does not completely comply with the provisions of the development plan, other material considerations outweigh any concerns. Subject to appropriate conditions and a Section 75 Planning Obligation, planning permission should be granted.

## CHAPTER 4: CASE FOR MR AND MRS SLATER

### Introduction

4.1 Mr and Mrs Slater commented to North Ayrshire Council when the planning application was received, when the application was being considered by the Local Review Body and participated in the hearing sessions.

4.2 Mr and Mrs Slater live at Tower Lodge which is located approximately 800 metres east of the nearest turbine. Tower Lodge is approximately 2.2 kilometres to the east of the existing Ardrossan Wind Farm.

4.3 Mr and Mrs Slater also commissioned Dick Bowdler, an acoustic consultant, to assess the additional information (CD 31) supplied by the applicant in relation to cumulative noise.

### Planning policy

*North Ayrshire Local Development Plan*

4.4 The aim of the local development plan is to protect local residents and create a prosperous area. The plan does also say that it is intended to create certainty for developers and local residents.

4.5 All parties at the hearing agreed that Policy ENV1 and Policy PI 9 were relevant. All parties agreed that a wind farm could be an appropriate countryside use. Mr and Mrs Slater's position regarding the individual criterion listed in Policy PI 9 is as follows:

| Criterion | Topic | Complies/Contrary |
|---|---|---|
| (a) | Design and scale | Contrary |
| (b) | Landscape impact | Contrary |
| (c) | Not located in a high sensitivity landscape as set out in the Landscape Capacity Study 2009 | Contrary |
| (d) | Unacceptable intrusion on natural, built, cultural or historic heritage | Contrary |
| (e) | No adverse impacts on tourism or recreation | CMRP objected |
| (f) | Adverse effects on telecommunication transmitting, receiving and radar systems can be overcome | No solution available |
| (g) | Satisfactorily connect to national grid | No comment |

| | | |
|---|---|---|
| (h) | Cumulative impact | Contrary |
| (i) | Complies with the Ayrshire supplementary guidance: Wind Farm Development | Contrary |

4.6 Criteria a), b), c), and h) largely relate to landscape and visual impact. The proposal would not comply with either the 2009 or the 2013 landscape capacity studies. These studies, prepared by an impartial professional conclude that there is no further scope for an additional wind farm because of the existing Ardrossan Wind Farm. All the impartial professional assessments from Scottish Natural Heritage, the planning officer and Clyde Muirshiel Regional Park have concluded that the landscape and visual impacts would be unacceptable. In Mr and Mrs Slater's opinion, there would also be unacceptable cumulative noise impacts from the proposal in combination with the existing Ardrossan Wind Farm.

4.7 The proposal could not comply with criterion d). In relation to criterion e), it should be noted that both the Clyde Muirshiel Regional Park and the local campaign group Save Your Regional Park have objected. It appears that there may be solutions available to address radar concerns but at the time of the hearing, none have actually been agreed.

4.8 The proposal is clearly contrary to the Ayrshire Supplementary Guidance as it is located within a sensitive landscape character area, is within 2 kilometres of Ardrossan and may not be able to meet the noise requirements.

4.9 Policy PI 9 requires that all the individual criterion should be met. The proposal fails most. If the proposal cannot comply with Policy PI 9 it could not meet the terms of the General Policy either. If Policies ENV 5 and ENV 7 are relevant, the proposal could not comply. The proposal is not required to support the farm business. Any financial support that there may be is conjecture. Clyde Muirshiel Regional Park objected to the proposal because of the unacceptable impact on the regional park. The proposal cannot therefore comply with the provisions of the development plan.

*Other planning policy*

4.10 The support that Scottish Planning Policy gives to onshore wind is not unqualified. It was accepted at the hearing by Sorbie Wind Farm Limited that the site falls within group 2: Areas of Significant Protection (See table 1 page 39 of CD15) because it is within 2 kilometres of Ardrossan. Scottish Government advice also refers to the importance of considering the advice of Scottish Natural Heritage. Scottish Natural Heritage had significant concerns regarding the landscape and visual impacts of the proposal.

4.11 Sorbie Wind Farm Limited have criticised the two landscape capacity studies and have instead suggested that their own site specific assessment should be preferred. The landscape capacity studies have been prepared by impartial professionals. As council wide, strategic assessments the site specific studies should have taken into account the landscape capacity studies. Such studies cannot be set aside because the conclusion do not suit the developer

4.12 The council's position on landscape and visual impact has also been inconsistent. Previously the council refused planning permission for two small turbines (18 metres to tip) due to an adverse landscape and visual impact. It is therefore contradictory to now consider that three 104 metre high turbines are acceptable. It was clear from the discussions during the Local Review Body meeting that a lot of weight was being attached to the proposed community benefit scheme.

**Other matters**

*Residential visual amenity assessment*

4.13 Prior to the hearing the applicant's submitted a residential visual amenity assessment for Tower Lodge (See CD 27). The conclusions of the assessment are not accepted and the study is not fair.

4.14 The study did not take into account how the house and the garden areas are actually used. The photographs taken are misleading and are not representative of the views that would actually be seen. Some of the existing trees may have to be felled, reducing the amount of screening. The study did not consider other aspects of amenity, for example noise and shadow flicker.

*Noise*

4.15 There are considerable concerns about the noise assessment contained in the environmental appraisal and the cumulative noise assessment submitted on the day of the hearing. The microphone was located to the front of the house, not to the rear area closest to the proposed wind farm. Trees that may have contributed to the background noise are likely to have to be felled. ETSU –R- 97 is now significantly out of date and sets inappropriate noise limits for very quiet rural areas. The current Ardrossan Wind Farm is audible from Tower Lodge.

4.16 There are also detailed concerns over the cumulative noise assessment. The applicants are seeking to increase the noise limits to those set out in the environmental appraisal. The choice of the controlling property may not be as simple as suggested by Sorbie Wind Farm Limited. The turbine noise curve may also not be as simple as suggested. There seems to be uncertainty over the precise existing noise limits applied to Ardrossan Wind Farm and to the more recent Ardrossan extension. Overall, there is no independent verification that Sorbie Wind Farm Limited's conclusions are reasonable.

*Planning conditions*

4.17 In the event that Scottish Ministers do grant planning permission, there should not be any condition permitting micro siting. The choice of turbine model should be agreed before any development commences. In reality the developer would have a contract in place for a turbine before development commences, thereby putting pressure on the council to agree to whatever model was proposed.

4.18 A planning condition is required to control shadow flicker. Without prejudice to the points regarding noise above, the lowest noise levels should be chosen to protect the amenity of houses in a quiet rural area.

**Conclusions**

4.19 Overall, the proposal is significantly contrary to the provisions of the development plan. All the independent professionals who have assessed the proposal have recommended that planning permission should be refused. Any benefits in terms of electricity generation and jobs would be small. The suggestion of any community benefit fund is not relevant to the decision. Planning permission should therefore be refused.

## CHAPTER 5: CASE FOR NATIONAL AIR TRAFFIC SERVICES (NATS) AND GLASGOW PRESTWICK AIRPORT

### Introduction

5.1 For obvious reasons, radar, able to detect any flying object is essential for air traffic control. Wind turbines, due to their size, nature and design have the potential to interfere with electromagnetic signals, including those associated with air traffic control radar. As wind turbines have stationary and moving elements they can often defeat the software commonly used to filter out other sources of false returns. Wind turbines can therefore appear as "clutter" on air traffic control radar screens.

5.2 "Clutter" on air traffic control radar screens can create obvious safety issues. They can distract operators, they can hide real returns from aircraft, it can make aircraft harder to detect and generally limit the ability to safely direct aircraft. The Civil Aviation Authority regulates airports and air traffic control service providers. NATS and Glasgow Prestwick Airport are obliged to monitor the impact of new development, including proposals for new wind turbines, to make sure their systems remain safe. Both are statutory consultees within the planning system. If a planning authority proposes to grant planning permission against the advice of either NATS or Glasgow Prestwick Airport, the planning authority must notify Scottish Ministers. The relevant policy guidance published by the Civil Aviation Authority is included as documents 11.1.1 – 11.1.8.

### National Air Traffic Services (NATS)

5.3 NATS (Enroute) plc (NERL) provides enroute air traffic services within the United Kingdom. Its Scottish centre is based at Prestwick Airport, although it operates separately from the airport. On 14 November 2013, NATS objected to the proposal because of an unacceptable operational impact upon its Lowther Hill radar.

5.4 When the planning application was notified to Scottish Ministers, the position of NATS had altered and they had no objection subject to a suspensive condition requiring mitigation to be implemented prior to operation.

5.5 On 30 October 2014, after the planning application had been called in, NATS withdrew their objection. The reason for withdrawal was that a private agreement had been signed between NATS and Sorbie Wind Farm Limited. The agreement required NATS to design and validate the blanking of a cell, (so the wind farm could not be seen on the radar screen) formally registering the blanking and implement the change before the wind farm became operational. It is understood that Sorbie Wind Farm Limited has made a financial contribution to NATS for this to be carried out.

### Glasgow Prestwick Airport

5.6 Glasgow Prestwick Airport provides air traffic control for the operation of the airport. Sorbie Wind Farm is located outside its control zone. However, above the wind farm, up to a height of 3,500 feet there is a small corridor frequently used by light aircraft, gliders and micro-lights. These types of aircraft frequently have minimal navigational equipment and

often provide weak radar returns. For the safe operation of the airport it is particularly important that the controllers are aware of any incursion into the airport control zone from these aircraft.

5.7 The proposed wind farm would be seen by Glasgow Prestwick Airport's primary radar system and would create clutter on the radar screens. A combination of the existing clutter caused by other wind farms and the sensitivity of the location means that the impact of the proposal is considered to be operationally unacceptable.

5.8 On 22 November 2013, Glasgow Prestwick Airport objected to the planning application. On 8 July 2014, Glasgow Prestwick Airport wrote to Scottish Ministers repeating their objection. They informed Scottish Ministers that at that time they could not support a suspensive condition because whilst mitigation measures were technically possible, there was no time frame, no resource and no decision on a solution that could address the overall regional situation, as opposed to potential mutually exclusive case by case solutions.

5.9 At the time of the hearing on 28 January 2015, Glasgow Prestwick Airport and Sorbie Wind Farm Limited had submitted an agreed written statement (see CD 26). At this time, the agreement was that any planning permission should be subject to the signing of a Section 75 Planning Obligation. A Section 75 Planning Obligation was considered necessary because there would have to be various operational restrictions placed upon Sorbie Wind Farm Limited during testing (e.g. turning the turbines off) and a financial contribution. These matters could not be controlled by a planning condition.

5.10 On 13 May 2015, Glasgow Prestwick Airport wrote to the Directorate for Planning and Environmental Appeals to say that subject to the following planning conditions they withdrew their objection:

*1. No development shall commence unless and until such time as the Planning Authority receives confirmation from the Airport Operator that: (a) a Radar Mitigation Scheme has been identified; and (b) the Radar Mitigation Scheme can be implemented and maintained for the lifetime of the development.*

*2. No blade shall be fitted to any turbine or turbines forming part of the development and no such turbine shall operate, save as provided for and in accordance with the Testing Protocol, unless and until such time as the Planning Authority receives confirmation from the Airport operator that: (a) all measures required by the Radar Mitigation Scheme prior to operation of any turbine have been implemented; and (b) the Civil Aviation Authority has evidenced its approval to the Airport Operator that the Radar Mitigation Scheme is acceptable mitigation for the development and has been satisfactorily implemented by the Airport Operator.*

*3. No turbine shall operate other than in accordance with the terms of the Radar Mitigation Scheme.*

*Reasons: In the interests of aviation safety.*

***Definitions:***

***"Airport Operator"*** *means Glasgow Prestwick Airport Limited or any successor as holder of a licence under the Air Navigation Order 2000 from the Civil Aviation Authority to operate Glasgow Prestwick Airport.*

***"Radar Mitigation Scheme"*** *means such equipment, procedural or technological measures, as the Airport Operator identifies as necessary and sufficient to prevent the operation of the development or of any turbines forming part of the development impacting adversely on radar performance or on the performance of other navigational aids at Glasgow Prestwick Airport or on maintaining safe and efficient air traffic control services or procedures or airspace and which the Airport Operator is willing and able to implement and maintain for the lifetime of the development or for such shorter period as may be agreed in consultation with the Airport Operator as necessary to mitigate any such adverse impact.*

***"Testing Protocol"*** *means the protocol to control the operation of any turbine or turbines forming part of the development for the purposes of testing of the Radar Mitigation Solution.*

5.11 It was explained that in the light of further discussions an agreement had been reached with Sorbie Wind Farm Limited and that there was now a reasonable likelihood of a solution being delivered within a reasonable time period. A Section 75 Planning Obligation in relation to radar mitigation was therefore no longer considered necessary. Glasgow Prestwick Airport was hopeful that the mitigation solution would enable a regional solution that would be available to other wind farm developers.

5.12 The letter also indicated that if the planning conditions should be unacceptable to Scottish Ministers then Glasgow Prestwick Airport should be provided with a further opportunity to comment.

## CHAPTER 6: REASONING AND RECOMMENDATIONS

### Introduction

6.1 Section 25 of the Town and Country Planning (Scotland) Act 1997 requires that Scottish Ministers must determine the application in accordance with the provisions of the development plan unless material considerations indicate otherwise.

6.2 Based on the original documentation submitted as part of the application, the various written submissions, the discussions at the hearing sessions and my site inspections, I consider that the determining issues in this case are whether, bearing in mind the provisions of the development plan:

- The proposal has acceptable landscape and visual impacts, including cumulative impacts and the impact on the residential visual amenity of nearby properties.
- The proposal has acceptable impacts on the radar systems of NATS and Glasgow Prestwick Airport.
- The proposal, subject to conditions, could operate within acceptable noise limits.
- There are any material considerations that warrant determining the application other than in accordance with the development plan, including Scottish Planning Policy and the economic benefits of the proposal.

### Development Plan

6.3 The development plan consists of the North Ayrshire Council Local Development Plan, formally adopted by the council on 20 May 2014. There was no dispute between the parties that The General Policy, Policy ENV 1 and Policy PI 9 were directly relevant. However, Sorbie Wind Farm Limited argued that in addition, Policies ENV 4, ENV 5, ENV 6, ENV 7, ENV 9, HEI 1, HEI 2, HEI 4 and HEI 5 were also relevant. The council argued that whilst these policies were not irrelevant, they were not directly relevant and did not assist in assessing the proposal.

6.4 In my experience, it is often the case that a development plan will contain policies relating to a specific development type (for example renewable energy development) and general policies, often relating to the protection of a particular aspect of the environment, that apply to any development proposal. The North Ayrshire Council Local Development Plan is structured in such a way. It has policies grouped in chapters that generally address particular development types and two chapters that have policies designed to protect the historic environment and the natural environment.

6.5 The proposal is located on a working farm. Policies ENV 4, ENV 5 and ENV 6 relate to the protection of farm land, acceptable farm diversification and acceptable rural diversification. The proposal may well have benefits for the operation of the farm business and to the wider rural economy. However, a wind farm is not primarily promoted to encourage farm diversification. The criteria for assessing the impacts of typical farm diversification projects are unlikely to be helpful in assessing the very particular impacts

associated with a wind farm. I therefore do not consider that Policies ENV 4, ENV 5 and ENV 6 make a useful contribution in assessing the planning merits of the proposal.

6.6 Policies ENV 7, ENV 9, HEI 1, HEI 2, HEI 4 and HEI 5 relate to the protection of particular environmental or historic assets. These duplicate the assessment that has to be made under the wind farm specific policy, Policy PI 9. I therefore agree with the council, that the policies listed by Sorbie Wind Farm Limited, whilst not irrelevant, are not directly relevant in assessing the proposal against the provisions of the development plan.

6.7 Policy ENV 1 relates to development in the countryside. It was not disputed by any of the parties at the hearing that a wind farm is an acceptable countryside use by virtue of criterion c) of Policy ENV 1.

6.8 The General Policy has a number of criteria that would apply to a wind farm proposal. However, such matters are also covered by criteria included in Policy PI 9. It was agreed at the hearing session, at least for the current case, that any assessment under the General Policy would be the same as for Policy PI 9 (i.e. it would not be possible to comply with the General Policy but not comply with Policy PI 9 or vice versa). I conclude that the dominant policy consideration in assessing the proposal against the provisions of the development plan is the criteria set out in Policy PI 9.

*Policy PI 9*

6.9 The planning objective of Policy PI 9 is to support renewable energy proposals subject to compliance with 10 criterion. The explanatory text to the policy explains that the most likely renewable energy proposals would be onshore wind farms. It was agreed by all parties at the hearing that criterion j) was not relevant to a wind farm proposal but all the other criterion were relevant. It was also agreed that to comply with Policy PI 9 all the relevant criterion needed to be complied with.

6.10 In my judgement, criteria a), b), c), h) and i) generally relate to the landscape and visual impact of a proposal. There is therefore a degree of overlap and inter-relationship between these five criteria. For this reason I shall assess these criteria first before considering the other criteria that relate to other matters.

*Criterion a) - the development is appropriate in design and scale to its surroundings*

6.11 The proposal is only 1.2 kilometres away from the nearest turbine of the existing operational Ardrossan Wind Farm. Figures 4.12 and 4.16 of volume 2 of CD 1 demonstrate that there are very few locations where the proposal would not be seen in association with Ardrossan Wind Farm.

6.12 As is frequently the case for wind farm development, there is a dispute over the conclusions reached in the landscape and visual impact assessment. However, I am not aware of any criticisms of the methodology or the individual assessments regarding the significance of any changes. Having visited most of the viewpoints and driven around the locality, I find the assessment of significant changes to be reasonable.

6.13 The extent of the significant landscape and visual impacts are generally illustrated spatially in figures 4.9 and 4.22 of volume 2 of CD 1. These show that any impacts are localised. It has to be recognised that an inevitable consequence of Scottish Government energy policy is that there will be some significant changes to the landscape and views. However, significant change does not necessarily equate to unacceptable or harmful impacts.

6.14 Overall, I do not find the proposal in the context of the existing Ardrossan Wind Farm to be excessively prominent or dominant to the point of being inappropriate. I consider it to be in scale with its surroundings.

6.15 I can appreciate to an extent the design concerns of Scottish Natural Heritage and those expressed in the planning officer's report (Appendix 3). I accept that from a number of viewpoints the proposal would not be read as an extension of Ardrossan Wind Farm. The gap would be apparent from a number of viewpoints including viewpoints 1, 2, 4 and 18. I agree that a more compact relationship between Ardrossan Wind Farm and the proposal would minimise the extent of landscape and visual influence. I can understand, from some viewpoints, that lower height turbines might give the impression of a more compact layout.

6.16 However, Sorbie Wind Farm Limited have given practical reasons why Scottish Natural Heritage's suggestions could not be adopted. In any event, such considerations are academic as the submitted proposal has to be assessed on its own terms. In my judgement, the increased extent of landscape and visual influences over and above either the Ardrossan Wind Farm or a specifically designed three turbine extension would be marginal. In the context of planning policies supporting wind turbine development, I cannot agree the impacts are unacceptable or harmful in planning terms.

6.17 I accept that those people living close to the proposal (such as Mr and Mrs Slater) would experience most frequently the significant landscape and visual impacts described above. However, it has been generally held in previous planning decisions on wind farms that a significant change to a local resident's outlook does not mean the proposal is unacceptable in planning terms. To be unacceptable the wind farm would have to be over bearing and excessively dominant overall.

6.18 I can understand some of Mr and Mrs Slater's concerns with the assessment in CD 27. Some of the comments may have been unduly dismissive of how Mr and Mrs Slater actually enjoy the rear of their property. The selected photographs do not convey the full impression of how the wind farm would be seen by anyone actually using the rear yard. Nevertheless, based on my site visit, I find the conclusion of the assessment overall to be fair. There would be a significant change to the outlook from the rear amenity area of Tower Lodge. However, the views from the house and front amenity area would not alter significantly. Overall, I do not find the proposal to be so visually dominant or overbearing to the residential visual amenities of Tower Lodge as to justify the refusal of planning permission.

6.19 For the above reasons, I therefore agree with Sorbie Wind Farm Limited and the council that the proposal complies with criterion a) of Policy PI 9.

*Criterion b) - it can be demonstrated that there are no unacceptable adverse impact on the intrinsic landscape qualities of the area (especially for areas with a specific landscape designation and coastal areas)*

6.20 The site is not located within any designation designed to protect the landscape. It is however, within approximately 1 kilometre of the Clyde Muirshiel Regional Park's southern boundary. Both Clyde Muirshiel Regional Park and Save Your Regional Park have objected on the grounds that the proposal would have an adverse impact on the landscape and character of the regional park by increasing the number of turbines that can be seen from it.

6.21 Figures 4.23 and 4.24 of volume 2 of CD 1 show the zone of theoretical visibility of the proposal overlain with the boundary of Clyde Muirshiel Regional Park. The proposal is only visible from the southern part of the regional park. As stated above, figures 4.12 and 4.16 show that where the proposal is seen, it is seen in association with Ardrossan Wind Farm and frequently the Dalry/Kelburn/Milour Hill Wind Farm group. The existing operational wind farms have been considered to be acceptable and are now part of the established landscape baseline. I cannot accept that the addition of three turbines to the existing views would have any significant impact on the landscape and visual qualities of the Clyde Muirshiel Regional Park.

6.22 Figure 4.5 shows the various landscape and other designations. The assessment in the environmental appraisal concluded that there would be no unacceptable impacts. As stated above, I found the assessment in the environmental appraisal to be a fair one.

6.23 As concluded in the assessment of criterion a), the proposal would have some landscape and visual impacts but such impacts are inevitable for any tall vertical structures. Overall, I do not find the proposal to be out of scale. I conclude that the landscape impacts are proportionate and not unexpected for a three turbine wind farm. I do not consider that there is any breach of criterion b).

*Criterion c) - in the case of individual wind turbine or wind farm development, that the proposed development is not in an area designated as "high sensitivity" in the "Landscape Capacity Study for Wind Farm Development in North Ayrshire"*

6.24 The site is located in the Haupland Muir landscape character type (see Figure 4 of CD 6). The overall conclusion on page 28 of CD 6 states that, *"This is a very small geographic area and there is no scope for separate wind farm developments to be accommodated due to the close proximity of the existing Ardrossan wind farm and the cumulative impacts that would occur between developments of potentially different scales. The need to retain the setting and containment provided by the Knockewart Hills to the existing Ardrossan wind farm and to conserve the relatively uncluttered character of south west facing hill slopes abutting the coast also severely limits capacity for development. Capacity is also likely to have been reached with regard to extensions to existing wind farm development due to these constraints. High overall sensitivity."*

6.25 I accept that figure 9 does not include the site. However, this is obviously an error as its omission is inconsistent with the other diagrams and the description of the Haupland

Muir landscape character type. I have no doubt that the site is included within an area designated as high sensitivity in the Landscape Capacity Study 2009.

6.26 I cannot agree with Sorbie Wind Farm Limited that the proposal would support the underlying objectives of the Landscape Capacity Study 2009. I accept that one of the purposes of the Landscape Capacity Study 2009 is to direct wind farm development to less sensitive landscapes. However, Sorbie Wind Farm Limited's assessment of less sensitive landscapes differs significantly from a fair reading of the Landscape Capacity Study 2009. Sorbie Wind Farm Limited lists the uplands of the Clyde Muirshiel Regional Park, the western perimeter hills and views from the Firth of Clyde and islands. However, I note from reading both phase 1 and phase 2 of the Landscape Capacity Study 2009 that it concludes that there is only one landscape character type in the whole of North Ayrshire where there might be capacity for the size of the wind farm proposed. I therefore agree with the council and Mr and Mrs Slater that the proposal does not comply with criterion c) of Policy PI 9.

*Criterion h) - when considered in association with existing sites, sites formally engaged in the environmental assessment process or sites with planning permission, including those in neighbouring authorities, there are no unacceptable impacts due to the cumulative impact of development proposals.*

6.27 The dominate cumulative impact is with the operational Ardrossan Wind Farm. For the reasons set out above, I find the cumulative landscape and visual impacts to be acceptable. I address noise in paragraphs 6.58 – 6.66 below.

6.28 I accept that the Landscape Capacity Study 2009 states that there is no capacity for an additional wind farm close to the existing Ardrossan Wind Farm. However, I consider that a proposal specific landscape and visual impact assessment is a better basis for reaching a conclusion on the cumulative impacts compared to the generalised assessment contained in a landscape capacity study.

6.29 I therefore agree with Sorbie Wind Farm Limited and the council that criterion h) of Policy PI 9 is complied with.

*Criterion i) - in the case of individual wind turbine and wind farm development, that the proposal satisfies the contents of the Ayrshire Supplementary Guidance: Wind Farm Development (October 2009).*

6.30 Sorbie Wind Farm Limited accepts that the proposal does not comply with all the contents of the Ayrshire Supplementary Guidance. However, they argue that the proposal supports its general aims. I cannot agree with this comment.

6.31 The site is within 2 kilometres of Ardrossan and situated within a landscape character type which the Ayrshire Supplementary Guidance considers to be too sensitive for the size of wind farm proposed.

6.32 I accept that the stated aims of the Ayrshire Supplementary Guidance is to support wind energy developments. I accept that the site is not located in an area of significant protection. However, my reading of the Ayrshire Supplementary Guidance is that one of its

key objectives is to direct wind farms to relatively few locations in Ayrshire. I agree with the council and Mr and Mrs Slater that the proposal would not comply with the Ayrshire Supplementary Guidance.

6.33 I accept that the Ayrshire Supplementary Guidance is now dated. For example, Scottish Government energy targets have been increased since the document was published. I agree that the Ayrshire Supplementary Guidance would not now be compliant with the current Scottish Planning Policy. However, these criticisms and the Ayrshire Supplementary Guidance's inclusion within a policy in the local development plan are matters to be considered when the local development plan is reviewed. These are not matters that can alter whether the proposal complies with criterion i) as written.

*Other criterion*

*Criterion d) - the proposal shall not result in unacceptable intrusion, or have an unacceptable adverse effect on the natural, built, cultural or historic heritage of the locality.*

6.34 The environmental appraisal included an assessment of the impacts of the proposal on natural and cultural heritage. The conclusion was that subject to conditions, there would be no adverse effects.

6.35 The Clyde Muirshiel Regional Park had concerns over the impact on birds and bats. However, these concerns were not shared by Scottish Natural Heritage or the Royal Society for the Protection of Birds. I therefore have no reason to conclude that the proposal would have an unacceptable adverse effect on the natural, built, cultural or historic heritage of the locality. I therefore agree with Sorbie Wind Farm Limited and the council that the proposal complies with criterion d).

*Criterion e) - it can be demonstrated that there are no unacceptable adverse impacts on the operation of tourism and recreation interests*

6.36 Impacts on tourism and recreation interests will be closely linked to the overall landscape and visual impact. As described above, there are very few locations where the proposal would not be seen in association with the Ardrossan Wind Farm.

6.37 I am aware of no evidence that demonstrates that the existing Ardrossan Wind Farm has had any adverse impact on tourism and recreation. I conclude that the three additional turbines of the proposal are also unlikely to have any unacceptable adverse impacts. I therefore agree with Sorbie Wind Farm Limited and the council that the proposal would comply with criterion e).

*Criterion f) - it can be demonstrated that any unacceptable adverse effects on telecommunications, transmitting, receiving or radar systems for civil, broadcasting, aviation or defence interests can be effectively overcome*

6.38 The proposal would have an impact upon both the NATS and Glasgow Prestwick Airport radar systems. However, in both cases, effective mitigation measures have been identified and agreed. Both NATS and Glasgow Prestwick Airport have now withdrawn their

initial objections. A condition is proposed to address any interference with TV, radio or telecommunication reception. I therefore conclude that the proposal complies with criterion f).

*Criterion g) - the proposal can be satisfactorily connected to the national grid without causing any unacceptable negative environmental impacts*

6.39 Sorbie Wind Farm Limited state that they have secured agreement for a grid connection, which will be made at Saltcoats Substation some 2.9 kilometres south of the site. On and off-site cables will be underground. There was no dispute between the parties that criterion g) of Policy PI 9 was complied with.

*Conclusions*

6.40 For the reasons set out above, I conclude that the proposal complies with most of the criteria of Policy PI 9 with the exception of criteria c) and i). As all the criteria must be complied with, the proposal is contrary overall to Policy P I 9.

6.41 The council described the breaches as "technical". I am not sure that is the correct word to use. The spatial rationale of the policy is to direct wind farm development to a relatively restricted range of locations.

6.42 In the written submissions and at the hearing, Sorbie Wind Farm Limited have criticised criteria c) and i) in various ways. I can understand these criticisms. However, such criticisms have to be addressed in the next review of the local development plan. The criteria of an adopted local development plan cannot be set aside simply because a party does not agree with them. In such circumstances, I agree with the council, that the correct course of action is to see if there are any material considerations of sufficient weight that would mean it is appropriate to determine the application other than in accordance with the development plan.

6.43 Policy PI 9, as the proposal specific policy is the dominant policy in relation to the provisions of the development plan. Whilst I accept that the proposal does comply with Policy ENV 1, this is not of sufficient importance to outweigh Policy PI 9. In my view, compliance (or otherwise) with The General Policy would also not override Policy PI 9. Overall, I find that the proposal does not comply with the provisions of the development plan.

**Other Material Considerations**

*Scottish Planning Policy*

6.44 Scottish Planning Policy states that the planning system should support the Scottish Government's energy policy. The energy policy is set out in detail in documents CD17-CD20. Key targets include 30% of overall energy demand from renewable sources by 2020 and the equivalent of 100% of electricity demand from renewable sources by 2020.

6.45 Mr and Mrs Slater are correct to argue that Scottish Planning Policy does not suggest that every wind farm proposal must be granted planning permission. However, to justify refusal of planning permission any planning harm must outweigh the benefits of the proposal.

6.46 Paragraph 169 lists a number of considerations that includes landscape and visual impacts. I note that although written in a different style, many of the considerations are also included within Policy PI 9. However, a significant difference in approach is that Policy PI 9 also requires proposals to comply with the Landscape Capacity Study 2009 and the Ayrshire Supplementary Guidance.

6.47 Landscape capacity studies can be useful tools in understanding the nature of impacts caused by wind turbines. However, I do not consider that it is appropriate to give them the attributes of detailed zonings of land for a particular number of turbines of a particular size.

6.48 Landscape character type boundaries are broad and cannot be treated as precise divisions of land. The wind farm typologies used in the Landscape Capacity Study 2009 are also broad. For example, typology 1 is defined as multiple turbines of 100 metres – 140 metres. There would be a big difference in landscape and visual impact between a wind farm of three turbines just over 100 metres (such as the proposal) and one with 10 turbines of 140 metres in height.

6.49 In my experience, for this reason, most landscape capacity studies state that they should not be used to draw site specific conclusions. In my opinion, it would be impossible for any landscape capacity study to be able to properly anticipate all the multiple impacts of the many factors that influence the design of a wind farm. I therefore consider that the Local Review Body were correct to attach more weight to a proposal specific landscape and visual impact assessment compared to the general conclusions contained in the Landscape Capacity Study 2009. I have concluded in paragraph 6.12 above that the landscape and visual impact assessment submitted for the proposal is fair and that overall the impacts are acceptable.

6.50 I also agree with Sorbie Wind Farm Limited that the approach used in preparing the Ayrshire Supplementary Guidance would not now be compliant with the guidance for preparing spatial frameworks in Scottish Planning Policy. In particular, from Table 1 (page 39 of CD 15) group 1 and 2 areas are likely to be far more limited in Ayrshire than the extent of landscape character types considered to be too sensitive in the Ayrshire Supplementary Guidance.

6.51 It was accepted at the hearing that the proposal is within 2 kilometres of a settlement and would therefore fall within group 2 – Areas of Significant Protection in Table 1. However, the commentary does not preclude development in every case and it may be appropriate in some circumstances. The relationship with the surrounding settlements was assessed in the submitted landscape and visual impact assessment. In summary, in the context of the existing Ardrossan Wind Farm, the impacts were found to be acceptable.

6.52 A key policy principle introduced by Scottish Planning Policy is that there is a presumption in favour of development that contributes to sustainable development. Aside from non-compliance with the Landscape Capacity Study 2009 and the Ayrshire Supplementary Guidance, I have found no unacceptable environmental impacts. It seems to me, that a proposal for three turbines that would be environmentally acceptable, would be exactly the kind of development that the Scottish Government would consider as contributing to sustainable development.

6.53 The proposal would generate a modest but still significant amount of electricity that would contribute to achieving the Scottish Government's renewable energy targets. Any capital investment, irrespective of size is beneficial to the wider economy. I also note the potential benefits to the farm business.

6.54 I therefore conclude that the proposal can draw considerable support from Scottish Government energy policy in general and Scottish Planning Policy in particular. I have been unable to identify any impacts of sufficient planning harm to outweigh the benefits. I consider that this support is an important material consideration that I attach considerable weight. In my opinion, this material consideration is sufficient to justify determining the application other than in accordance with the development plan.

*Radar*

6.55 The proposal has the potential to unacceptably impact on the aviation radars used by both NATS and Glasgow Prestwick Airport. Sorbie Wind Farm Limited has continued to discuss the matter with the two operators and as a result, positions have changed. This is set out in more detail in chapter 5.

6.56 The up to date position is that a private agreement has been reached with NATS and their original objection has been withdrawn. Agreement has also been reached with Glasgow Prestwick Airport over a mitigation solution and subject to a suspensive condition, this objection has also been withdrawn.

6.57 I note from the latest response from Glasgow Prestwick Airport that the agreed form of mitigation may have regional benefits for other future wind farm proposals. I consider this to be an important benefit of the proposal.

*Noise*

6.58 The starting point for considering noise in relation to wind farms is ETSU-R-97 (CD 5) and the more recent advice in the Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise (CD 29).

6.59 Wind farms are not new in Scotland or elsewhere. I am aware that not everyone agrees with the advice contained in ETSU-R-97. I am aware that a number of harmful noise impacts from wind farms have been alleged. Judging by the number of times these matters have been raised, I assume Scottish Ministers are also aware of these criticisms. However, the advice relating to wind farm noise has not been changed.

6.60 My understanding of the noise limits set out in ETSU-R-97 is that they are not set to make the noise from a wind farm inaudible but that the noise should be at an acceptable level. The night time minimum is 43 dB(A) and the day time minimum should be within the range of 35 – 40 dB(A) or 5 dB(A) above background, whichever is the greater.

6.61 Mr and Mrs Slater have a number of concerns about the baseline background noise survey. They are concerned that the approach used may overstate the background noise and hence the limits used in the proposed conditions. The aim of the background noise survey is to make sure that the background noise used for the tables is generally representative. I note that Mr and Mrs Slater's concerns are not shared by the council's noise experts. I therefore conclude that the background noise survey is a reliable basis for setting the noise limits.

6.62 Mr and Mrs Slater and their appointed Acoustic consultant (Mr Bowdler) also have concerns about the cumulative noise assessment. There seems to be agreement over the general approach adopted. However, there remains a technical dispute regarding the choice of controlling property, the noise curve and the implications of the existing noise conditions that apply to the original Ardrossan Wind Farm and its extension.

6.63 It is unfortunate that there is not a professional consensus amongst the noise experts. However, it seems to me, that if Mr Bowdler is correct, the practical effect would be that Sorbie Wind Farm Limited would have more difficulty achieving the limits set out in the conditions than they believe. Sorbie Wind Farm Limited however remain confident of complying with even the marginally lower limits advocated by the council with only minimal curtailment.

6.64 I have not been made aware of any previous or current noise problems caused by either the original Ardrossan Wind Farm or its extension. I have no doubt that should a complaint be received it would be more complicated to resolve, involving three sets of planning conditions, not all setting out explicit noise limits, than might otherwise be the case. However, I cannot agree that makes setting a limit for the proposal pointless or directly comparable to the Drumadarragh case where there were no conditions and existing noise problems. I note that condition 4 of the planning permission for the original Ardrossan Wind Farm does require compliance with the submitted environmental appraisal. In addition, conditions 15 and 16 require the operator to keep wind data and investigate complaints. I consider it likely that in practice the council would have sufficient powers under the Planning Acts and Environmental Protection Act to identify the causes of any reasonable complaint and be able to resolve the matter. It would be disproportionate to refuse planning permission for the proposal because of a generalised concern over the difficulties in enforcing noise limits for an existing wind farm that has been operating with no apparent problems for several years.

6.65 I note that subject to using the lower day time noise limit of 35 dB(A), the council's noise expert does not share the concerns of Mr Bowdler. I attach weight to the opinion of the council's noise expert who would be familiar with the local situation, have responsibilities should a complaint be received and be able to offer an independent opinion. The fact that there is a technical dispute reinforces my view that the lower noise limits

advocated by the council should be preferred. I also note that the lower daytime limit of 35 dB(A) was the limit used in the submitted environmental appraisal.

6.66 As planning conditions can be put in place to enforce the minimum noise limits that are set out in ETSU-R-97 and that these conditions are supported by the council's own noise expert, I conclude that there is no reasonable basis for refusing planning permission on noise grounds.

*Other matters*

6.67 In the representations received other matters were raised. There were comments that wind farms are inefficient. However, it is not appropriate in the consideration of an individual application to review Scottish Government energy policy. The Scottish Government does not accept that the operation of the planning system results in any conflict with Article 7 of the Aarhus Convention. I am unaware of any evidence suggesting that livestock are harmed by the operation of wind farms.

6.68 A number of representations also raised concerns over creating a precedent for other wind farm proposals. Each case must be considered on its merits. Should there be any other proposals forthcoming, they would have to be assessed in detail in the light of the policies and advice in operation. There is no reason to suppose that if the proposal was granted planning permission the council would be unable to resist any inappropriate future wind farm proposals. I also note that 22 letters were received in support of the proposal.

**Conditions and Section 75 Planning Obligations**

6.69 In terms of the planning conditions that should be imposed in the event of planning permission being granted there is a large measure of agreement between the council and Sorbie Wind Farm Limited. These agreed conditions are attached as Appendix 2. These in turn are closely based on the conditions put forward in the planning officer's report to the Local Review Body. The condition requested by Glasgow Prestwick Airport (see paragraph 5.10) should also be added.

6.70 I largely concur with the agreed conditions and have incorporated them into my recommended conditions. I consider that these meet the tests set out in Circular 4/1998 – The Use of Conditions in Planning Permissions.

6.71 The two areas of dispute relate to the noise levels and whether a Section 75 Planning Obligation is necessary to ensure decommissioning and restoration. I have indicated in paragraph 6.65 that I prefer the council's noise limits and have incorporated these into my recommendation.

6.72 At the hearing, Sorbie Wind Farm Limited stated that a planning condition regarding decommissioning and restoration would be sufficient but that they had no objection to the use of a Section 75 Planning Obligation. However, in their closing submissions they argued that as the council seemed to be unable to agree the level of a financial bond required, delays could occur trying to finalise a Section 75 agreement. The council on the other

hand, argued that a condition and Section 75 Planning Obligation was necessary to ensure a robust provision for restoration of the site.

6.73 I am certainly aware that conditions ensuring restoration may be sufficient. It is certainly not the case that every wind farm is subject to a Section 75 Planning Obligation in relation to decommissioning and restoration. The agreed condition would require a financial bond to be lodged with the council. The level of the bond is crucial, as if restoration is not completed for any reason, the purpose of the bond is to allow the council to make arrangements to complete the works using its planning enforcement default powers.

6.74 It can be difficult to correctly establish the value for a financial bond for works that will take place many years into the future. It can also be difficult to ensure that the value of the bond is kept relevant, particularly as it is normal for the actual decommissioning scheme to not be required until a few years before the permission expires. I am also conscious that for the current proposal there are four landowners involved. Ultimately, in the event of having to enforce a planning condition, any action must be taken against the individual landowners.

6.75 I agree that issuing an intentions letter may cause delay to the start of the project. However, either approach would require agreement over the financial bond before works could commence.

6.76 The advantage of a Section 75 Planning Obligation, instead of planning conditions, is that particular clauses can set out in detail review mechanisms and make sure that roles and responsibilities are clear. As a legal agreement, the provisions can be enforced through the courts rather than the planning enforcement process. I note that the final bullet point of paragraph 169 of Scottish Planning Policy states, *"the need for a robust planning obligation to ensure that operators achieve site restoration."*

6.77 On balance, I agree with the council that a Section 75 Planning Obligation would ensure a more robust mechanism for decommissioning and site restoration. However, if this matter is included in a Section 75 Planning Obligation, it would be unnecessary to duplicate similar measures in the planning conditions.

6.78 Mr Slater had concerns over the proposed micro siting condition, the timing for the approval of various details of the turbine and a condition for shadow flicker. I agree that a condition for shadow flicker is appropriate and note that this is suggested in the environmental appraisal. I have therefore added such a condition to my recommended conditions.

6.79 Micro siting conditions are normal for wind farm developments. In my experience, it is frequently necessary to make minor changes to siting once detailed engineering work commences on site. I consider 30 metres to be a reasonable tolerance before the written approval of the council should be required.

6.80 To be fair to Sorbie Wind Farm Limited, they have already provided many details relating to the turbines in the environmental appraisal. It would be unusual for a developer to depart from these details in making the final selection of turbine. In any event, if they did,

agreed condition 9 provides for the turbines not to be erected until agreement has been reached with the council.

6.81 The matter of the community fund is between the council and Sorbie Wind Farm Limited. I agree that this does not require a Section 75 Planning Obligation as a number of mechanisms are available. In any event, no action is required from Scottish Ministers.

**Overall Conclusions**

6.82 For the reasons set out above, I find that the proposal would have acceptable landscape and visual impacts, including cumulative impacts and the impact on nearby residential property. Subject to a suspensive condition, the impact on aviation radars has now been resolved. Subject to an appropriate condition, I find that the proposal would be able to operate within acceptable noise limits.

6.83 In addition, I find that whilst the proposed development does not accord overall with the relevant provisions of the development plan, granting planning permission is still justified because of the support given by Scottish Planning Policy to environmentally acceptable wind farm proposals.

6.84 However, a Section 75 Planning Obligation is justified to ensure that restoration of the site is carried out when the wind farm ceases to operate. This will require Scottish Ministers to issue an intentions letter.

**Recommendations**

6.85 I therefore recommend that planning permission be granted with the conditions set out in Appendix 1. I also recommend that prior to granting planning permission, Sorbie Wind Farm Limited enter into an agreement with the council under Section 75 of the Town and Country Planning (Scotland) Act 1997 covering the following matters:

- Roles and responsibilities of the operator, land owners and council.
- Programme for the submission and approval of a restoration and decommissioning plan.
- Appropriate financial provision to cover the completion of the approved restoration and decommissioning plan.
- A mechanism for ensuring that the level of financial provision remains appropriate over the period of the planning permission.

6.86 If Scottish Ministers disagreed with the requirement for a Section 75 Planning Obligation, then my recommended conditions should be amended with the addition of conditions 3 and 4 from Appendix 2.

6.87 Sorbie Wind Farm Limited should be reminded of the need of the requirement to inform the Ministry of Defence of the date when construction starts and ends, the maximum height of construction equipment and the latitude and longitude of every turbine. Finally, I would draw Scottish Ministers attention to the comment from Glasgow Prestwick Airport that

if Scottish Ministers be minded not to include the suspensive condition or alter its wording that Glasgow Prestwick Airport be given the opportunity to comment.

**Appendix 1 - Reporter's recommended planning conditions**

1. This planning permission shall expire 25 years from the date on which electricity is first generated from all of the approved wind turbines to the electricity grid network (the "First Export Date"). Written confirmation of the First Export Date shall be provided to the planning authority within one month of the First Export Date. Thereafter, the wind farm shall be decommissioned unless a further application for planning permission is timeously submitted and approved.

***Reason : To limit the lifetime of the development and to protect the visual amenity of the area, beyond the lifetime of the permission.***

**2.** That by the end of a period of 25 years from the First Export Date, unless a further application has been submitted and approved in accordance with condition 1, all the turbines, turbine foundations down to one metre below ground level, buildings and ancillary equipment, shall be dismantled and removed from the site, the site roads treated, other elements of the scheme dealt with, and the site restored, all in accordance with a Restoration and Decommissioning Plan (RDP – see notes below)

***Reason : To limit the lifetime of the development and to protect the visual amenity of the area, beyond the lifetime of the permission.***

**3.** That, if any turbine ceases to be operational for a continuous period of 6 months or such other period of time as may be agreed in writing by North Ayrshire Council as Planning Authority, all of its above ground elements, plus its foundation to a depth of one metre below ground level, shall be removed, and the ground reinstated, within a period of not more than 6 months after the expiry of the 6 month period referred to above, all in accordance with the RDP. The developer shall provide operational data for individual turbines to North Ayrshire Council as Planning Authority on reasonable request.

***Reason : To ensure that any turbines that become redundant are removed promptly, and to protect the visual amenity of the area.***

**4.** That the turbines shall be erected and the site roads constructed in the locations identified on the plans hereby approved, save for the ability to vary these locations by 30m. Any movement greater than 30m would require the written approval of North Ayrshire Council as Planning Authority. Before the turbine bases are concreted, the precise position of the turbines shall be notified to, and approved in writing by, North Ayrshire Council as Planning Authority.

***Reason : To ensure that micrositing decisions take account of environmental considerations.***

5. That all cabling on the site between the wind turbines and the site sub-station shall be installed underground.

***Reason : To protect the visual amenity of the area.***

**6.** That no development shall commence on the site until a Construction Method Statement, including details of all on-site construction works, post-construction reinstatement, drainage, mitigation, and other restoration, together with details of their timetabling, have been submitted to and approved in writing by North Ayrshire Council as Planning Authority in consultation with the Scottish Environment Protection Agency and Scottish Natural Heritage. This shall include detailed specifications of:

- the construction method of the site roads including their width, means of drainage (which shall have regard to SUDS principles), and edge reinstatement. The specification shall be accompanied by a plan at a scale of not less than 1:25,000 identifying the locations of:
    - cut roads, other excavated roads and "floating" roads.
    - the cable trenches (which shall be located alongside the site roads).
    - the turbine bases in accordance with Condition 4.
- the method of working of the borrow pits, including any proposals for blasting, together with the post-construction reinstatement of the borrow pits.
- the formation of the construction compound.
- the construction of the crane pads.
- all foundation works.
- the construction and design of the control building and sub-station
- the means of erection of any permanent meteorological mast.
- the formation of the hardstanding areas.
- post-construction restoration/reinstatement of all working areas.
- watercourse crossings.
- a pollution prevention and control method statement.
- arrangements for the storage of oil on the site.
- measures to protect ecological and ornithological interests. These shall include the making of check surveys for nesting birds and a check survey timetable.
- construction activity undertaken within peat.
- a traffic management plan (including proposals for off-site roadworks). For the avoidance of doubt, these shall include the provision of visibility splays in each direction at the junction of the site access with the public road, details of which shall be agreed beforehand with North Ayrshire Council as Roads Authority. The visibility splays as may be agreed shall be provided before any other work begins on the site and shall be maintained during the lifetime of the development, such that there is no obstruction to visibility above a height of 1.05m measured above the road carriageway level.
- arrangements for the cleaning of the site entrances and the adjacent public road.

Thereafter, the development shall take place in accordance with the Construction Method Statement unless otherwise agreed in writing by North Ayrshire Council as Planning Authority.

***Reason : To ensure that the development is constructed in a satisfactory manner; to minimise its visual impact in the interests of visual amenity; to protect ornithological and other ecological interests; to protect watercourses from sedimentation and pollution; and in the interests of traffic safety.***

7. That no turbines will be erected until details of the model, height, colour and finish of the turbines and of any external transformers, have been submitted to, and approved in writing by, the planning authority. The turbines shall not be illuminated and shall not carry any symbols, logos or other lettering except where required under other legislation. The development shall be carried out thereafter in accordance with the approved details, unless any changes are subsequently agreed in writing by North Ayrshire Council as Planning Authority.

***Reason : To protect the visual amenity of the area.***

8. That, prior to the commencement of development, the developer shall prepare and submit a public access plan for the site for the written approval of North Ayrshire Council as Planning Authority. The approved plan shall thereafter be implemented as approved.

***Reason : To agree arrangements for public access to the site.***

9. That no development shall take place within the development site as outlined in red on the approved plan until the developer has prepared a written scheme of investigation (WSI) in agreement with the West of Scotland Archaeology Service, and approved by North Ayrshire Council as Planning Authority. Thereafter, the WSI will be fully implemented.

***Reason : To protect archaeological interests on the site.***

10. That, prior to the commencement of the development, the applicant shall submit for the written approval of North Ayrshire Council as Planning Authority, a scheme providing for the mitigation of any impacts of the operation of the development on TV, radio and telecommunication reception. The scheme shall be implemented as approved and shall provide as follows:

i) a baseline reception survey to be carried out by a suitably qualified engineer prior to commencement of turbine installation, the results of which shall be submitted to North Ayrshire Council as Planning Authority,

ii) a scheme of alleviation, including procedures for the handling of complaints and disputes, shall be included within this study which shall be agreed in writing by North Ayrshire Council as Planning Authority,

iii) within 12 months of the commissioning of the development, any claim by any individual person or business regarding loss or interference of reception, shall be investigated by a suitably qualified engineer and results submitted to North Ayrshire Council as Planning Authority,

iv) should any impairment to reception be attributable to the wind turbines, the developer shall remedy such impairment to the scheme of alleviation as agreed, to remedy the impairment to the equivalent reception received at the baseline study.

For the avoidance of doubt the resolution of disputes shall be determined by an independent arbiter eg OFCOM or other Professional Body as appropriate.

***Reason : To provide for the correction of any interference with television reception/telecommunications systems arising from the development.***

11. That, prior to the commencement of the development, the developer shall submit for the written approval of North Ayrshire Council as Planning Authority in consultation with the Scottish Environment Protection Agency, a report addressing the potential effect of the development on any private drinking water resources in the area and any measures required to minimise the impact on drinking water quality during construction and operation. Any recommendations for mitigation works shall thereafter be carried out in full.

***Reason : To safeguard the quality of private drinking water resources in the area.***

12. No development shall commence unless and until such time as the Planning Authority receives confirmation from the Airport Operator that: (a) a Radar Mitigation Scheme has been identified; and (b) the Radar Mitigation Scheme can be implemented and maintained for the lifetime of the development (for definitions see notes below)

***Reason: In the interests of aviation safety***

13. No blade shall be fitted to any turbine or turbines forming part of the development and no such turbine shall operate, save as provided for and in accordance with the Testing Protocol, unless and until such time as the Planning Authority receives confirmation from the Airport Operator: (a) all measures required by the Radar Mitigation Scheme prior to operation of any turbine have been implemented; and (b) the Civil Aviation Authority has evidenced its approval to the Airport Operator that the Radar Mitigation Scheme is acceptable mitigation for the development and has been satisfactorily implemented by the Airport Operator (for definitions see notes below)

***Reason: In the interests of aviation safety***

14. No turbine shall operate other than in accordance with the terms of the Radar Mitigation Scheme (for definitions see notes below)

***Reason: In the interests of aviation safety***

15. That prior to the commencement of development, the applicant shall submit for the written approval of North Ayrshire Council as Planning Authority a scheme for mitigating the effects of shadow flicker on nearby residential properties. The scheme shall be implemented as approved unless otherwise agreed in writing by the Planning Authority.

***Reason: To mitigate any shadow flicker effects in the interests of residential amenity***

16 The rating level of noise immissions from the combined effects of the wind turbines hereby permitted (including the application of any tonal penalty) when determined in accordance with the attached Guidance Notes (to this condition), shall not exceed the

values for the relevant integer wind speed set out in, or derived from, the tables attached to these conditions at any dwelling which is lawfully existing or has planning permission at the date of this permission and:

a) The wind farm operator shall continuously log power production, wind speed and wind direction, all in accordance with Guidance Note 1(d). These data shall be retained for a period of not less than 24 months. The wind farm operator shall provide this information in the format set out in Guidance Note 1(e) to the Local Planning Authority on its request, within 14 days of receipt in writing of such a request.

b) No electricity shall be exported until the wind farm operator has submitted to the Local Planning Authority for written approval a list of proposed independent consultants who may undertake compliance measurements in accordance with this condition. Amendments to the list of approved consultants shall be made only with the prior written approval of the Local Planning Authority.

c) Within 21 days from receipt of a written request from the Local Planning Authority following a complaint to it from an occupant of a dwelling alleging noise disturbance at that dwelling, the wind farm operator shall, at its expense, employ a consultant approved by the Local Planning Authority to assess the level of noise immissions from the wind farm at the complainant's property in accordance with the procedures described in the attached Guidance Notes. The written request from the Local Planning Authority shall set out at least the date, time and location that the complaint relates to and any identified atmospheric conditions, including wind direction, and include a statement as to whether, in the opinion of the Local Planning Authority, the noise giving rise to the complaint contains or is likely to contain a tonal component.

d) The assessment of the rating level of noise immissions shall be undertaken in accordance with an assessment protocol that shall previously have been submitted to and approved in writing by the Local Planning Authority. The protocol shall include the proposed measurement location identified in accordance with the Guidance Notes where measurements for compliance checking purposes shall be undertaken, whether noise giving rise to the complaint contains or is likely to contain a tonal component, and also the range of meteorological and operational conditions (which shall include the range of wind speeds, wind directions, power generation and times of day) to determine the assessment of rating level of noise immissions. The proposed range of conditions shall be those which prevailed during times when the complainant alleges there was disturbance due to noise, having regard to the written request of the Local Planning Authority under paragraph (c), and such others as the independent consultant considers likely to result in a breach of the noise limits.

e) Where a dwelling to which a complaint is related is not listed in the tables attached to these conditions, the wind farm operator shall submit to the Local Planning Authority for written approval proposed noise limits for compliance checking purposes. The proposed noise limits are to be those limits selected from the Tables for the closest listed location to the complainant's dwelling. The rating level of noise immissions resulting from the combined effects of the wind turbines when determined in accordance with the attached

Guidance Notes shall not exceed the noise limits approved in writing by the Local Planning Authority for the complainant's dwelling.

f) The wind farm operator shall provide to the Local Planning Authority the independent consultant's assessment of the rating level of noise immissions undertaken in accordance with the Guidance Notes within 2 months of the date of the written request of the Local Planning Authority for compliance measurements to be made under paragraph (c), unless the time limit is extended in writing by the Local Planning Authority. The assessment shall include all data collected for the purposes of undertaking the compliance measurements, such data to be provided in the format set out in Guidance Note 1(e) of the Guidance Notes. The instrumentation used to undertake the measurements shall be calibrated in accordance with Guidance Note 1(a) and certificates of calibration shall be submitted to the Local Planning Authority with the independent consultant's assessment of the rating level of noise immissions.

g) Where a further assessment of the rating level of noise immissions from the wind farm is required pursuant to Guidance Note 4(c), the wind farm operator shall submit a copy of the further assessment within 21 days of submission of the independent consultant's assessment pursuant to paragraph (d) above unless the time limit has been extended in writing by the Local Planning Authority.

Table 1 – Between 07:00 and 23:00 – Noise limits expressed in dB LA90,10 minute as a function of the standardised wind speed (m/s) at 10 metre height as determined within the site averaged over 10 minute periods.

| Property | Standardised 10 m Height Wind Speed, $ms^{-1}$ | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Darleith Farm | 34.3 | 31.9 | 30.7 | 35.7 | 39.3 | 43.6 | 45.1 | 47.2 | 49.2 |
| Knockrivoch Farm | 36.2 | 38.6 | 41.3 | 44.5 | 47.6 | 50.7 | 53.5 | 56.0 | 58.0 |
| Meikle Busbie Cottage | 34.8 | 35.5 | 37.5 | 42.6 | 46.7 | 50.7 | 53.2 | 55.7 | 57.8 |
| Sorbie Farm Cottage | 36.1 | 38.4 | 41.2 | 44.4 | 47.6 | 50.7 | 53.4 | 56.0 | 58.0 |
| Tower Lodge | 36.1 | 38.5 | 41.2 | 44.4 | 47.6 | 50.7 | 53.5 | 56.0 | 58.0 |
| Knockrivoch Cottages | 36.2 | 38.6 | 41.4 | 44.5 | 47.6 | 50.7 | 53.5 | 56.0 | 58.0 |
| 1 Mill Farm | 36.1 | 38.3 | 41.1 | 44.3 | 47.5 | 50.7 | 53.4 | 56.0 | 58.0 |
| 2 Bluebell gardens | 36.1 | 38.5 | 41.2 | 44.4 | 47.6 | 50.7 | 53.5 | 56.0 | 58.0 |
| 12 Millglen Gardens | 36.1 | 38.4 | 41.2 | 44.4 | 47.6 | 50.7 | 53.4 | 56.0 | 58.0 |
| Arran View | 36.2 | 38.6 | 41.4 | 44.5 | 47.6 | 50.7 | 53.5 | 56.0 | 58.0 |
| Little Busbie | 34.5 | 34.6 | 36.1 | 42.1 | 46.5 | 50.6 | 53.1 | 55.7 | 57.8 |
| Little Ittington | 34.6 | 33.5 | 34.3 | 37.5 | 40.3 | 43.6 | 45.5 | 47.6 | 49.4 |
| Meikle Busbie Farm | 34.8 | 35.3 | 37.2 | 42.5 | 46.6 | 50.7 | 53.1 | 55.7 | 57.8 |
| Meikle Ittington | 34.5 | 32.8 | 33.0 | 36.8 | 39.9 | 43.6 | 45.3 | 47.4 | 49.3 |
| Meikle Laught | 36.2 | 38.6 | 41.4 | 44.5 | 47.6 | 50.7 | 53.5 | 56.0 | 58.0 |
| Muirlaught Bungalow | 34.8 | 34.3 | 35.6 | 38.2 | 40.8 | 43.7 | 45.7 | 47.7 | 49.5 |
| Muirlaught Farm | 34.8 | 34.2 | 35.4 | 38.1 | 40.7 | 43.7 | 45.6 | 47.7 | 49.5 |
| Rashley | 35.7 | 37.5 | 40.1 | 43.7 | 47.2 | 50.7 | 53.3 | 55.9 | 57.9 |

Table 2 – Between 23:00 and 07:00 – Noise limits expressed in dB LA90,10-minute as a function of the standardised wind speed (m/s) at 10 metre height as determined within the site averaged over 10 minute periods.

| Property | Standardised 10 m Height Wind Speed, $ms^{-1}$ | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Darleith Farm | 42.9 | 42.6 | 42.2 | 42.0 | 41.8 | 42.9 | 44.0 | 43.6 | 43.6 |
| Knockrivoch Farm | 43.0 | 42.9 | 42.8 | 42.8 | 43.6 | 46.3 | 48.1 | 48.1 | 48.1 |
| Meikle Busbie Cottage | 42.7 | 42.0 | 40.5 | 39.7 | 40.6 | 46.2 | 46.9 | 46.3 | 46.3 |
| Sorbie Farm Cottage | 43.0 | 42.9 | 42.7 | 42.6 | 43.5 | 46.3 | 48.0 | 48.0 | 48.0 |
| Tower Lodge | 43.0 | 42.9 | 42.7 | 42.7 | 43.5 | 46.3 | 48.1 | 48.0 | 48.0 |
| Knockrivoch Cottages | 43.0 | 42.9 | 42.8 | 42.8 | 43.6 | 46.3 | 48.1 | 48.1 | 48.1 |
| 1 Mill Farm | 43.0 | 42.8 | 42.6 | 42.5 | 43.4 | 46.3 | 48.0 | 47.9 | 47.9 |
| 2 Bluebell gardens | 43.0 | 42.9 | 42.7 | 42.7 | 43.5 | 46.3 | 48.0 | 48.0 | 48.0 |
| 12 Millglen Gardens | 43.0 | 42.9 | 42.7 | 42.6 | 43.4 | 46.3 | 48.0 | 48.0 | 48.0 |
| Arran View | 43.0 | 42.9 | 42.8 | 42.8 | 43.6 | 46.3 | 48.1 | 48.1 | 48.1 |
| Little Busbie | 42.7 | 41.8 | 39.8 | 38.7 | 39.7 | 46.2 | 46.5 | 45.8 | 45.8 |
| Little Ittington | 42.9 | 42.8 | 42.6 | 42.5 | 42.4 | 42.9 | 44.5 | 44.3 | 44.3 |
| Meikle Busbie Farm | 42.7 | 42.0 | 40.3 | 39.5 | 40.4 | 46.2 | 46.8 | 46.2 | 46.2 |
| Meikle Ittington | 42.9 | 42.7 | 42.4 | 42.2 | 42.1 | 42.9 | 44.3 | 44.0 | 44.0 |
| Meikle Laught | 43.0 | 42.9 | 42.8 | 42.8 | 43.6 | 46.3 | 48.1 | 48.1 | 48.1 |
| Muirlaught Bungalow | 43.0 | 42.9 | 42.8 | 42.7 | 42.7 | 43.0 | 44.7 | 44.6 | 44.6 |
| Muirlaught Farm | 43.0 | 42.9 | 42.7 | 42.7 | 42.6 | 43.0 | 44.7 | 44.6 | 44.6 |
| Rashley | 42.9 | 42.6 | 42.0 | 41.7 | 42.5 | 46.2 | 47.6 | 47.4 | 47.4 |

Table 3: Coordinate locations of the properties listed in Tables 1 and 2.

| Property | Easting | Northing |
|---|---|---|
| Darleith Farm | 225061 | 646294 |
| Knockrivoch Farm | 225361 | 644575 |
| Meikle Busbie Cottage | 223941 | 645709 |
| Sorbie Farm Cottage | 224616 | 644646 |
| Tower Lodge | 225638 | 645304 |
| Knockrivoch Cottages | 225374 | 644544 |
| 1 Mill Farm | 223569 | 644498 |
| 2 Bluebell gardens | 223417 | 644231 |
| 12 Millglen Gardens | 223397 | 644287 |
| Arran View | 225368 | 644533 |
| Little Busbie | 223493 | 645659 |
| Little Ittington | 225646 | 647161 |
| Meikle Busbie Farm | 223944 | 645734 |
| Meikle Ittington | 225386 | 647130 |
| Meikle Laught | 225963 | 645039 |
| Muirlaught Bungalow | 226099 | 646067 |

| | | |
|---|---|---|
| Muirlaught Farm | 226024 | 646196 |
| Rashley | 223244 | 645204 |

*Reason: In the interests of residential amenity*

**Guidance Notes for Conditions**

**Definitions**

***"Restoration and Decommissioning Plan"*** means the scheme for restoration and decommissioning approved as part of the accompanying Section 75 Planning Obligation

***"Airport Operator"*** means Glasgow Prestwick Airport Limited or any successor as holder of a licence under the Air Navigation Order 2000 from the Civil Aviation to operate Glasgow Prestwick Airport

***"Radar Mitigation Scheme"*** means such equipment, procedural or technological measures, as the Airport Operator identifies as necessary and sufficient to prevent the operation of the development or of any turbines forming part of the development impacting adversely on radar performance or on the performance of other navigational aids at Glasgow Prestwick Airport or on maintaining safe and efficient air traffic control services or procedures or airspace and which the Airport Operator is willing and able to implement and maintain for the lifetime of the development or for such shorter period as may be agreed in consultation with the Airport Operator as necessary to mitigate such adverse impact.

***"Testing Protocol"*** means the protocol to control the operation of any turbine or turbines forming part of the development for the purposes of testing of the Radar Mitigation Solution

**Noise condition**

These notes are to be read with and form part of the noise condition. They further explain the condition and specify the methods to be employed in the assessment of complaints about noise immissions from the wind farm. The rating level at each integer wind speed is the arithmetic sum of the wind farm noise level as determined from the best-fit curve described in Guidance Note 2 of these Guidance Notes and any tonal penalty applied in accordance with Guidance Note 3. Reference to ETSU-R-97 refers to the publication entitled "The Assessment and Rating of Noise from Wind Farms" (1997) published by the Energy Technology Support Unit (ETSU) for the Department of Trade and Industry (DTI).

**<u>Guidance Note 1</u>**

(a) Values of the LA90,10 minute noise statistic should be measured at the complainant's property, using a sound level meter of EN 60651/BS EN 60804 Type 1, or BS EN 61672 Class 1 quality (or the equivalent UK adopted standard in force at the time of the measurements) set to measure using the fast time weighted response as specified in BS EN 60651/BS EN 60804 or BS EN 61672-1 (or the equivalent UK adopted standard in force at the time of the measurements). This should be calibrated in accordance with the procedure specified in BS 4142: 1997 (or the equivalent UK adopted standard in force at

the time of the measurements). Measurements shall be undertaken in such a manner to enable a tonal penalty to be applied in accordance with Guidance Note 3.

(b) The microphone should be mounted at 1.2 – 1.5 metres above ground level, fitted with a two-layer windshield or suitable equivalent approved in writing by the Local Planning Authority, and placed outside the complainant's dwelling. Measurements should be made in "free field" conditions. To achieve this, the microphone should be placed at least 3.5 metres away from the building facade or any reflecting surface except the ground at the approved measurement location. In the event that the consent of the complainant for access to his or her property to undertake compliance measurements is withheld, the wind farm operator shall submit for the written approval of the Local Planning Authority details of the proposed alternative representative measurement location prior to the commencement of measurements and the measurements shall be undertaken at the approved alternative representative measurement location.

(c) The LA90,10 minute measurements should be synchronised with measurements of the 10-minute arithmetic mean wind and operational data logged in accordance with Guidance Note 1(d), including the power generation data from the turbine control systems of the wind farm.

(d) To enable compliance with the conditions to be evaluated, the wind farm operator shall continuously log arithmetic mean wind speed in metres per second and wind direction in degrees from north at hub height for each turbine and arithmetic mean power generated by each turbine, all in successive 10-minute periods. Unless an alternative procedure is previously agreed in writing with the Planning Authority, this hub height wind speed, averaged across all operating wind turbines, shall be used as the basis for the analysis. All 10 minute arithmetic average mean wind speed data measured at hub height shall be 'standardised' to a reference height of 10 metres as described in ETSU-R-97 at page 120 using a reference roughness length of 0.05 metres . It is this standardised 10 metre height wind speed data, which is correlated with the noise measurements determined as valid in accordance with Guidance Note 2, such correlation to be undertaken in the manner described in Guidance Note 2. All 10-minute periods shall commence on the hour and in 10- minute increments thereafter.

(e) Data provided to the Local Planning Authority in accordance with the noise condition shall be provided in comma separated values in electronic format.

(f) A data logging rain gauge shall be installed in the course of the assessment of the levels of noise immissions. The gauge shall record over successive 10-minute periods synchronised with the periods of data recorded in accordance with Note 1(d).

**Guidance Note 2**

(a) The noise measurements shall be made so as to provide not less than 20 valid data points as defined in Guidance Note 2 (b).

(b) Valid data points are those measured in the conditions specified in the agreed written protocol under paragraph (d) of the noise condition, but excluding any periods of rainfall measured in the vicinity of the sound level meter. Rainfall shall be assessed by use of a

rain gauge that shall log the occurrence of rainfall in each 10 minute period concurrent with the measurement periods set out in Guidance Note 1. In specifying such conditions the Local Planning Authority shall have regard to those conditions which prevailed during times when the complainant alleges there was disturbance due to noise or which are considered likely to result in a breach of the limits.

(c) For those data points considered valid in accordance with Guidance Note 2(b), values of the LA90,10 minute noise measurements and corresponding values of the 10- minute wind speed, as derived from the standardised ten metre height wind speed averaged across all operating wind turbines using the procedure specified in Guidance Note 1(d), shall be plotted on an XY chart with noise level on the Y-axis and the standardised mean wind speed on the X-axis. A least squares, "best fit" curve of an order deemed appropriate by the independent consultant (but which may not be higher than a fourth order) should be fitted to the data points and define the wind farm noise level at each integer speed.

**Guidance Note 3**

(a) Where, in accordance with the approved assessment protocol under paragraph (d) of the noise condition, noise immissions at the location or locations where compliance measurements are being undertaken contain or are likely to contain a tonal component, a tonal penalty is to be calculated and applied using the following rating procedure.

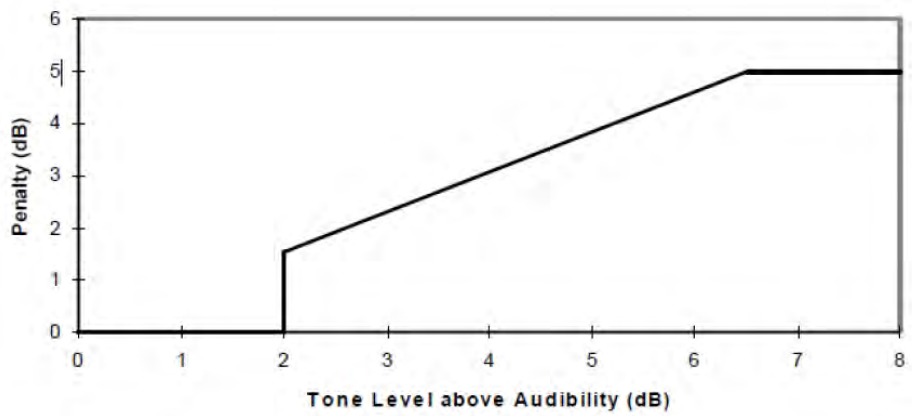
(b) For each 10 minute interval for which LA90,10 minute data have been determined as valid in accordance with Guidance Note 2 a tonal assessment shall be performed on noise immissions during 2 minutes of each 10 minute period. The 2 minute periods should be spaced at 10 minute intervals provided that uninterrupted uncorrupted data are available ("the standard procedure"). Where uncorrupted data are not available, the first available uninterrupted clean 2 minute period out of the affected overall 10 minute period shall be selected. Any such deviations from the standard procedure, as described in Section 2.1 on pages 104-109 of ETSU-R-97, shall be reported.

(c) For each of the 2 minute samples the tone level above or below audibility shall be calculated by comparison with the audibility criterion given in Section 2.1 on pages 104109 of ETSU-R-97.

(d) The tone level above audibility shall be plotted against wind speed for each of the 2 minute samples. Samples for which the tones were below the audibility criterion or no tone was identified, a value of zero audibility shall be used.

(e) A least squares "best fit" linear regression line shall then be performed to establish the average tone level above audibility for each integer wind speed derived from the value of the "best fit" line at each integer wind speed. If there is no apparent trend with wind speed then a simple arithmetic mean shall be used. This process shall be repeated for each integer wind speed for which there is an assessment of overall levels in Guidance Note 2.

(f) The tonal penalty is derived from the margin above audibility of the tone according to the figure below.




**Guidance Note 4**

(a) If a tonal penalty is to be applied in accordance with Guidance Note 3 the rating level of the turbine noise at each wind speed is the arithmetic sum of the measured noise level as determined from the best fit curve described in Guidance Note 2 and the penalty for tonal noise as derived in accordance with Guidance Note 3 at each integer wind speed within the range specified by the Local Planning Authority in its written protocol under paragraph (d) of the noise condition.

(b) If no tonal penalty is to be applied then the rating level of the turbine noise at each wind speed is equal to the measured noise level as determined from the best fit curve described in Guidance Note 2.

(c) In the event that the rating level is above the limit(s) set out in the Tables attached to the noise conditions or the noise limits for a complainant's dwelling approved in accordance with paragraph (e) of the noise condition, the independent consultant shall undertake a further assessment of the rating level to correct for background noise so that the rating level relates to wind turbine noise immission only.

(d) The wind farm operator shall ensure that all the wind turbines in the development are turned off for such period as the independent consultant requires to undertake the further assessment. The further assessment shall be undertaken in accordance with the following steps:

(e) Repeating the steps in Guidance Note 2, with the wind farm switched off, and determining the background noise (L3) at each integer wind speed within the range requested by the Local Planning Authority in its written request under paragraph (c) and the approved protocol under paragraph (d) of the noise condition.

(f) The wind farm noise (L1) at this speed shall then be calculated as follows where L2 is the measured level with turbines running but without the addition of any tonal penalty:

$$L_1 = 10\log\left[10^{L_2/10} - 10^{L_3/10}\right]$$

(g) The rating level shall be re-calculated by adding arithmetically the tonal penalty (if any is applied in accordance with Note 3) to the derived wind farm noise L1 at that integer wind speed.

(h) If the rating level after adjustment for background noise contribution and adjustment for tonal penalty (if required in accordance with note 3 above) at any integer wind speed lies at or below the values set out in the Tables attached to the conditions or at or below the noise limits approved by the Local Planning Authority for a complainant's dwelling in accordance with paragraph (e) of the noise condition then no further action is necessary. If the rating level at any integer wind speed exceeds the values set out in the Tables attached to the conditions or the noise limits approved by the Local Planning Authority for a complainant's dwelling in accordance with paragraph (e) of the noise condition then the development fails to comply with the conditions.

## Appendix 2: Planning conditions agreed between Sorbie Wind Farm Limited and North Ayrshire Council

**Sorbie Windfarm**
**Review of NAC Planning Conditions**
**Agreed Conditions – 11/12/14 (excluding Aviation Conditions – to be discussed at separate Inquiry Session if necessary)**

*Italics used to show new wording*

| NAC Condition | | | Agreed Condition | |
|---|---|---|---|---|
| **No.** | **NAC Wording** | **Reason for Changes** | **No.** | **Agreed wording** |
| | | New condition proposed.<br><br>Condition required to ensure 25 years of electricity generation is allowed. | 1 | *This planning permission shall expire 25 years from the date on which electricity is first generated from all of the approved wind turbines to the electricity grid network (the "First Export Date"). Written confirmation of the First Export Date shall be provided to the planning authority within one month of the First Export Date. Thereafter, the wind farm shall be decommissioned unless a further application for planning permission is timeously submitted and approved.* |
| 1 | That by the end of a period of 25 years from the commencement of development, all the turbines, turbine foundations down to one metre below ground level, buildings and ancillary equipment, shall be dismantled and removed from the site, the site roads treated, other elements of the scheme dealt with, and the site restored, all in accordance with the Restoration and Decommissioning Plan (RDP) approved under condition 3. | Change made to reflect previous condition. | 2 | *That by the end of a period of 25 years from the First Export Date, unless a further application has been submitted and approved in accordance with condition 1,* all the turbines, turbine foundations down to one metre below ground level, buildings and ancillary equipment, shall be dismantled and removed from the site, the site roads treated, other elements of the scheme dealt with, and the site restored, all in accordance with the Restoration and Decommissioning Plan (RDP) approved under condition *3.* |
| 2 | That, prior to the commissioning of the wind farm, the developer shall submit for the written approval of North Ayrshire Council as Planning Authority a Restoration and Decommissioning Plan (RDP) containing detailed proposals and timescales for the ultimate reinstatement of the | Changes made to ensure detailed proposals are submitted at the relevant time in the project. It is not reasonable to expect details on decommissioning methods | 3 | *That, no later than two years prior to the decommissioning of the wind farm,* the developer shall submit for the written approval of North Ayrshire Council as Planning Authority a Restoration and Decommissioning Plan (RDP) containing detailed proposals and timescales for the ultimate reinstatement of |

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| | site to its former condition and for the removal of the turbines in the circumstances covered by condition 4. | to be agreed 25 years before the work is carried out. | | the site to its former condition and for the removal of the turbines in the circumstances covered by condition 5. |
| 3 | That at least one month prior to the commencement of the development, the developer shall provide to North Ayrshire Council as Planning Authority details of the financial provision it proposes to put in place to cover decommissioning and site restoration costs. No work shall commence on the site until the developer has provided documentary evidence that this provision is in place and written confirmation has been given by the planning authority that the provision is satisfactory. The approved provision shall be maintained until the decommissioning and restoration of the site has been completed in accordance with the scheme approved under condition 2. | No Change | 4 | That at least one month prior to the commencement of the development, the developer shall provide to North Ayrshire Council as Planning Authority details of the financial provision it proposes to put in place to cover decommissioning and site restoration costs. No work shall commence on the site until the developer has provided documentary evidence that this provision is in place and written confirmation has been given by the planning authority that the provision is satisfactory. The approved provision shall be maintained until the decommissioning and restoration of the site has been completed in accordance with the scheme approved under condition 3. |
| 4. | That, if any turbine ceases to be operational for a continuous period of 6 months or such other period of time as may be agreed in writing by North Ayrshire Council as Planning Authority, all of its above ground elements, plus its foundation to a depth of one metre below ground level, shall be removed, and the ground reinstated, within a period of not more than 6 months after the expiry of the 6 month period referred to above, all in accordance with the RDP approved under condition 2. The developer shall provide operational data for individual turbines to North Ayrshire Council as Planning Authority on reasonable request. | No Change | 5 | That, if any turbine ceases to be operational for a continuous period of 6 months or such other period of time as may be agreed in writing by North Ayrshire Council as Planning Authority, all of its above ground elements, plus its foundation to a depth of one metre below ground level, shall be removed, and the ground reinstated, within a period of not more than 6 months after the expiry of the 6 month period referred to above, all in accordance with the RDP approved under condition 3. The developer shall provide operational data for individual turbines to North Ayrshire Council as Planning Authority on reasonable request. |
| 5. | That the turbines shall be erected and the site roads constructed in the locations identified on the plans hereby approved, save for the ability to vary these locations by 30m with the written approval of North Ayrshire Council as Planning Authority. Before the turbine bases are concreted, the | No Change | 6 | That the turbines shall be erected and the site roads constructed in the locations identified on the plans hereby approved, save for the ability to vary these locations by 30m with the written approval of North Ayrshire Council as Planning Authority. Before the turbine bases are concreted, the precise position of the turbines shall be notified to, and |

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| | precise position of the turbines shall be notified to, and approved in writing by, North Ayrshire Council as Planning Authority. | | | approved in writing by, North Ayrshire Council as Planning Authority. |
| 6 | That all cabling on the site between the wind turbines and the site sub-station shall be installed underground. | No Change | 7 | That all cabling on the site between the wind turbines and the site sub-station shall be installed underground. |
| 7 | That no development shall commence on the site until a Construction Method Statement, including details of all on-site construction works, post-construction reinstatement, drainage, mitigation, and other restoration, together with details of their timetabling, have been submitted to and approved in writing by North Ayrshire Council as Planning Authority in consultation with the Scottish Environment Protection Agency and Scottish Natural Heritage. This shall include detailed specifications of:<br>• the construction method of the site roads including their width, means of drainage (which shall have regard to SUDS principles), and edge reinstatement. The specification shall be accompanied by a plan at a scale of not less than 1:25,000 identifying the locations where<br>• cut roads, other excavated roads and "floating" road construction are proposed.<br>• the cable trenches (which shall be located alongside the site roads).<br>• the turbine bases.<br>• the method of working of the borrow pits, including any proposals for blasting, together with the post-construction reinstatement of the borrow pits.<br>• the formation of the construction compound.<br>• the construction of the crane pads.<br>• all foundation works. | No Change | 8 | That no development shall commence on the site until a Construction Method Statement, including details of all on-site construction works, post-construction reinstatement, drainage, mitigation, and other restoration, together with details of their timetabling, have been submitted to and approved in writing by North Ayrshire Council as Planning Authority in consultation with the Scottish Environment Protection Agency and Scottish Natural Heritage. This shall include detailed specifications of:<br>• the construction method of the site roads including their width, means of drainage (which shall have regard to SUDS principles), and edge reinstatement. The specification shall be accompanied by a plan at a scale of not less than 1:25,000 identifying the locations where<br>• cut roads, other excavated roads and "floating" road construction are proposed.<br>• the cable trenches (which shall be located alongside the site roads).<br>• the turbine bases.<br>• the method of working of the borrow pits, including any proposals for blasting, together with the post-construction reinstatement of the borrow pits.<br>• the formation of the construction compound.<br>• the construction of the crane pads.<br>• all foundation works.<br>• the construction and design of the control building and sub-station<br>• the means of erection of any permanent |

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| | • the construction and design of the control building and sub-station<br>• the means of erection of any permanent meteorological mast.<br>• the formation of the hardstanding areas.<br>• post-construction restoration/reinstatement of all working areas.<br>• watercourse crossings.<br>• a pollution prevention and control method statement.<br>• arrangements for the storage of oil on the site.<br>• measures to protect ecological and ornithological interests. These shall include the making of check surveys for nesting birds and a check survey timetable.<br>• construction activity undertaken within peat.<br>• a traffic management plan (including proposals for off-site roadworks). For the avoidance of doubt, these shall include the provision of visibility splays in each direction at the junction of the site access with the public road, details of which shall be agreed beforehand with North Ayrshire Council as Roads Authority. The visibility splays as may be agreed shall be provided before any other work begins on the site and shall be maintained during the lifetime of the development, such that there is no obstruction to visibility above a height of 1.05m measured above the road carriageway level.<br>• arrangements for the cleaning of the site entrances and the adjacent public road.<br><br>Thereafter, the development shall take place in | | | meteorological mast.<br>• the formation of the hardstanding areas.<br>• post-construction restoration/reinstatement of all working areas.<br>• watercourse crossings.<br>• a pollution prevention and control method statement.<br>• arrangements for the storage of oil on the site.<br>• measures to protect ecological and ornithological interests. These shall include the making of check surveys for nesting birds and a check survey timetable.<br>• construction activity undertaken within peat.<br>• a traffic management plan (including proposals for off-site roadworks). For the avoidance of doubt, these shall include the provision of visibility splays in each direction at the junction of the site access with the public road, details of which shall be agreed beforehand with North Ayrshire Council as Roads Authority. The visibility splays as may be agreed shall be provided before any other work begins on the site and shall be maintained during the lifetime of the development, such that there is no obstruction to visibility above a height of 1.05m measured above the road carriageway level.<br>• arrangements for the cleaning of the site entrances and the adjacent public road.<br><br>Thereafter, the development shall take place in accordance with the Construction Method Statement unless otherwise agreed in writing by North Ayrshire Council as Planning Authority. |

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| | accordance with the Construction Method Statement unless otherwise agreed in writing by North Ayrshire Council as Planning Authority. | | | |
| 8 | That no development shall take place until details of the model, height, colour and finish of the turbines and of any external transformers, have been submitted to, and approved in writing by, the planning authority. The turbines shall not be illuminated and shall not carry any symbols, logos or other lettering except where required under other legislation. The development shall be carried out thereafter in accordance with the approved details, unless any changes are subsequently agreed in writing by North Ayrshire Council as Planning Authority. | No Change | 9 | That no development shall take place until details of the model, height, colour and finish of the turbines and of any external transformers, have been submitted to, and approved in writing by, the planning authority. The turbines shall not be illuminated and shall not carry any symbols, logos or other lettering except where required under other legislation. The development shall be carried out thereafter in accordance with the approved details, unless any changes are subsequently agreed in writing by North Ayrshire Council as Planning Authority. |
| 9 | That, prior to the commencement of development, the developer shall prepare and submit a public access plan for the site for the written approval of North Ayrshire Council as Planning Authority. | No Change | 10 | That, prior to the commencement of development, the developer shall prepare and submit a public access plan for the site for the written approval of North Ayrshire Council as Planning Authority. |
| 10 | That no development shall take place within the development site as outlined in red on the approved plan until the developer has secured the implementation of a programme of archaeological works in accordance with a written scheme of investigation which has been submitted by the applicant, agreed by the West of Scotland Archaeology Service, and approved by North Ayrshire Council as Planning Authority. Thereafter, the developer shall ensure that the programme of archaeological works is fully implemented and that all recording and recovery of archaeological resources within the development site is undertaken to the satisfaction of North Ayrshire Council as Planning Authority in agreement with the West of Scotland Archaeology Service. | No Change | 11 | That no development shall take place within the development site as outlined in red on the approved plan until the developer has secured the implementation of a programme of archaeological works in accordance with a written scheme of investigation which has been submitted by the applicant, agreed by the West of Scotland Archaeology Service, and approved by North Ayrshire Council as Planning Authority. Thereafter, the developer shall ensure that the programme of archaeological works is fully implemented and that all recording and recovery of archaeological resources within the development site is undertaken to the satisfaction of North Ayrshire Council as Planning Authority in agreement with the West of Scotland Archaeology Service. |

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| 11 | That no development shall commence until a Habitat Enhancement Plan has been submitted to and approved in writing by North Ayrshire Council as Planning Authority in consultation with Scottish Natural Heritage. The approved plan shall be implemented thereafter to the satisfaction of North Ayrshire Council as Planning Authority. | Not required – the ecological assessment concluded that the site is of low ecological sensitivity and a series of mitigation measures have been proposed.<br><br>Habitat enhancement is not required to offset the negligible ecological effects. The condition is more commonly applied to bigger sites located in more sensitive areas.<br><br>Condition deleted. | | |
| 12 | That, prior to the commencement of the development, the applicant shall submit for the written approval of North Ayrshire Council as Planning Authority, a scheme providing for the mitigation of any impacts of the operation of the development on TV, radio and telecommunication reception. The scheme shall be implemented as approved and shall provide as follows:<br><br>i) a baseline reception survey to be carried out by a suitably qualified engineer prior to commencement of turbine installation, the results of which shall be submitted to North Ayrshire Council as Planning Authority,<br><br>ii) a scheme of alleviation, including procedures for the handling of complaints and disputes, shall be included within this study which shall be agreed in writing by North Ayrshire Council as Planning Authority, | No change | 12 | That, prior to the commencement of the development, the applicant shall submit for the written approval of North Ayrshire Council as Planning Authority, a scheme providing for the mitigation of any impacts of the operation of the development on TV, radio and telecommunication reception. The scheme shall be implemented as approved and shall provide as follows:<br><br>v) a baseline reception survey to be carried out by a suitably qualified engineer prior to commencement of turbine installation, the results of which shall be submitted to North Ayrshire Council as Planning Authority,<br><br>vi) a scheme of alleviation, including procedures for the handling of complaints and disputes, shall be included within this study which shall be agreed in writing by North Ayrshire Council as Planning Authority,<br><br>vii) within 12 months of the commissioning of the development, any claim by any individual person or business regarding loss or interference of |

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| | iii) within 12 months of the commissioning of the development, any claim by any individual person or business regarding loss or interference of reception, shall be investigated by a suitably qualified engineer and results submitted to North Ayrshire Council as Planning Authority,<br><br>iv) should any impairment to reception be attributable to the wind turbines, the developer shall remedy such impairment to the scheme of alleviation as agreed, to remedy the impairment to the equivalent reception received at the baseline study.<br><br>For the avoidance of doubt the resolution of disputes shall be determined by an independent arbiter eg OFCOM or other Professional Body as appropriate. | | | reception, shall be investigated by a suitably qualified engineer and results submitted to North Ayrshire Council as Planning Authority,<br><br>viii) should any impairment to reception be attributable to the wind turbines, the developer shall remedy such impairment to the scheme of alleviation as agreed, to remedy the impairment to the equivalent reception received at the baseline study.<br><br>For the avoidance of doubt the resolution of disputes shall be determined by an independent arbiter eg OFCOM or other Professional Body as appropriate. |
| 13 | That, prior to the commencement of the development, the developer shall submit for the written approval of North Ayrshire Council as Planning Authority in consultation with the Scottish Environment Protection Agency, a report addressing the potential effect of the development on any private drinking water resources in the area and any measures required to minimise the impact on drinking water quality during construction and operation. | | 13 | That, prior to the commencement of the development, the developer shall submit for the written approval of North Ayrshire Council as Planning Authority in consultation with the Scottish Environment Protection Agency, a report addressing the potential effect of the development on any private drinking water resources in the area and any measures required to minimise the impact on drinking water quality during construction and operation. |
| 14 | That the level of noise emissions from the turbines, as measured below, at any lawfully existing dwelling shall not exceed:<br><br>(a) between 07:00 and 23:00 hrs on any day the greater of 37.5dB LA90, 10 mins or 5dB(A) above the quiet Waking Hours Day Time Background Noise Level at that property; or | Insert "hereby permitted" | 14 | That the level of noise emissions from the turbines hereby permitted, as measured below, at any lawfully existing dwelling shall not exceed:<br><br>(a) between 07:00 and 23:00 hrs on any day the greater of 37.5dB LA90, 10 mins or 5dB(A) above the quiet Waking Hours Day Time Background Noise Level at that property; or<br><br>(b) between 23:00 hrs on any day and 07:00 hrs on |

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| | requirements of this condition. | | | |

**Appendix 3 – Planning Officer's report to Local Review Body**

**Planning Officer Report for Local Review Body**

PLANNING APPLICATION 13/00627/PP

Proposed erection of 3 no. wind turbines each with a maximum blade tip height of up to 104.3 metres and associated infrastructure including upgraded site entrance, upgraded access tracks, new access tracks, foundations, hardstandings, temporary construction compound, control building/substation, temporary borrow pit and erection of permanent 65m meteorological mast at Sorbie Farm, Ardrossan.

The Proposal:

This planning application is for the erection of three wind turbines on a site some 600 metres north of Sorbie Farm Steading which itself is located some 700 metres north of the Ardrossan – Saltcoats - Stevenston bypass and some 100 metres east of the B780 Ardrossan - Dalry road.

Each of the proposed turbines would measure 104.3 metres high to blade tip, 63.3 metre high tower with 82 metre diameter blades, and each with an installed capacity of 2.3 megawatts (MW).

The proposed development would also include the upgrading of an existing field access at a point some 200 metres south of the Busbie Muir Reservoir and the provision of new and upgraded access tracks between the site access road and each of the turbines; the erection of a control building/sub-station and a 65 metre high meteorological mast of lattice construction; and the opening up of a borrow pit to quarry stone for use on the construction of the development. The proposed control building would be a single storey building 12 metres long by 6 metres wide with a dual pitched roof with a ridge height of some 5.5 metres and would sit adjacent to the proposed sub-station which would occupy a similar site area within a fenced compound.

As is usual with such a proposal, the wind turbines are intended to have an operational life span of approximately 25 years, following which they would be removed and the site reinstated to an agreed standard, or alternatively they may be the subject of a subsequent application to extend the life of the development.

Whilst the proposal does not comprise development in respect of which the Environmental Assessment (Scotland) Regulations 1999 apply, and therefore did not require an Environmental Statement (ES), the applicants have provided supporting information in the form of an Environmental Appraisal (EA) which examines a range of topics similar to those required by a formal ES including the construction, operation, maintenance and decommissioning of the site; economic and community benefits; landscape and visual issues; and assessments of hydrology, noise, archaeology and other related issues. The EA concluded that the proposed development complies with the Development Plan and its aims of developing renewable energy proposals in line with national requirements while preserving the environment.

Planning History:

The application is effectively a resubmission of a previous application of May 2013 (13/00236/PP) for an identical proposed development which was withdrawn by the applicant on the 25th June 2013.

A planning application of 2011 (11/00257/PP) for the erection of two 18m high wind turbines on a site to the east of Sorbie Farm Steading, and within the boundary of the current application site, was refused planning permission in August 2011 on the grounds that the proposal would be contrary to local plan policies as they would adversely impact on Glasgow Prestwick Radar System and air traffic safety and have an adverse impact on the visual amenity and landscape character of the area.

An application of May 2011 (11/00354/PP) for the erection of a temporary 16m high meteorological mast to the north of Sorbie Farm steading was refused planning permission in July 2011 on the grounds that the proposed development constituted a form of renewable energy development, as it related to monitoring equipment in connection with the current proposed development, and was refused on the grounds that there was no justification on the grounds of locational need and that it would have a significant adverse impact on the landscape qualities of the area. This decision was subsequently overturned by the Local Review Body at their meeting of 13th December 2011 on the grounds that the proposed development was not, in itself, a renewable energy development and therefore the Policy reason for refusal was not relevant. It also concluded that due to the temporary nature of the mast and its slender and obtrusive appearance it was not considered to be significantly contrary to Policy ENV1 and was an acceptable form of development in the Countryside and the application was granted for a temporary 3 year period. The mast was subsequently erected on the site in October 2013.

Planning Policy:

Scottish Planning Policy (SPP) of 2010 recognises the role that wind turbines play in meeting renewable energy targets and indicates that there is considerable potential for Scotland's landscape to accommodate such development; although it also stresses that careful consideration must be given to the need to address cumulative impact.

The SPP provides general locational guidance in relation to windfarm proposals, requiring account to be taken of: areas designated for natural heritage value; green belts; cumulative impact; historic environment; tourism recreational interest; communities; buffer zones; aviation and defence interests and broadcasting installations.

The application site is located within an area of Countryside in terms of the newly Adopted North Ayrshire Local Development Plan (LDP) which requires the proposed development to be considered against Policy PI9 (Renewable Energy) which contains qualifying criteria similar to the SPP, and Policy ENV1 (Development in the Countryside).

The Ayrshire Joint Planning Unit (AJPU) Supplementary Planning Guidance (SPG) for windfarm development of 2009 and the NAC Landscape Capacity Study for windfarm development of 2009, and updated in 2013, give advice on sensitive areas to be avoided by

wind turbine developments and are material considerations in the determination of this application.

Policy PI9 states that proposals for a range of renewable energy developments, including wind turbines, shall accord with the LDP subject to satisfying the following criteria:-

(a) the development is appropriate in its design and scale to its surroundings; AND
(b) it can be demonstrated that there is no unacceptable adverse impact on the intrinsic landscape qualities of the area (especially for areas with a specific landscape designation, and coastal waters); AND
(c) in the case of individual wind turbines or windfarm development, that the proposed development is not in an area designated as " high sensitivity in the "landscape capacity study for windfarm development in North Ayrshire"; AND
(d) the proposal shall not result in unacceptable intrusion, or have an unacceptable adverse effect on the natural, built, cultural or historic heritage of the locality; AND
(e) it can be demonstrated that there are no unacceptable adverse impacts on the operation of tourism or recreational interest; AND
(f) it can be demonstrated that any unacceptable adverse effects and telecommunications, transmitting, receiving or radar systems for civil, broadcasting, aviation or defence interests can be effectively overcome; AND
(g) The proposal can be satisfactory connected to the national grid without causing any unacceptable negative environmental impacts; AND
(h) when considered in association with existing sites, sites formally engaged in the Environmental Assessment process or sites with planning permission, including those in neighbouring authorities, there are no unacceptable impacts due to the cumulative impact of development proposals; AND
(i) in the case of individual wind turbines and windfarm development, that the proposal satisfies the contents of the Ayrshire Supplementary Guidance: Windfarm Development (October 2009); AND
(j) where appropriate, applicant's will be required to demonstrate consideration of co-location with significant electricity or heat users.

The above policy also requires that any redundant apparatus be removed within 6 months of it becoming non-operational and that the site will be restored, unless it can be demonstrated that the said apparatus will return to productive use within a reasonable time frame.

Policy ENV1 of the LDP relates to new development in the Countryside (excluding Housing) stating that such developments shall not accord with LDP unless satisfying criteria relevant to (a) being necessary non-residential development associated with agriculture, forestry or other established rural businesses , (b) a small scale Class 4 business with a specific locational need to be located on site, (c) being essential public infrastructure with a special operational need to be located on site, (d) being within an existing rural village, (e) tourism, outdoor sport or recreational development with a specific operational need to be located on site.

Publicity:

The applicant advises that prior to the submission of the planning application they held two local public information events in Ardrossan in July 2013.

In relation to the planning application, the standard neighbour notification procedure was carried out and the application was advertised in the local press on the 6th November 2013 for neighbour notification purposes.

Arising from the above publicity exercise, five letters of objection and 22 letters of support (in the form of 4 separate pro-forma type letters) were received, the content of which is summarised below.

Grounds of Objection:

1. The proposal is contrary to policy ECON7 of the Structure Plan.

*Response - The Structure Plan and Local Plan were superseded by the new Local Development Plan in May 2014, however the assessment criteria of Policy ECON7 (windfarms) of the Structure Plan requires windfarm proposals to comply with an extensive list of criteria similar to those now included in Policy PI9 of the LDP. Agree that the proposed development would fail to satisfy several of the criteria within Policy PI9 in relation to having an adverse impact on the landscape qualities of the area, and representing development within a designated area of "high sensitivity" within the NAC Landscape Capacity Study, particularly in relation to the nearby Ardrossan windfarm.*

2. The proposal is contrary to Policy ENV3 of the Adopted Local Plan

*Response - Again, this policy is superseded by Policy ENV5 of the LDP and relates to proposals for farm diversification. The proposed development is not considered to fall within the definition of farm diversification as specified in the LDP and therefore is not relevant to the determination of the application.*

3. The proposed development is contrary to the aims of the NAC Landscape Capacity study and would result in an unacceptable cumulative impact of wind turbines in the area.

*Response – Agree. The proposed turbines lie on the outer edge of the "Haupland Muir" landscape character type as defined in the 2009 and 2013 LSC's and would be sited at the transition with the smaller and more settled "North Ayrshire Lowlands" landscape character type. Both of these landscape character types are assessed as being of high sensitivity to large scale wind turbines and, although the proposed turbines would be of similar size to the Ardrossan Windfarm, they would appear more distinctive in scale in relation to these existing turbines in close views, as the Ardrossan turbines are set back into the "core" of the Haupland Muir Uplands and their location is partly screened by higher hills.*

4. The proposed turbines would result in unacceptable noise and infrasound levels.

*Response - Environmental Health was consulted on the proposed development and*

*confirmed acceptance of the findings of the applicants Noise Report contained within their environmental appraisal. If the application was to be approved a number of conditions relative to noise levels could be attached to the planning permission to ensure compliance with Environmental Health's advice. In relation to infrasound or low frequency noise, Environmental Health has previously advised that there is no evidence of good practice examples for assessments of this type of noise in relation to windfarm proposals.*

5. SPP6 advises a separation distance of 2km be provided between wind turbines and residential properties and the property of one objector is only some 820m distant of one of the turbines.

*Response - Scottish Government Planning Policy SPP6 was superseded by the SPP of 2010, which covers a wide range of subject policies, including windfarms, but with the emphasis on planning authorities to prepare detailed guidance documents in relation to such developments. The guidance is addressed within Policy PI 9.*

6. The proposed development would adversely impact on airport radar systems.

*Agree - Both NATS Safeguarding and Glasgow Prestwick Airport has submitted objections to the proposed developments on the grounds of unacceptable impact on NATS radar at Lowther Hill and Glasgow Prestwick Airport's primary surveillance radar system respectively. NATS have subsequently confirmed that they are currently working on mitigation measures to overcome this problem and that they would now be willing to accept a suspensive condition if planning permission were to be granted. Whilst GPA has advised that they are continuing to engage with the applicant in relation to achieving a mitigation solution, their objection is maintained.*

7. The proposed development would result in TV disruption.

*Response - The applicant's environmental appraisal acknowledges that wind turbines have the potential to cause interference with TV and telecommunication signals. However the recent introduction of digital reception makes it less problematic, although it has been identified that several hundred homes may be adversely impacted on by the proposed development. The applicant has submitted that they would intend carrying out both pre-construction and post-construction surveys of TV reception in the area which would allow any identified degradation and TV reception to be subsequently alleviated by them and an appropriate condition could be attached in this regard if planning permission were to be approved.*

8. The proposed development will result in shadow flicker to nearby properties.

*Response - The applicant's environmental appraisal acknowledges that three residential properties could be at risk of the effects of shadow flicker under certain combinations of geographical position, time of day and time of year and where flicker appears through narrow window openings. The applicant has submitted that control measures could be implemented in order to prevent shadow flicker occurring or to reduce its intensity e.g. by programming individual wind turbines that may give rise to shadow flicker effects to shut down at times when these affects may occur and again, if the application was to be granted,*

*appropriate conditions could be attached.*

9. The proposed development will endanger bird life.

*Response - RSPB was consulted on the proposal and offered that they had no objection subject to the development being constructed outwith the bird breeding season. Clyde Muirshiel Regional Park expressed concern that additional bat survey information should be provided given the proximity of woodland to the proposed turbines and again appropriate conditions could be attached to cover these issues should the application be granted.*

10. Wind turbines are an ineffective way of reducing co2 emissions.

*Response - This is not a material land use planning consideration.*

11. Concerns regarding the inadequate nature of current statutory procedures for publicising applications for wind turbines.

*Response - The current planning application has been publicised in accordance with current regulations which in this case has involved neighbour notification of adjacent properties and public advertisement in a local newspaper.*

Grounds of Support:

1. The proposed turbines, due to their close relationship with the existing Ardrossan windfarm will not detract from their surroundings.

*Response - Disagree. It is considered that the proposed turbines would have a significant adverse cumulative effect on the landscape setting and would appear much larger and more widely spaced that the Ardrossan turbines, given their location closer to the main traffic route of the A78 and with the position of the Ardrossan turbines set further back into the core upland area. The typical separation distance between turbines of this size is approximately 400m. However in this case there would be a gap of some 1.2km between the Ardrossan turbines and the closest proposed turbine, separated by the valley of the B780 Ardrossan/Dalry Road.*

2. The applicants are proposing a generous community benefit package

*Response - In this instance, Community Benefits are not a material consideration in the determination of the application. There is currently no Council policy in respect of community benefits arising from renewables. Any offer of community benefits may not be legally binding.*

3. The proposed development would create local job opportunities, particularly during the construction phase of the development.

*Response - Agree.*

4. The proposal will help meet renewable targets.

*Response – SPP acknowledges that renewable targets are only one of the considerations in the determination of the application.*

Consultation Responses:

Glasgow Prestwick Airport - Object. The proposed turbines would be fully visible to GPA's primary radar system and would appear as clutter on the radar display.

*Response - GPA has advised that they are continuing to engage with the applicant in relation to achieving a mitigation solution, their objection is maintained.*

NATS Safeguarding - Object. The proposed wind turbines would result in an unacceptable impact on NATS Lowther Hill radar.

*Response - Noted. NATS have subsequently confirmed that they are currently working on mitigation measures to overcome this problem and that they would now be willing to accept a suspensive condition if planning permission were to be granted.*

Clyde Muirshiel Regional Park - Object. While the proposed turbines would be located some 1 kilometre south of the Park boundary, the Park Authority consider that the cumulative impact of the proposed turbines would have an adverse impact on the perception of visitors entering the Park from the south, of the Park being a place of tranquillity and naturalness. They also consider that the applicant's Environmental Appraisal has not taken proper account of results of the Bat Survey, which, in line with SNH guidelines would probably result in the most northerly turbine (T1) requiring to be relocated some 50 metres distant of its present position to distance itself from an area of woodland. Also concerned that the Environmental Appraisal has not taken account of the possibility of cumulative displacement of bird species and cumulative loss of habitats due to other existing and proposed windfarm developments in the area.

*Response - Agree that the resultant cumulative impact of the proposed turbines with those of Ardrossan windfarm would be unacceptable. In relation to the concerns regarding EA content in relation bats, birds and habitats, SNH was consulted on the application and offered no objection to the proposal. A condition could be attached to obtain further information on these issues should be planning permission be granted.*

West of Scotland Archaeology Service - No objections subject to a condition being attached requiring a written Scheme of Investigation to be undertaken by the applicant in relation to potential archaeological finds.

*Response - An appropriate condition could be attached if permission is granted.*

NAC Roads - No objection subject to a condition being attached requiring further details of the design of the junction with the B780 Ardrossan/Dalry road.

*Response - An appropriate condition could be attached if permission is granted.*

NAC Environmental Health - No objection, subject to conditions being attached in relation to

noise and the discovery of any unsuspected contamination. The applicant has also been provided with advice regarding the issue of private water supplies and operating hours.

*Response - Appropriate conditions could be attached if permission is granted.*

RSPB - No objections subject to a condition restricting operations within the bird breeding season and appropriate mitigation being carried out as agreed with SNH.

*Response - An appropriate condition could be attached if permission is granted.*

SEPA - No objections subject to the applicant obtaining relevant authorisations and complying with regulatory advice.

*Response - The applicant has been advised of these requirements by SEPA.*

SNH - No objections. No designated sites will be affected by the proposal and consider the applicant's suggested mitigation for protected species to be acceptable although there is a need for an additional survey to be carried out in relation to otters. In relation to landscape issues SNH advise that the scale and design of the proposed development conflicts with the applicant's design strategy within the Environmental Appraisal and results in a contrast, rather than a visual unity, with the Ardrossan windfarm. Suggest that lower turbines and closer spacing between the turbines may lessen the cumulative impact with the Ardrossan windfarm turbines.

*Response - Agree with the comments regarding the issues of landscape and cumulative impact. A condition could be attached regarding the additional otter survey if the application is granted.*

Scottish Water, MOD, BAA Glasgow Airport - No objections.

Saltcoats Community Council - No reply.

Analysis:

The main determining issue of the proposed development is the requirement to satisfy Policies PI9 (Renewable Energy) and ENV1 (New Development in the Countryside) of the Local Development Plan.

In order to comply with Policy PI9 proposals for wind turbine developments must comply fully with the following range of criteria:-
(a) be of appropriate scale and design to its surroundings;
(b) have no unacceptable adverse impact on landscape quality;
(c) not be within a "high sensitivity" area as defined in NAC's Landscape Capacity Study;
(d) not result in unacceptable intrusion or have an adverse effect on the natural, built, cultural or historic heritage of the area;
(e) not adversely impact on tourism/recreational interests;
(f) be able to demonstrate that any adverse impacts on radar, broadcasting or telecommunication systems can be overcome;

(g) achieve a satisfactory grid connection without adverse environmental impacts;
(h) not resulting in an adverse cumulative impact; and
(i) satisfy the Ayrshire Supplementary Windfarm Guidance of 2009.

Whilst the proposed development is considered to satisfy criteria (e) and (g), it is not considered that it would satisfy the remaining criteria for the following reasons.

In relation to criterion (f) both NATS safeguarding and Glasgow Prestwick Airport submitted objections to the proposed development on the grounds of unacceptable impact on their radar systems. NATS have subsequently confirmed that they are currently working on mitigation measures to overcome this problem and that they would now be willing to accept a suspensive condition if planning permission were to be granted. GPA however, while advising that they are continuing to engage with the applicant in relation to achieving a mitigation solution, have not confirmed that these discussions have progressed to the extent that they too would be willing to accept a suspensive condition and therefore their objection to the proposed development still stands.

The proposed turbines would be located within a landscape character area which has been identified as "high sensitivity" in the NAC Landscape Capacity Study (LCS). The Council's landscape advisor, who was also the author of the LCS, was consulted on both the proposed development and a review of the LCS undertaken by the applicant's landscape consultant in relation to some concerns they have on interpreting the document, and the likely weight to be put on it in the determination of the planning application. The conclusion of NAC's consultant is that in relation to the LCS, the 2009 study concluded that there was very limited, if any, scope for additional large turbines to be accommodated within the "Haupland Muir" landscape character type within which the application site is located. The more recent and more detailed 2013 supplementary LCS, which updated the cumulative context to incorporate a recent 6 turbine extension to the Dalry windfarm (Millour Hill), concluded that there was no scope for additional large turbines to be accommodated. It is considered that this proposal would have significant adverse cumulative effects on the setting and design integrity of the existing Ardrossan windfarm. It would also contrast with the other nearby windfarms of Kelburn and Dalry and Millour Hill which are clearly associated with more extensive, less settled upland areas, by being sited on the upland edge and the adjacent smaller scale "North Ayrshire Lowlands" landscape character type.

It is also considered that the height of the proposed turbines at 104 metres to blade tip, while of similar height to those of the Ardrossan windfarm, would dominate the low relief of small hills, woodlands, enclosed fields and buildings which are key characteristics of the adjacent "North Ayrshire Lowlands" landscape character type. It would also incur significant adverse impacts on close views from surroundings roads and from Ardrossan and the Firth of Clyde, particularly from the south and south-west where the proposed turbines would appear much larger and more widely spaced than those of the Ardrossan windfarm and would be visually discordant.

The applicant's Environmental Appraisal confirms that significant adverse impacts would occur from several viewpoints, although it is considered that the appraisal fails to provide a robust analysis of the precise effects of the visual interaction that would occur with the existing Ardrossan windfarm in these views. Views from the A78,

Ardrossan/Saltcoats/Stevenston bypass, would be particularly severe as the turbines of this proposal would coalesce with the Ardrossan windfarm and appear significantly larger and more widely spaced, creating a confusing and cluttered image and disrupting the design integrity of the Ardrossan windfarm which was specifically designed to form a clustered grouping within the core of a small upland area. The proposal is therefore considered to conflict with the guidance contained in the LCS and to be unacceptable in terms of landscape and visual appearance, and cumulative impact.

In relation to landscape issues SNH, a Statutory Consultee, whilst not objecting to the application, express significant concerns that the scale and design of the proposed development conflicts with the applicant's design strategy within the Environmental Appraisal and results in a contrast, rather than a visual unity, with the Ardrossan windfarm. SNH suggest that lower turbines and closer spacing between the turbines may lessen the cumulative impact with the Ardrossan windfarm turbines.

In view of the above it is considered that the proposal therefore also fails to satisfy criteria (a), (b), (c) and (h) of Policy PI9 as it would be within a "high sensitivity" area as designated in the LSC resulting in adverse landscape and visual impact and having an unacceptable cumulative impact, particularly with the nearby Ardrossan windfarm.

The proposed development is also considered to be contrary to Policy ENV1 which refers to all new development in the Countryside, excluding housing. This policy only allows developments to accord with the LDP if they are necessary development associated with agriculture, forestry or other established rural businesses; small scale Class 4 businesses with a specific locational need; essential public infrastructure with a specific locational need; within an existing rural village; or an constitute an acceptable form of tourism development. The proposed development does not fall within either of these criteria and therefore is considered to contrary to Policy ENV1 of the LDP.

It should be noted that this analysis concentrates on the erection of the proposed turbines only. The other components of the proposed development eg new and upgraded access tracks; the erection of a control building/sub-station and a meteorological mast; and the opening up of a borrow pit, are not considered to have any significant adverse impact on the area which could not be mitigated by conditions.

Conclusion:

In view of the above it is considered in relation to the LDP that the proposal would be contrary to Policy ENV1 and would not accord with the relevant criteria of Policy PI9 in that it would represent development which would (i) have both an adverse visual impact and cumulative visual impact, being located within would be within a "high sensitivity" area as designated in the NAC LSC resulting in adverse landscape and visual impact; (ii) represent new development in the Countryside without justification, and (iii) set an undesirable precedent for further developments of this type at this sensitive location.

Observations on the applicants Grounds for Review:

The applicant's Notice of Review requests that the Local Review Body approve the application for the following reasons:-

(a) That there would be economic and community benefits resulting from direct employment during construction of the windfarm and job creation from investment in the local dairy business.

*Response : Agree*

(b) That the site lies outwith the Sensitive Landscape Area.

*Response : Agree*

(c) The local community are supportive of the proposal.

*Response : 22 letters of support do not indicate overwhelming community support for the proposed development.*

(d) That there would be an annual community benefit payment of sum £34,000 per year for the lifetime of the development.

*Response : In this instance, Community Benefits are not a material consideration in the determination of the application. There is currently no Council policy in respect of community benefits arising from renewables. Any offer of community benefits may not be legally binding.*

(e) That technical solutions existing that will overcome the identified radar issues of the NATS and Glasgow Prestwick Airport.

*Response : Glasgow Prestwick Airport maintains their objection to the proposal on the grounds of adverse impact on the primary surveillance radar.*

(f) That the site is close to the existing Ardrossan windfarm and the visual impact of the three proposed turbines has been evaluated and considered acceptable.

*Response : Disagree. The conclusion of the Council's Landscape Advisor is that the proposed turbines would result in an unacceptable landscape, visual and cumulative impact. The proposal would also conflict with the approved NAC Landscape Capacity Study. SNH also express significant concern on these matters*

(g) That the proposed development can be justified in planning policy terms.

*Response : Disagree. It has been concluded that the proposal fails to satisfy criteria (a), (b), (c), (d), (f) and (h) of Policy PI9 of the LDP as it is considered that it would (i) be of inappropriate design and scale to its surroundings; (ii) have an adverse impact on the intrinsic landscape qualities of the area; (iii) comprise windfarm development within an area*

*designated as "high sensitivity" in the NAC Landscape Capacity Study, (iv) result in unacceptable cumulative impact; and (v) adversely impact on GPA's radar system. Policy PI9 requires compliance with nine stated criteria, and, as it is considered to conflict, the proposed development fails to comply with Policy PI9.*

*The proposal is also contrary to Policy ENV1 as it constitutes new development in the Countryside for which there is no justification.*

In view of the above it is not considered that there are any other material considerations which would outweigh the failure of the proposal to comply with the relevant Development Plan Policies.

**Appendix 4 – List of Documents**

**Agreed list of Core documents**

CD01 Sorbie Windfarm, Environmental Appraisal Volume 1: Text and Technical Appendices, October 2013 and Volume 2: Figures, October 2013

CD02 Notice of Review

CD03 The Town and Country Planning (Safeguarded Aerodromes, Technical Sites and Military Explosives Storage Areas) (Scotland) Direction 2003

CD04 North Ayrshire Council Local Development Plan

CD05 The Assessment and Rating of Noise from Wind Farms (1996) (ETSU-R-97) guidance.

CD06 Landscape Capacity Study for Wind Farm Development in North Ayrshire, Phase One and Two Reports (Carol Anderson, Alison Grant Landscape Architects, October 2009)

CD07 North Ayrshire Supplementary Landscape Wind Capacity Study (Carol Anderson Landscape Associates, June 2013)

CD08 Supporting Information Paper 7, Safeguarding Aerodromes, Technical Sites and Military Explosives Storage Areas

CD09 Reporters decision in relation to a 9 turbine site at St John's Hill, Stonehaven

CD010 North Ayrshire Council's Rural Design Guidance

CD011 PAN 73

CD012 Ayrshire Supplementary Planning Guidance (SPG) on Wind Farm Development (October 2009)

CD013 Climate Change (Scotland) Act 2009;

CD014 National Planning Framework 3 – Scotland's Third National Planning Framework (June 2014)

CD015 Scottish Planning Policy (SPP) (June 2014)

CD016 Online Renewables Planning Advice - Onshore Wind Turbines (February 2011, last updated May 2014)

CD017 Low Carbon Scotland: Meeting the Emissions Reduction Targets 2013–2027 – The Second Report on Proposals and Policies (2013)

CD018 Electricity Generation Policy Statement (2013)

CD019 2020 Routemap for Renewable Energy in Scotland – (June 2011, Updated in October 2012 and December 2013)

CD020 The Renewables Action Plan (2009, updated March 2011)

CD021 The Low Carbon Economic Strategy for Scotland (November 2010)

CD022 Aviation Objections and Associated Negative Conditions in Wind Turbine Consents, January 2012

CD023 A YouGov poll published in March 2013

CD024 List of Policies and Guidance agreed as between Applicants and North Ayrshire Council

CD025 List of proposed planning conditions agreed between Applicants and North Ayrshire Council

CD026 Agreed Statement between Glasgow Prestwick Airport and Applicants

CD027 Residential Amenity Assessment

CD028 NAC Officer's Report to the LRB dated 18th June 2014

CD029 Institute of Acousticians Good Practice Guidance document

CD030 Letter from the Chief Planner to the Heads of Planning in relation to Development Plans – Supplementary Guidance, dated 15th January 2015

CD031 Sorbie Wind Farm – Noise Related Planning Conditions (Tabled at hearing session)

**Documents tabled by Mr and Mrs Slater**

1. North Ayrshire Local Development Plan, adopted 20 may 2014
   a. Map 1 – Mainland & Cumbraes Rural Area map
   b. Map 2- Inset 9 (Ardrossan, Saltcoats & Stevenson)

2. Ayrshire Supplementary Guidance on Wind Farm Development

3. Supplementary Guidance on Wind Farm Development Phase 1

4. Supplementary Guidance on Wind Farm Development Phase 2

5. Supplementary Landscape Wind Capacity Study – Main Study Report

6. Supplementary Landscape Wind Capacity Study – Appendix Report

7. Planning Officer Report for the Local Review Body

8. ETSU – R – 97

9. A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise

10. DB1 – Ardrossan Windfarm Extension conditions

11. DB2 – Vesta V80 Noise Curve

12. DB3 – Drumadarragh Appeal Decision 21 August 2014

13. DB 4 – Additional Information – Noise Limits

**Agreed documents in relation to Radar Matters**

11.1.1 Screenshots of radar display;

11.1.2 Air Navigation: The Order and the Regulations (CAP 393);

11.1.3 Aeronautical Information Publication (UK "AIP", CAP 32);

11.1.4 Licensing of Aerodromes (CAP 168);

11.1.5 Manual of Air Traffic Services Part 1 (CAP 493);

11.1.6 ATS Safety Requirements (CAP 670);

11.1.7 CAA Policy and Guidelines on Wind Turbines (CAP 764).

11.1.8 Guidance on Dealing with Aviation Objections and Associated Negative Conditions in Wind Turbine Consents", January 2012

Aviation Supplementary Note – NATS Radar

Letter from Glasgow Prestwick Airport dated 13 May 2015 – withdrawing objection

**Additional documents submitted on Behalf of Sorbie Wind Farm Limited**

1 Rebuttal to Mr Bowdler by Michael Reid

2 Sorbie Wind Farm – Energy loss estimate due to noise curtailment

3 Pages from Ardrossan Environmental Statement May 2002

4 Pages from Ardrossan Environmental Statement May 2002

5 Pages from Ardrossan Environmental Statement – Submitted version

6 Decision notice ref 02/00378/PP

7 Decision notice ref 05/01151/PP

**Appendix 5 – Note of Pre-examination meeting**

**CALLED IN APPLICATION FOR PROPOSED SORBIE WIND FARM, SORBIE FARM, ADROSSAN, NORTH AYRSHIRE**

**Directorate for Planning and Environmental Appeals reference: AIR-NAY-001**

**PROCEDURE NOTICE 1 – NOTE OF MATTERS AGREED AT OR ARISING FROM THE PRE-EXAMINATION MEETING HELD AT 10:00 AM, THURSDAY 20th NOVEMBER 2014, WHITLEES COMMUNITY CENTRE, CARRICK PLACE, ARDOSSAN, KA22 7DT**

## 1. Introduction

Scottish Ministers have issued a direction under Section 46 of the Town and Country Planning (Scotland) Act 1997 confirming that they will determine the planning application. The application has now been transferred to the Scottish Government's Directorate for Planning and Environmental Appeals for examination. Mr Dan Jackman BA (Hons) MRTPI has been appointed as the Reporter to consider the application and prepare a report for Scottish Ministers.

The pre-examination meeting related to discussing the procedural arrangements for the above application. This note and accompanying covering letter is a "procedure notice".

## 2. Those present

Representatives from the applicant (Sorbie Windfarm Ltd), North Ayrshire Council, Glasgow Prestwick Airport and Mr and Mrs Slater (local residents) attended the meeting.

## 3. Choice of procedure

The Reporter's suggested procedures were discussed. On behalf of the applicant and Glasgow Prestwick Airport, it was explained that discussions had been on going and it was likely that an agreement could be reached. Therefore, an inquiry session may not be necessary.

North Ayrshire Council stated that they did not intend to be a party at either the proposed inquiry session or hearing sessions. Now that Scottish Ministers would determine the application, they considered that they had no further role. In addition, it was not council practice for councillors to attend appeal proceedings and planning officers had previously recommended the application for refusal.

The Reporter explained that whilst Scottish Ministers would be determining the application, they would want to consider the view of the statutory planning authority before doing so. The minute of the Local Review Body was an inadequate basis to convey the position of the planning authority and assistance from the council at the inquiry session and both hearing sessions would be necessary to prepare his report. Explaining the council's position need not compromise the professional integrity of any officers.

The Reporter also explained that Section 265 of the Act allowed him to cite named individuals to present evidence and expressed the hope that the use of such a power would not be necessary in this case. The council representatives agreed that the council would co-operate in the examination and participate in the sessions.

Subject to the above comments, the procedures and matters to be addressed as set out in the pre-examination meeting agenda were agreed.

**4. Date and venue**

It was agreed that it would be prudent to diary 28th and 29th January 2015 for the sessions and site visiting arrangements, although it was hoped that a single day would be adequate.

The provisional timetable would be to start with the policy hearing session at 10:00 am, followed by the inquiry session (if necessary), then the conditions session finishing with site visits. 29th January 2015 would be kept free in case of any over running.

Whitlees Community Centre, Ardrossan Civic Centre and the Ardrossan Youth Centre were possible venues. It was agreed that the final choice would be left to the DPEA depending on availability and meeting its own venue selection criteria.

**5. Procedure for Inquiry Session**

The participants would be the applicant, North Ayrshire Council and Glasgow Prestwick Airport. The applicant agreed to take the lead in organising an agreed written statement and associated documents. Annex 2 sets out the Reporter's further guidance on the matters such an agreed statement should cover in order to help him to write his report. The agreed written statement and accompanying documents should be submitted by 17:00 on Tuesday 23rd December 2014.

If complete agreement is not possible, any outstanding matters should be set out in a statement of case that should outline the parties case, identify any documents that would be referred and identify any witnesses. The statement of case and documents should also be submitted by 17:00 on Tuesday 23rd December 2014. If an inquiry is necessary, the precognitions of the witness should be submitted by 17:00 Wednesday 14th January 2015. As a guide, precognitions should be limited to 2000 words.

In the event of an agreed statement, the Reporter may nonetheless hold an inquiry session to ask questions of the parties.

The Reporter would need both hard and electronic copies of any statement, document and precognition. He could not accept weblinks. Copies should also be circulated to the other parties.

Any closing submissions should be in writing and the Reporter indicated that he had found it helpful on previous occasions for closing submissions to encompass all the sessions. The timetable for closing submissions would be discussed on 28th January 2015.

## 6. Procedure for Hearing Sessions

The participants would be the applicant, North Ayrshire Council and Mr Slater. For the policy session, a hearing statement addressing the matters set out in the agenda to the pre-examination meeting would be necessary. For the conditions hearing session, a set of suggested conditions would suffice.

The Reporter encouraged the participants to agree as much as possible before the hearing so the discussion at the hearing could focus on those areas where differences remained including:

- Agreed list of development plan policies
- Agreed list of other relevant policy documents
- Agreed list of core documents
- Agreed list of conditions in the event Scottish Ministers grant planning permission (based on the LRB minute)
- Agreed heads of terms for any necessary agreement in the event Scottish Ministers grant planning permission (based on the LRB minute)

The applicant agreed to take the lead in liaising between the parties for the above agreed matters.

The hearing statement and any documents that the parties wished to rely upon should be submitted by 17:00 Tuesday 6th January 2015. As for the inquiry session, The Reporter would need both hard and electronic copies of any statement, and documents. He could not accept weblinks. Copies should also be circulated to the other parties.

The Reporter would use his best endeavours to circulate the agenda for the hearing sessions by 14th January 2015

## 7. Other procedural matters

The Reporter agreed to have an accompanied site visit to the site itself and Mr Slater's property. This would follow the hearing and inquiry sessions on either 28th or 29th January depending on the available time.

No other matters were raised

**Annex 1: Further procedure and participants**

| Topic | Procedure | Participants |
|---|---|---|
| Aviation radar matters<br>• The impact of the proposal on existing operational radar<br>• Potential mitigation measures<br>• Whether the use of a suspensive condition is appropriate<br>• Any implications of using a suspensive condition for aviation radar operators | Inquiry session (or agreed written statement) | (1) The applicant<br>(2) Glasgow Prestwick Airport<br>(3) North Ayrshire Council |
| Planning policy matters<br>• Assessment of the proposal against development plan policies<br>• Assessment of the proposal against the Scottish Government's policies and advice<br>• Assessment of the proposal against North Ayrshire Council's guidance and advice<br>• Assessment of the proposal against other published guidance and advice | Hearing session (hearing statement required) | (1) The applicant<br>(2) North Ayrshire Council<br>(3) Mr Slater |
| Conditions<br>• Recommended planning conditions in the event Scottish Ministers grant planning permission<br>• Appropriate planning obligations in the event Scottish Ministers grant planning permission | Hearing session (agreed conditions required) | (1) The applicant<br>(2) North Ayrshire Council<br>(3) Mr Slater |

**Annex 2: The Reporter's further advice on the content of any agreed statement for aviation radar matters**

***i) Impact of the proposal on existing operational radar***

I have the general information from the environment report that there is an impact and it causes clutter. In Tech appendix 10, I have a brief overview of the regional airspace structure and I have the consultation responses.

An agreed statement setting out what is the actual impact and why that is important would be helpful. This should cover both systems.

***ii) Potential mitigation measures***

The environment report and Aveillant report suggests a range of mitigation measures. The consultation responses are a mix of objection, indication that mitigation may be possible and more recently from NATS an unconditional withdrawal – relying on a private agreement.

An agreed statement setting out clearly the appropriate mitigation measures and what that involves in practice for the two systems would be helpful

**iii)** ***Whether the use of a suspensive condition is appropriate***

The Scottish Government's guidance in relation to the use of suspensive conditions for radar impacts has been mentioned. However, the council's LRB minute implies that the permission should just not be issued until mitigation is demonstrated. NATS's position appears to be now that a private contract is appropriate. At the time of the call in, Glasgow Prestwick Airport sustained its objection.

An agreed statement setting out the up to date position with the reasoning for that position, including the reasons for any changes in the position for both systems would be helpful.

***iv) Any implications of using a suspensive condition for aviation radar operators***

My understanding is that the reason the Scottish Government issued guidance on the use of suspensive conditions is that in some circumstances the uncertainty as to whether mitigation was realistic caused problems for future schemes. (i.e. a suspensive condition imposed on a scheme that was not realistic could result in continuing objections to schemes that were realistic). That seemed to me to be the position of Glasgow Prestwick Airport at the time of the call in

An agreed statement confirming that any mitigation measures have no implications for other/future schemes would be helpful

I would not expect the council to have a view on matters i), ii) and iv). I would expect it to have a view on matter iii)

Even if complete agreement is not possible, it is still helpful for my report to ministers to be clear where you agree and disagree

**Annex 3: Key dates relating to the examination**

| **Dates** | **Procedure** |
|---|---|
| 20 November 2014 | Pre-examination meeting |
| 26 November 2014 | Procedure notice 1 and note of meeting issued |
| 23 December 2014 | Agreed written statement and supporting documents submitted (if no agreement statement of cases and documents submitted) |
| 6 January 2015 | Hearing statements and supporting documents submitted |
| 14 January 2015 | Inquiry precognitions submitted (if necessary) |
| 14 January 2015 | Hearing agenda issued |
| 28 & 29 January 2015 | Hearing and Inquiry sessions (if necessary) |
| 28 or 29 January 2015 | Accompanied site visits |
| To be discussed at Hearing | Closing submission timetable |

The Directorate for Local Government and Communities
Planning and Architecture Division
Planning Decisions

The Scottish Government

Our Ref: AIR-NAY-001
30 November 2015

Dear Mr Gillies

**TOWN AND COUNTRY PLANNING (SCOTLAND) ACT 1997**
**ERECTION OF 3 WIND TURBINES AND ASSOCIATED INFRASTRUCTURE AT SORBIE FARM, NORTH OF ARDROSSAN, NORTH AYRSHIRE, KA22 7NP**

1. I refer to the e-mail, of 26 November, from Jacqui Alleyne, confirming that the Section 75 Agreement has been recorded with Registers of Scotland.

2. The Scottish Government's letter of 28 September 2015 gave notice that the Scottish Ministers were minded to grant planning permission for the above development, subject to conditions and to the satisfactory conclusion of a planning obligation or suitable alternative binding agreement as set out in paragraph 6.85 of the report.

3. Having considered the matter, the Scottish Ministers are satisfied with the executed Section 75 Agreement and hereby grant planning permission to your client, Sorbie Windfarm Limited, for the erection of 3 wind turbines and associated infrastructure at Sorbie Farm, North of Ardrossan, North Ayrshire, KA22 7NP subject to the conditions as set out in Appendix 1 of the report and in the Annex to this letter.

4. The foregoing decision of the Scottish Ministers is final, subject to the right, conferred by Sections 237 and 239 of the Town and Country Planning (Scotland) Act 1997, of any person aggrieved by the decision to apply to the Court of Session within 6 weeks of the date hereof. On any such application the Court may quash the decision if satisfied that it is not within the powers of the Act or that the applicant's interests have been substantially prejudiced by a failure to comply with any requirements of the Act, or of the Tribunals and Inquiries Act 1992, or any orders, regulations or rules made under these Acts.

Victoria Quay, Edinburgh EH6 6QQ
www.scotland.gov.uk

INVESTOR IN PEOPLE

5. A copy of this letter has been sent to North Ayrshire Council, National Air Traffic Services (NATS), Glasgow Prestwick Airport, Mr and Mrs Slater and all other interested parties.

Yours sincerely

Victoria Quay, Edinburgh EH6 6QQ
www.scotland.gov.uk

**ANNEX**

**ERECTION OF 3 WIND TURBINES AND ASSOCIATED INFRASTRUCTURE AT SORBIE FARM, NORTH OF ARDROSSAN, NORTH AYRSHIRE, KA22 7NP**

**CONDITIONS OF PLANNING PERMISSION AND ADVISORY NOTES**

**Appendix 1 - Reporter's recommended planning conditions**

1. This planning permission shall expire 25 years from the date on which electricity is first generated from all of the approved wind turbines to the electricity grid network (the "First Export Date"). Written confirmation of the First Export Date shall be provided to the planning authority within one month of the First Export Date. Thereafter, the wind farm shall be decommissioned unless a further application for planning permission is timeously submitted and approved.

***Reason : To limit the lifetime of the development and to protect the visual amenity of the area, beyond the lifetime of the permission.***

**2.** That by the end of a period of 25 years from the First Export Date, unless a further application has been submitted and approved in accordance with condition 1, all the turbines, turbine foundations down to one metre below ground level, buildings and ancillary equipment, shall be dismantled and removed from the site, the site roads treated, other elements of the scheme dealt with, and the site restored, all in accordance with a Restoration and Decommissioning Plan (RDP – see notes below)

***Reason : To limit the lifetime of the development and to protect the visual amenity of the area, beyond the lifetime of the permission.***

**3.** That, if any turbine ceases to be operational for a continuous period of 6 months or such other period of time as may be agreed in writing by North Ayrshire Council as Planning Authority, all of its above ground elements, plus its foundation to a depth of one metre below ground level, shall be removed, and the ground reinstated, within a period of not more than 6 months after the expiry of the 6 month period referred to above, all in accordance with the RDP. The developer shall provide operational data for individual turbines to North Ayrshire Council as Planning Authority on reasonable request.

***Reason : To ensure that any turbines that become redundant are removed promptly, and to protect the visual amenity of the area.***

**4.** That the turbines shall be erected and the site roads constructed in the locations identified on the plans hereby approved, save for the ability to vary these locations by 30m. Any movement greater than 30m would require the written approval of North Ayrshire Council as Planning Authority. Before the turbine bases are concreted, the precise position of the turbines shall be notified to, and approved in writing by, North Ayrshire Council as Planning Authority.

***Reason : To ensure that micrositing decisions take account of environmental considerations.***

5. That all cabling on the site between the wind turbines and the site sub-station shall be installed underground.

***Reason : To protect the visual amenity of the area.***

**6.** That no development shall commence on the site until a Construction Method Statement, including details of all on-site construction works, post-construction reinstatement, drainage, mitigation, and other restoration, together with details of their timetabling, have been submitted to and approved in writing by North Ayrshire Council as Planning Authority in consultation with the Scottish Environment Protection Agency and Scottish Natural Heritage. This shall include detailed specifications of:

- the construction method of the site roads including their width, means of drainage (which shall have regard to SUDS principles), and edge reinstatement. The specification shall be accompanied by a plan at a scale of not less than 1:25,000 identifying the locations of:
    - cut roads, other excavated roads and "floating" roads.
    - the cable trenches (which shall be located alongside the site roads).
    - the turbine bases in accordance with Condition 4.
- the method of working of the borrow pits, including any proposals for blasting, together with the post-construction reinstatement of the borrow pits.
- the formation of the construction compound.
- the construction of the crane pads.
- all foundation works.
- the construction and design of the control building and sub-station
- the means of erection of any permanent meteorological mast.
- the formation of the hardstanding areas.
- post-construction restoration/reinstatement of all working areas.
- watercourse crossings.
- a pollution prevention and control method statement.
- arrangements for the storage of oil on the site.
- measures to protect ecological and ornithological interests. These shall include the making of check surveys for nesting birds and a check survey timetable.
- construction activity undertaken within peat.
- a traffic management plan (including proposals for off-site roadworks). For the avoidance of doubt, these shall include the provision of visibility splays in each direction at the junction of the site access with the public road, details of which shall be agreed beforehand with North Ayrshire Council as Roads Authority. The visibility splays as may be agreed shall be provided before any other work begins on the site and shall be maintained during the lifetime of the development, such that there is no obstruction to visibility above a height of 1.05m measured above the road carriageway level.
- arrangements for the cleaning of the site entrances and the adjacent public road.

Thereafter, the development shall take place in accordance with the Construction Method Statement unless otherwise agreed in writing by North Ayrshire Council as Planning Authority.

***Reason : To ensure that the development is constructed in a satisfactory manner; to minimise its visual impact in the interests of visual amenity; to protect ornithological and other ecological interests; to protect watercourses from sedimentation and pollution; and in the interests of traffic safety.***

7. That no turbines will be erected until details of the model, height, colour and finish of the turbines and of any external transformers, have been submitted to, and approved in writing by, the planning authority. The turbines shall not be illuminated and shall not carry any symbols, logos or other lettering except where required under other legislation. The development shall be carried out thereafter in accordance with the approved details, unless any changes are subsequently agreed in writing by North Ayrshire Council as Planning Authority.

***Reason : To protect the visual amenity of the area.***

8. That, prior to the commencement of development, the developer shall prepare and submit a public access plan for the site for the written approval of North Ayrshire Council as Planning Authority. The approved plan shall thereafter be implemented as approved.

***Reason : To agree arrangements for public access to the site.***

9. That no development shall take place within the development site as outlined in red on the approved plan until the developer has prepared a written scheme of investigation (WSI) in agreement with the West of Scotland Archaeology Service, and approved by North Ayrshire Council as Planning Authority. Thereafter, the WSI will be fully implemented.

***Reason : To protect archaeological interests on the site.***

10. That, prior to the commencement of the development, the applicant shall submit for the written approval of North Ayrshire Council as Planning Authority, a scheme providing for the mitigation of any impacts of the operation of the development on TV, radio and telecommunication reception. The scheme shall be implemented as approved and shall provide as follows:

i) a baseline reception survey to be carried out by a suitably qualified engineer prior to commencement of turbine installation, the results of which shall be submitted to North Ayrshire Council as Planning Authority,

ii) a scheme of alleviation, including procedures for the handling of complaints and disputes, shall be included within this study which shall be agreed in writing by North Ayrshire Council as Planning Authority,

iii) within 12 months of the commissioning of the development, any claim by any individual person or business regarding loss or interference of reception, shall be investigated by a suitably qualified engineer and results submitted to North Ayrshire Council as Planning Authority,

iv) should any impairment to reception be attributable to the wind turbines, the developer shall remedy such impairment to the scheme of alleviation as agreed, to remedy the impairment to the equivalent reception received at the baseline study.

For the avoidance of doubt the resolution of disputes shall be determined by an independent arbiter eg OFCOM or other Professional Body as appropriate.

***Reason : To provide for the correction of any interference with television reception/telecommunications systems arising from the development.***

11. That, prior to the commencement of the development, the developer shall submit for the written approval of North Ayrshire Council as Planning Authority in consultation with the Scottish Environment Protection Agency, a report addressing the potential effect of the development on any private drinking water resources in the area and any measures required to minimise the impact on drinking water quality during construction and operation. Any recommendations for mitigation works shall thereafter be carried out in full.

***Reason : To safeguard the quality of private drinking water resources in the area.***

12. No development shall commence unless and until such time as the Planning Authority receives confirmation from the Airport Operator that: (a) a Radar Mitigation Scheme has been identified; and (b) the Radar Mitigation Scheme can be implemented and maintained for the lifetime of the development (for definitions see notes below)

***Reason: In the interests of aviation safety***

13. No blade shall be fitted to any turbine or turbines forming part of the development and no such turbine shall operate, save as provided for and in accordance with the Testing Protocol, unless and until such time as the Planning Authority receives confirmation from the Airport Operator: (a) all measures required by the Radar Mitigation Scheme prior to operation of any turbine have been implemented; and (b) the Civil Aviation Authority has evidenced its approval to the Airport Operator that the Radar Mitigation Scheme is acceptable mitigation for the development and has been satisfactorily implemented by the Airport Operator (for definitions see notes below)

***Reason: In the interests of aviation safety***

14. No turbine shall operate other than in accordance with the terms of the Radar Mitigation Scheme (for definitions see notes below)

***Reason: In the interests of aviation safety***

15. That prior to the commencement of development, the applicant shall submit for the written approval of North Ayrshire Council as Planning Authority a scheme for mitigating the effects of shadow flicker on nearby residential properties. The scheme shall be implemented as approved unless otherwise agreed in writing by the Planning Authority.

***Reason: To mitigate any shadow flicker effects in the interests of residential amenity***

16 The rating level of noise immissions from the combined effects of the wind turbines hereby permitted (including the application of any tonal penalty) when determined in accordance with the attached Guidance Notes (to this condition), shall not exceed the values for the relevant integer wind speed set out in, or derived from, the tables attached to these conditions at any dwelling which is lawfully existing or has planning permission at the date of this permission and:

a) The wind farm operator shall continuously log power production, wind speed and wind direction, all in accordance with Guidance Note 1(d). These data shall be retained for a period of not less than 24 months. The wind farm operator shall provide this information in the format set out in Guidance Note 1(e) to the Local Planning Authority on its request, within 14 days of receipt in writing of such a request.

b) No electricity shall be exported until the wind farm operator has submitted to the Local Planning Authority for written approval a list of proposed independent consultants who may

undertake compliance measurements in accordance with this condition. Amendments to the list of approved consultants shall be made only with the prior written approval of the Local Planning Authority.

c) Within 21 days from receipt of a written request from the Local Planning Authority following a complaint to it from an occupant of a dwelling alleging noise disturbance at that dwelling, the wind farm operator shall, at its expense, employ a consultant approved by the Local Planning Authority to assess the level of noise immissions from the wind farm at the complainant's property in accordance with the procedures described in the attached Guidance Notes. The written request from the Local Planning Authority shall set out at least the date, time and location that the complaint relates to and any identified atmospheric conditions, including wind direction, and include a statement as to whether, in the opinion of the Local Planning Authority, the noise giving rise to the complaint contains or is likely to contain a tonal component.

d) The assessment of the rating level of noise immissions shall be undertaken in accordance with an assessment protocol that shall previously have been submitted to and approved in writing by the Local Planning Authority. The protocol shall include the proposed measurement location identified in accordance with the Guidance Notes where measurements for compliance checking purposes shall be undertaken, whether noise giving rise to the complaint contains or is likely to contain a tonal component, and also the range of meteorological and operational conditions (which shall include the range of wind speeds, wind directions, power generation and times of day) to determine the assessment of rating level of noise immissions. The proposed range of conditions shall be those which prevailed during times when the complainant alleges there was disturbance due to noise, having regard to the written request of the Local Planning Authority under paragraph (c), and such others as the independent consultant considers likely to result in a breach of the noise limits.

e) Where a dwelling to which a complaint is related is not listed in the tables attached to these conditions, the wind farm operator shall submit to the Local Planning Authority for written approval proposed noise limits for compliance checking purposes. The proposed noise limits are to be those limits selected from the Tables for the closest listed location to the complainant's dwelling. The rating level of noise immissions resulting from the combined effects of the wind turbines when determined in accordance with the attached Guidance Notes shall not exceed the noise limits approved in writing by the Local Planning Authority for the complainant's dwelling.

f) The wind farm operator shall provide to the Local Planning Authority the independent consultant's assessment of the rating level of noise immissions undertaken in accordance with the Guidance Notes within 2 months of the date of the written request of the Local Planning Authority for compliance measurements to be made under paragraph (c), unless the time limit is extended in writing by the Local Planning Authority. The assessment shall include all data collected for the purposes of undertaking the compliance measurements, such data to be provided in the format set out in Guidance Note 1(e) of the Guidance Notes. The instrumentation used to undertake the measurements shall be calibrated in accordance with Guidance Note 1(a) and certificates of calibration shall be submitted to the Local Planning Authority with the independent consultant's assessment of the rating level of noise immissions.

g) Where a further assessment of the rating level of noise immissions from the wind farm is required pursuant to Guidance Note 4(c), the wind farm operator shall submit a copy of the further assessment within 21 days of submission of the independent consultant's

assessment pursuant to paragraph (d) above unless the time limit has been extended in writing by the Local Planning Authority.

Table 1 – Between 07:00 and 23:00 – Noise limits expressed in dB LA90,10 minute as a function of the standardised wind speed (m/s) at 10 metre height as determined within the site averaged over 10 minute periods.

| Property | Standardised 10 m Height Wind Speed, $ms^{-1}$ | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Darleith Farm | 34.3 | 31.9 | 30.7 | 35.7 | 39.3 | 43.6 | 45.1 | 47.2 | 49.2 |
| Knockrivoch Farm | 36.2 | 38.6 | 41.3 | 44.5 | 47.6 | 50.7 | 53.5 | 56.0 | 58.0 |
| Meikle Busbie Cottage | 34.8 | 35.5 | 37.5 | 42.6 | 46.7 | 50.7 | 53.2 | 55.7 | 57.8 |
| Sorbie Farm Cottage | 36.1 | 38.4 | 41.2 | 44.4 | 47.6 | 50.7 | 53.4 | 56.0 | 58.0 |
| Tower Lodge | 36.1 | 38.5 | 41.2 | 44.4 | 47.6 | 50.7 | 53.5 | 56.0 | 58.0 |
| Knockrivoch Cottages | 36.2 | 38.6 | 41.4 | 44.5 | 47.6 | 50.7 | 53.5 | 56.0 | 58.0 |
| 1 Mill Farm | 36.1 | 38.3 | 41.1 | 44.3 | 47.5 | 50.7 | 53.4 | 56.0 | 58.0 |
| 2 Bluebell gardens | 36.1 | 38.5 | 41.2 | 44.4 | 47.6 | 50.7 | 53.5 | 56.0 | 58.0 |
| 12 Millglen Gardens | 36.1 | 38.4 | 41.2 | 44.4 | 47.6 | 50.7 | 53.4 | 56.0 | 58.0 |
| Arran View | 36.2 | 38.6 | 41.4 | 44.5 | 47.6 | 50.7 | 53.5 | 56.0 | 58.0 |
| Little Busbie | 34.5 | 34.6 | 36.1 | 42.1 | 46.5 | 50.6 | 53.1 | 55.7 | 57.8 |
| Little Ittington | 34.6 | 33.5 | 34.3 | 37.5 | 40.3 | 43.6 | 45.5 | 47.6 | 49.4 |
| Meikle Busbie Farm | 34.8 | 35.3 | 37.2 | 42.5 | 46.6 | 50.7 | 53.1 | 55.7 | 57.8 |
| Meikle Ittington | 34.5 | 32.8 | 33.0 | 36.8 | 39.9 | 43.6 | 45.3 | 47.4 | 49.3 |
| Meikle Laught | 36.2 | 38.6 | 41.4 | 44.5 | 47.6 | 50.7 | 53.5 | 56.0 | 58.0 |
| Muirlaught Bungalow | 34.8 | 34.3 | 35.6 | 38.2 | 40.8 | 43.7 | 45.7 | 47.7 | 49.5 |
| Muirlaught Farm | 34.8 | 34.2 | 35.4 | 38.1 | 40.7 | 43.7 | 45.6 | 47.7 | 49.5 |
| Rashley | 35.7 | 37.5 | 40.1 | 43.7 | 47.2 | 50.7 | 53.3 | 55.9 | 57.9 |

Table 2 – Between 23:00 and 07:00 – Noise limits expressed in dB LA90,10-minute as a function of the standardised wind speed (m/s) at 10 metre height as determined within the site averaged over 10 minute periods.

| Property | Standardised 10 m Height Wind Speed, $ms^{-1}$ | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Darleith Farm | 42.9 | 42.6 | 42.2 | 42.0 | 41.8 | 42.9 | 44.0 | 43.6 | 43.6 |
| Knockrivoch Farm | 43.0 | 42.9 | 42.8 | 42.8 | 43.6 | 46.3 | 48.1 | 48.1 | 48.1 |
| Meikle Busbie Cottage | 42.7 | 42.0 | 40.5 | 39.7 | 40.6 | 46.2 | 46.9 | 46.3 | 46.3 |
| Sorbie Farm Cottage | 43.0 | 42.9 | 42.7 | 42.6 | 43.5 | 46.3 | 48.0 | 48.0 | 48.0 |
| Tower Lodge | 43.0 | 42.9 | 42.7 | 42.7 | 43.5 | 46.3 | 48.1 | 48.0 | 48.0 |
| Knockrivoch Cottages | 43.0 | 42.9 | 42.8 | 42.8 | 43.6 | 46.3 | 48.1 | 48.1 | 48.1 |
| 1 Mill Farm | 43.0 | 42.8 | 42.6 | 42.5 | 43.4 | 46.3 | 48.0 | 47.9 | 47.9 |
| 2 Bluebell gardens | 43.0 | 42.9 | 42.7 | 42.7 | 43.5 | 46.3 | 48.0 | 48.0 | 48.0 |
| 12 Millglen Gardens | 43.0 | 42.9 | 42.7 | 42.6 | 43.4 | 46.3 | 48.0 | 48.0 | 48.0 |
| Arran View | 43.0 | 42.9 | 42.8 | 42.8 | 43.6 | 46.3 | 48.1 | 48.1 | 48.1 |
| Little Busbie | 42.7 | 41.8 | 39.8 | 38.7 | 39.7 | 46.2 | 46.5 | 45.8 | 45.8 |
| Little Ittington | 42.9 | 42.8 | 42.6 | 42.5 | 42.4 | 42.9 | 44.5 | 44.3 | 44.3 |
| Meikle Busbie Farm | 42.7 | 42.0 | 40.3 | 39.5 | 40.4 | 46.2 | 46.8 | 46.2 | 46.2 |
| Meikle Ittington | 42.9 | 42.7 | 42.4 | 42.2 | 42.1 | 42.9 | 44.3 | 44.0 | 44.0 |
| Meikle Laught | 43.0 | 42.9 | 42.8 | 42.8 | 43.6 | 46.3 | 48.1 | 48.1 | 48.1 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Muirlaught Bungalow | 43.0 | 42.9 | 42.8 | 42.7 | 42.7 | 43.0 | 44.7 | 44.6 | 44.6 |
| Muirlaught Farm | 43.0 | 42.9 | 42.7 | 42.7 | 42.6 | 43.0 | 44.7 | 44.6 | 44.6 |
| Rashley | 42.9 | 42.6 | 42.0 | 41.7 | 42.5 | 46.2 | 47.6 | 47.4 | 47.4 |

Table 3: Coordinate locations of the properties listed in Tables 1 and 2.

| Property | Easting | Northing |
|---|---|---|
| Darleith Farm | 225061 | 646294 |
| Knockrivoch Farm | 225361 | 644575 |
| Meikle Busbie Cottage | 223941 | 645709 |
| Sorbie Farm Cottage | 224616 | 644646 |
| Tower Lodge | 225638 | 645304 |
| Knockrivoch Cottages | 225374 | 644544 |
| 1 Mill Farm | 223569 | 644498 |
| 2 Bluebell gardens | 223417 | 644231 |
| 12 Millglen Gardens | 223397 | 644287 |
| Arran View | 225368 | 644533 |
| Little Busbie | 223493 | 645659 |
| Little Ittington | 225646 | 647161 |
| Meikle Busbie Farm | 223944 | 645734 |
| Meikle Ittington | 225386 | 647130 |
| Meikle Laught | 225963 | 645039 |
| Muirlaught Bungalow | 226099 | 646067 |
| Muirlaught Farm | 226024 | 646196 |
| Rashley | 223244 | 645204 |

*Reason: In the interests of residential amenity*

**Guidance Notes for Conditions**

**Definitions**

***"Restoration and Decommissioning Plan"*** means the scheme for restoration and decommissioning approved as part of the accompanying Section 75 Planning Obligation

***"Airport Operator"*** means Glasgow Prestwick Airport Limited or any successor as holder of a licence under the Air Navigation Order 2000 from the Civil Aviation to operate Glasgow Prestwick Airport

***"Radar Mitigation Scheme"*** means such equipment, procedural or technological measures, as the Airport Operator identifies as necessary and sufficient to prevent the operation of the development or of any turbines forming part of the development impacting adversely on radar performance or on the performance of other navigational aids at Glasgow Prestwick Airport or on maintaining safe and efficient air traffic control services or procedures or airspace and which the Airport Operator is willing and able to implement and maintain for the lifetime of the development or for such shorter period as may be agreed in consultation with the Airport Operator as necessary to mitigate such adverse impact.

***"Testing Protocol"*** means the protocol to control the operation of any turbine or turbines forming part of the development for the purposes of testing of the Radar Mitigation Solution

**Noise condition**

These notes are to be read with and form part of the noise condition. They further explain the condition and specify the methods to be employed in the assessment of complaints about noise immissions from the wind farm. The rating level at each integer wind speed is the arithmetic sum of the wind farm noise level as determined from the best-fit curve described in Guidance Note 2 of these Guidance Notes and any tonal penalty applied in accordance with Guidance Note 3. Reference to ETSU-R-97 refers to the publication entitled "The Assessment and Rating of Noise from Wind Farms" (1997) published by the Energy Technology Support Unit (ETSU) for the Department of Trade and Industry (DTI).

**Guidance Note 1**

(a) Values of the LA90,10 minute noise statistic should be measured at the complainant's property, using a sound level meter of EN 60651/BS EN 60804 Type 1, or BS EN 61672 Class 1 quality (or the equivalent UK adopted standard in force at the time of the measurements) set to measure using the fast time weighted response as specified in BS EN 60651/BS EN 60804 or BS EN 61672-1 (or the equivalent UK adopted standard in force at the time of the measurements). This should be calibrated in accordance with the procedure specified in BS 4142: 1997 (or the equivalent UK adopted standard in force at the time of the measurements). Measurements shall be undertaken in such a manner to enable a tonal penalty to be applied in accordance with Guidance Note 3.

(b) The microphone should be mounted at 1.2 – 1.5 metres above ground level, fitted with a two-layer windshield or suitable equivalent approved in writing by the Local Planning Authority, and placed outside the complainant's dwelling. Measurements should be made in "free field" conditions. To achieve this, the microphone should be placed at least 3.5 metres away from the building facade or any reflecting surface except the ground at the approved measurement location. In the event that the consent of the complainant for access to his or her property to undertake compliance measurements is withheld, the wind farm operator shall submit for the written approval of the Local Planning Authority details of the proposed alternative representative measurement location prior to the commencement of measurements and the measurements shall be undertaken at the approved alternative representative measurement location.

(c) The LA90,10 minute measurements should be synchronised with measurements of the 10-minute arithmetic mean wind and operational data logged in accordance with Guidance Note 1(d), including the power generation data from the turbine control systems of the wind farm.

(d) To enable compliance with the conditions to be evaluated, the wind farm operator shall continuously log arithmetic mean wind speed in metres per second and wind direction in degrees from north at hub height for each turbine and arithmetic mean power generated by each turbine, all in successive 10-minute periods. Unless an alternative procedure is previously agreed in writing with the Planning Authority, this hub height wind speed, averaged across all operating wind turbines, shall be used as the basis for the analysis. All 10 minute arithmetic average mean wind speed data measured at hub height shall be 'standardised' to a reference height of 10 metres as described in ETSU-R-97 at page 120 using a reference roughness length of 0.05 metres . It is this standardised 10 metre height wind speed data, which is correlated with the noise measurements determined as valid in accordance with Guidance Note 2, such correlation to be undertaken in the manner described in Guidance Note 2. All 10-minute periods shall commence on the hour and in 10-minute increments thereafter.

(e) Data provided to the Local Planning Authority in accordance with the noise condition shall be provided in comma separated values in electronic format.

(f) A data logging rain gauge shall be installed in the course of the assessment of the levels of noise immissions. The gauge shall record over successive 10-minute periods synchronised with the periods of data recorded in accordance with Note 1(d).

**Guidance Note 2**

(a) The noise measurements shall be made so as to provide not less than 20 valid data points as defined in Guidance Note 2 (b).

(b) Valid data points are those measured in the conditions specified in the agreed written protocol under paragraph (d) of the noise condition, but excluding any periods of rainfall measured in the vicinity of the sound level meter. Rainfall shall be assessed by use of a rain gauge that shall log the occurrence of rainfall in each 10 minute period concurrent with the measurement periods set out in Guidance Note 1. In specifying such conditions the Local Planning Authority shall have regard to those conditions which prevailed during times when the complainant alleges there was disturbance due to noise or which are considered likely to result in a breach of the limits.

(c) For those data points considered valid in accordance with Guidance Note 2(b), values of the LA90,10 minute noise measurements and corresponding values of the 10- minute wind speed, as derived from the standardised ten metre height wind speed averaged across all operating wind turbines using the procedure specified in Guidance Note 1(d), shall be plotted on an XY chart with noise level on the Y-axis and the standardised mean wind speed on the X-axis. A least squares, "best fit" curve of an order deemed appropriate by the independent consultant (but which may not be higher than a fourth order) should be fitted to the data points and define the wind farm noise level at each integer speed.

**Guidance Note 3**

(a) Where, in accordance with the approved assessment protocol under paragraph (d) of the noise condition, noise immissions at the location or locations where compliance measurements are being undertaken contain or are likely to contain a tonal component, a tonal penalty is to be calculated and applied using the following rating procedure.

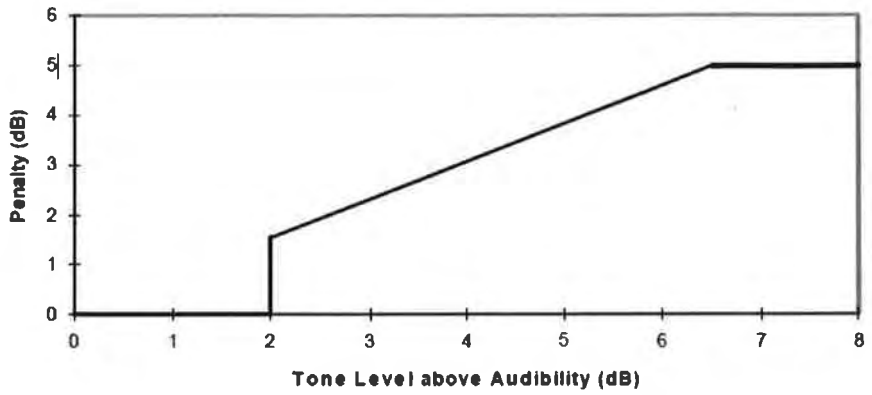
(b) For each 10 minute interval for which LA90,10 minute data have been determined as valid in accordance with Guidance Note 2 a tonal assessment shall be performed on noise immissions during 2 minutes of each 10 minute period. The 2 minute periods should be spaced at 10 minute intervals provided that uninterrupted uncorrupted data are available ("the standard procedure"). Where uncorrupted data are not available, the first available uninterrupted clean 2 minute period out of the affected overall 10 minute period shall be selected. Any such deviations from the standard procedure, as described in Section 2.1 on pages 104-109 of ETSU-R-97, shall be reported.

(c) For each of the 2 minute samples the tone level above or below audibility shall be calculated by comparison with the audibility criterion given in Section 2.1 on pages 104109 of ETSU-R-97.

(d) The tone level above audibility shall be plotted against wind speed for each of the 2 minute samples. Samples for which the tones were below the audibility criterion or no tone was identified, a value of zero audibility shall be used.

(e) A least squares "best fit" linear regression line shall then be performed to establish the average tone level above audibility for each integer wind speed derived from the value of the "best fit" line at each integer wind speed. If there is no apparent trend with wind speed then a simple arithmetic mean shall be used. This process shall be repeated for each integer wind speed for which there is an assessment of overall levels in Guidance Note 2.

(f) The tonal penalty is derived from the margin above audibility of the tone according to the figure below.




## Guidance Note 4

(a) If a tonal penalty is to be applied in accordance with Guidance Note 3 the rating level of the turbine noise at each wind speed is the arithmetic sum of the measured noise level as determined from the best fit curve described in Guidance Note 2 and the penalty for tonal noise as derived in accordance with Guidance Note 3 at each integer wind speed within the range specified by the Local Planning Authority in its written protocol under paragraph (d) of the noise condition.

(b) If no tonal penalty is to be applied then the rating level of the turbine noise at each wind speed is equal to the measured noise level as determined from the best fit curve described in Guidance Note 2.

(c) In the event that the rating level is above the limit(s) set out in the Tables attached to the noise conditions or the noise limits for a complainant's dwelling approved in accordance with paragraph (e) of the noise condition, the independent consultant shall undertake a further assessment of the rating level to correct for background noise so that the rating level relates to wind turbine noise immission only.

(d) The wind farm operator shall ensure that all the wind turbines in the development are turned off for such period as the independent consultant requires to undertake the further assessment. The further assessment shall be undertaken in accordance with the following steps:

(e) Repeating the steps in Guidance Note 2, with the wind farm switched off, and determining the background noise (L3) at each integer wind speed within the range requested by the Local Planning Authority in its written request under paragraph (c) and the approved protocol under paragraph (d) of the noise condition.

(f) The wind farm noise (L1) at this speed shall then be calculated as follows where L2 is the measured level with turbines running but without the addition of any tonal penalty:

$$L_1 = 10\log\left[10^{L_2/10} - 10^{L_3/10}\right]$$

(g) The rating level shall be re-calculated by adding arithmetically the tonal penalty (if any is applied in accordance with Note 3) to the derived wind farm noise L1 at that integer wind speed.

(h) If the rating level after adjustment for background noise contribution and adjustment for tonal penalty (if required in accordance with note 3 above) at any integer wind speed lies at or below the values set out in the Tables attached to the conditions or at or below the noise limits approved by the Local Planning Authority for a complainant's dwelling in accordance with paragraph (e) of the noise condition then no further action is necessary. If the rating level at any integer wind speed exceeds the values set out in the Tables attached to the conditions or the noise limits approved by the Local Planning Authority for a complainant's dwelling in accordance with paragraph (e) of the noise condition then the development fails to comply with the conditions.

# REPORT OF HANDLING

North Ayrshire Council
Comhairle Siorrachd Àir a Tuath

| | |
|---|---|
| **Reference No:** | 19/00882/PP |
| **Proposal:** | Section 42 application to vary condition 2 of planning permission 18/01061/PP to enable an increase of the consented wind turbine tip height from 104.3m to 125m |
| **Location:** | Sorbie Farm, Ardrossan, Ayrshire, KA22 7NP |
| **LDP Allocation:** | Countryside/Rural Community |
| **LDP Policies:** | Detailed Policy 29 - Energy Infrastructu / |
| **Consultations:** | Yes |
| **Neighbour Notification:** | Neighbour Notification carried out on 27.11.2019<br>Neighbour Notification expired on 18.12.2019 |
| **Advert:** | Regulation 20 (1) Advert<br>Published on:- 04.12.2019<br>Expired on:- 25.12.2019 |
| **Previous Applications:** | 19/00306/PP for Section 42 application to vary condition 2 of planning permission 18/01061/PP to enable an increase of the consented wind turbine tip height from 104.3m to 125m Local Review Requested on 11.07.2019 |

**Appeal History Of Site:**

14/00001/LRB for Erection of 3 no. wind turbines each with a maximum blade tip height of up to 104.3 metres and associated infrastructure including upgraded site entrance, upgraded access tracks, new access tracks, foundations, hardstandings, 1 no. temporary construction compound, 1 no. control building/substation, 1 no. temporary borrow pit and 1 no. permanent 65m meteorological mast was LODGED on

**Relevant Development Plan Policies**

Detailed Policy 29 - Energy Infrastructu
Policy 29:

Energy Infrastructure Development

We will support development proposals for energy infrastructure development, including wind, solar, tidal, cropping and other renewable sources, where they will contribute positively to our transition to a low carbon economy and have no unacceptable adverse environmental impacts, taking into consideration (including cumulatively) the following:

Environmental
o Communities and individual dwellings - including visual impact, residential amenity, noise and shadow flicker;
o Water quality;
o Landscape - including avoiding unacceptable adverse impacts on our landscape designations;
o Effects on the natural heritage - including birds;
o Carbon rich soils including peat;
o Impacts on the historic environment - including scheduled monuments, listed buildings and their settings.

Community
o Establishing the use of the site for energy infrastructure development;
o providing a net economic impact - including socio-economic benefits such as employment, associated business and supply chain opportunities;
o Scale of contribution to renewable energy generation targets;
o Public access - including impact on long distance walking and cycling routes and scenic routes identified in the National Planning Framework;
o Impacts on tourism and recreation;
o Specific locational opportunities for energy storage/generation.

Public Safety
o Greenhouse gas emissions;
o Aviation and defence interests and seismological recording;
o Telecommunications and broadcasting installations - particularly ensuring that transmission links are not compromised; radio telemetry interference and below ground assets;
o Road traffic and adjacent trunk roads;
o Effects on hydrology, the water environment and flood risk including drinking water quality and quantity (to both the public and private water supplies);
o Decommissioning of developments - including ancillary infrastructure, and site restoration and aftercare.

Proposals should include redundancy plans which will demonstrate how apparatus will be timeously removed as reasonably soon as the approved scheme ceases operation. There may be a requirement for financial bonds to ensure that decommissioning can be achieved. Taking into consideration the above, proposals for wind turbine developments should accord with the Spatial Framework (as mapped) and consider the current Landscape Capacity Study for Wind Farm Development in North Ayrshire. This study will be used as a point of reference for assessing all wind energy proposals including definitions of what small to large scale entails.

Buildings: Low and Zero Carbon Generating Technology
Proposals for all new buildings will be required to demonstrate that at least 10% of the current carbon emissions reduction set by Scottish Building Standards will be met through the installation and operation of low and zero-carbon generating

technologies. A statement will be required to be submitted demonstrating compliance with this requirement. The percentage will increase at the next review of the local development plan.

This requirement will not apply to:
1. Alterations and extensions to buildings
2. Change of use or conversion of buildings
3. Ancillary buildings that stand alone and cover an area less than 50 square metres
4. Buildings which will not be heated or cooled, other than by heating provided solely for frost protection.
5. Buildings which have an intended life of less than two years.

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**Description**

A further application to amend the height of the previously approved wind turbines at Sorbie Farm to the north of Ardrossan has been submitted. The proposal follows the dismissal of an appeal by the Council's Local Review Body (LRB) in October 2019 for increasing the height of the wind turbines from 104.3m to 125m blade tip (ref. 19/00306/PP). As per the previous application, the hub height of each turbine in the revised proposal would be increased by 4.2m to 67.5m above ground level, and the rotor diameter from 82m to 115m.

The only differences between this proposal and the previous application would be the planting of approximately 1 hectares of trees at two locations near the site as well as the removal from the scheme a 1km section of access track leading from the B780 to the site. The removal of the access road from the development would substantially reduce the quantity of quarried stone required to construct the wind farm. Instead, existing roads through Ardrossan, via Sorbie Road, would be utilised for delivering the turbines, as well as for all other construction purposes. The purpose of the tree planting is to filter views of the wind turbines from adjacent road corridors, such as the A78 Ardrossan Bypass and the B780 Dalry Road, and also to attempt to reduce the visibility of the turbines from housing estates in the north of Ardrossan.

Otherwise, the proposal would be identical to the earlier application that was refused planning permission in 2019, and, as noted above, the subsequent Review not upheld by the LRB. In terms of the turbine positions, type and heights, there would be no difference in terms of the 2019 submission.

The applicant advises that the original 2MW turbine model, dating from a planning application originally submitted in 2013, is not economically viable to develop following the removal of subsidies for wind energy developments by the UK Government in 2016. Therefore, regardless of its scale, the development would have to operate without public subsidies. The applicant argues that the increased height would be modest. However, the 4MW turbines currently proposed would be capable of generating up to 87% more electricity in comparison with the original

scheme, which was first approved in November 2015 and renewed in January 2019 (ref. 18/01061/PP). This additional output would, the applicant argues, also make a positive contribution to the Scottish Government's renewable energy target which seeks to generate the equivalent of 50% of the energy for Scotland's heat, transport and electricity consumption to be supplied by renewable sources by 2030. The applicant has drawn attention to the Scottish Government's Onshore Wind Policy Statement of December 2017, which highlights that "we must support development in the right places and - increasingly - the extension and replacement of existing sites, where acceptable, with new and larger turbines, based on an appropriate, case by case assessment of their effects and impacts."

The main change in circumstances since the dismissal of the previous application by the LRB has been the adoption of the Council' replacement Local Development Plan on 28th November 2019. The policy framework in respect of energy infrastructure developments has therefore altered in comparison with the previous Local Development Plan, dating from May 2014.

A further consideration is the Council's action on climate change. In June 2019, North Ayrshire Council declared a Climate Emergency, committing to achieve net-zero emissions and to increase actions being taken at the local level to mitigate global climate change. Whilst the actions following this declaration primarily relate to steps the Council intends to take directly in the coming years, it is acknowledged that renewable energy developments within North Ayrshire also have a role to play. In this regard, the LDP states "we want to reduce our impact on climate change and facilitate our transition to a low carbon economy by encouraging mitigation and adaptation measures."

The proposal has been submitted along with the following supporting information:

- planning statement
- comparative environmental appraisal
- landscape and visual impact assessment annexes
- location/site layout plan
- turbine elevation drawing
- woodland planting proposals

**Planning Statement**
This sets out a range of new supporting information, including the commercial availability of 100m turbines and information on the comparative heights of Sorbie and Ardrossan wind farms. The statement also highlights that the planning policy context has changed following the previous refusal, referencing Policy 29 of the recently adopted Local Development Plan as being more supportive and balanced than the equivalent policy in the former LDP. It highlights that the new policy sets out a different approach to the use of landscape capacity studies.

**Comparative Environmental Appraisal**
This report sets out a series of comparisons between the original scheme design and the revised turbine heights now proposed. It considers a series of topics, including landscape and visual amenity; noise and shadow flicker, and concludes that the increased magnitude of change between the consented scheme and the proposed changes would not be significant in terms of landscape and visual effects. It also states that the noise impacts would be within the same parameters as the consented scheme (ie. below the industry standard ETSU-R-97 noise limits) and that no additional mitigation measures are necessary. With respect to shadow

flicker, 6 properties were identified as being within the zone where such effects could occur. Mitigation measures would be implemented, using computer software controls, to ensure that there would be no unacceptable effects.

**Landscape and Visual Impact Assessment (LVIA) Annexes**
The methodology for carrying out the LVIA is consistent with the standards adopted for onshore wind energy developments, taking into account both Scottish Natural Heritage and Landscape Institute guidance. The significance of effects is assessed through a combination of the sensitivity of the landscape receptor (or view) and the magnitude of change that will result from the addition of the proposed development within that landscape. The annexes contain a series of 17 photomontages and/or 3D wire frame drawings from a variety of viewpoints. They allow comparisons of the consented scheme with the proposed increase in turbine height. Six of the viewpoints which were chosen as being representative of the anticipated landscape and visual impacts within or relatively close to Ardrossan, with another four further away but still within 10km of the site. The remaining seven viewpoints are located at distances of between 10km and 25km of the site. The LVIA annexes are contained in the same document as was submitted for the previous application.

**Location Plan/Site Layout Plan**
The site is within the countryside approx. 1.5km to the north of Ardrossan at ground levels of between around 75m and 157m Above Ordnance Datum (AOD). The turbines would be sited roughly in a triangular pattern, all to the north of Sorbie Farm. Two turbines would be sited southwest of the vacant Craigspark steading, the third to the northwest, partially screened from the south by the Craigspark Plantation. As noted above, the proposed means of access to the site would be from Sorbie Road, which leads northwards from Ardrossan past the town and over the A78 bypass. Sorbie Road becomes a private access north of Ardrossan, and serves Sorbie Farm and the vacant Craigspark steading. As well as omitting a previously approved access road leading from the B780 northwest of the site, the application proposes various changes to the access routes between Sorbie Road and the three turbine sites. It is also proposed to delete the 65m high permanent anemometer mast from the development, together with the associated access track. A potential battery storage area has also been identified on the site plan, although this does not form part of the current application. The turbines would be mounted on light grey coloured circular towers. Each would have three light grey coloured rotor blades with heights as noted above.

The application has been submitted under Section 42 of the Town and Country Planning (Scotland) Act 1997 (as amended). The guidance provided in Annex I of Circular 3/2103 makes it clear that the effect of granting planning permission for a Section 42 application is such that a new and separate permission exists for the development with different (or no) conditions attached. The previous planning permission remains unaltered by, and is not varied by, a decision on a Section 42 application.

**Consultations and Representations**

The application was subject to statutory publicity procedures, which included an advertisement in a local newspaper. A total of 110 letters of support and 3 letters of objection were received.

**Support letters**

The support letters were submitted in several variations of a pro forma style that highlighted the following points:

1. The planning application is extremely welcome, and renewable energy has to be seen as the future of our energy system.

*Response: Noted. The application must be assessed in terms of its specific location and details, not just in general terms. See Analysis.*

2. It is well publicised and generally accepted that climate change is happening and we must do more as a society to stop it where possible.

*Response: Noted. See Analysis.*

3. North Ayrshire Council has already declared a climate emergency so it would make sense to give consent to a local wind farm to help tackle this.

*Response: Noted. See Analysis.*

4. The proposed increase in height would not be significant and woodland planting would screen the closest views of the wind turbines.

*Response: Disagree. See Analysis.*

5. The proposal would help Sorbie Farm to grow its business and retain local jobs.

*Response: Noted. See Analysis.*

**Objections**

1. There is no scope for turbines greater than 100m in this location.

*Response: Noted. See Analysis.*

2. Policy 29 of the LDP advises significant protection should be given to the areas within 2km of towns and villages, including this site.

*Response: Noted. See Analysis.*

3. Blackshaw Wind Farm was refused permission for 125m turbines in 2013 for similar reasons - because of their glaring incompatibility with other turbines nearby.

*Response: Noted. The application must be assessed in terms of its specific location and its details. See Analysis.*

4. Nowhere is it stated that in the Scottish Government's Climate Emergency Policy that inappropriate developments should be allowed to disregard local development plans.

*Response: Noted. The application must be assessed in terms of the adopted LDP. See Analysis.*

5. Alleged financial community benefits should be seen as a form of bribery and have no place in the consideration of the proposal.

*Response: Agreed.*

6. The developer claims that the originally consented 104m high turbines are no longer commercially available, but on the internet it seems there are still producers who do so. An objector has personally contacted 3 manufacturers who informed him that they are still on the market.

*Response: Noted.*

7. The temptation of a battery storage facility within the site at an unknown future date - a technology which is still in its infancy - is an insult to the Council.

*Response: Noted. This application does not seek explicit consent for a battery storage facility.*

8. Planting trees takes time and may never grow high enough to screen the 106 Ardrossan residences mentioned in the petition against the earlier application and the inevitable dominance of the proposed 125m high turbines.

*Response: Noted. See Analysis.*

9. The increased scale is significant, and the applicant is simply playing down the increase.

*Response: Noted. See Analysis.*

10. Whether or not the turbines would benefit from subsidy is not a material consideration.

*Response: Noted.*

11. Noise impacts have not been fully assessed.

*Response: Noted. See Environmental Health response, below.*

12. How many more times must this application be made to the Council? The application should be refused as the resubmission is not materially different.

*Response: Noted*.

**Consultations**

**NAC Environmental Health** - no objections subject to noise limits for the proposed wind farm are those given in condition 21 of planning application 18/01061/PP. To prevent audible tones, the applicant's Noise Impact Assessment states that candidate turbines at T1 and T3 will have to operate in reduced noise mode at 6m/s. If turbines other than the candidate turbines are used, the applicant must review the Noise Impact Assessment to ensure continuing compliance with the noise conditions.

*Response: Noted. The previous grant of planning permission included conditions for dealing with noise mitigation, and similar measures could be adopted in the event of this application being granted.*

**Glasgow Airport** - no objection.

*Response: Noted.*

**MoD** - no objection.

*Response: Noted.*

**NATS** - no objection.

*Response: Noted.*

**Glasgow Prestwick Airport** - object to the increased tip height as it will likely increase the clutter generated on the radar displays above the windfarm. GPA's primary responsibility is to ensure the safety of the airspace above and around Prestwick, and it must have done all it can to ensure such safety prior to removing its objection. This now includes conducting a radar mitigation feasibility assessment against the proposed windfarm, which is governed by the full mitigation agreement between both parties.As such, GPA would object to this increased tip height and will only remove the objection once the full radar mitigation agreement has been entered into (between GPA and the Developer) and the radar feasibility assessment has successfully confirmed that the Terma radar being deployed at GPA can successfully address the clutter generated from the rotating turbine blades.

*Response: The previous grant of planning permission included conditions for dealing with radar mitigation and similar measures could be adopted in the event of this application being granted.*

**NAC Active Travel and Transport** - no objections. The applicant should complete all relevant abnormal load movement application and notification forms and submit all relevant forms to North Ayrshire Structures Team (Roads).

*Response: Noted.*

**Stevenston Community Council** - supports the development.

*Response: Noted.*

RSPB, Saltcoats Community Council and Scottish Natural Heritage made no comments on the application.

**Analysis**

Section 42 of the Town and Country Planning (Scotland) Act 1997 allows for the submission of a planning application for the development of land without complying with conditions subject to which a previous permission was granted. Section 42 of the Act stipulates that in this type of application the "planning authority shall consider only the question of the conditions subject to which permission should be granted."

The main determining issue in this case is wither the proposed modification would accord with the relevant Local Development Plan (LDP) policy.

Policy 29 of the LDP addresses Energy Infrastructure Developments and states "we will support development proposals for energy infrastructure development" including wind "where they will contribute positively to our transition to a low carbon economy and have no unacceptable adverse impacts, taking into consideration, including cumulatively, the following:"

- Environmental
- Community
- Public Safety
- Buildings: Zero and Low Carbon Technologies

The applicant contends that the emphasis of Policy 29 is more positive in terms of its support for energy infrastructure proposals, and notes that the policy requires consideration to the above topics rather than satisfying all matters contained within a range of criteria (as was set out in Policy PI 9 of the previous LDP).

The policy is accompanied with a windfarm spatial framework, which sets out places where there should be protection from windfarm developments and areas where there is potential for such development. Sorbie Farm is within 2km of the towns of Ardrossan and Saltcoats and, as such, is within an area of significant protection.

However, there is a consented three turbine wind farm for the site. Notwithstanding the presumption against new wind farm development at such locations, it is therefore necessary to take this background factor into account in terms of the recently adopted LDP. Scottish Planning Policy (SPP) also recognises the need for significant protection within 2km of towns and villages. Whilst wind farms may be appropriate in these areas, "further consideration will be required to demonstrate that any significant effects on the qualities of these areas can be substantially overcome by siting, design or other mitigation."

Taking each of the matters in turn, the following observations can be made:

**Environmental**
It is considered that the environmental and amenity impacts relating to noise and shadow flicker could be overcome through the use of planning conditions already attached to the previous grant of consent. The landscape and visual impacts would be similar in terms of the assessment carried out for the previous application submitted during 2019 (ref. 19/00306/PP). In particular, this expressed concerns about the increased turbine scale being visually more dominant than the previous design, largely due to the 115m rotor diameter, and therefore likely to cause conflict in the local landscape due to the cumulative effects with the existing Ardrossan Windfarm. In addition, the larger scale turbines would be particularly noticeable from transport corridors, such as the A78 bypass of Ardrossan and Saltcoats to the south, as well as the local routes B780 and B714, west and east of the site respectively. It is also considered that the increased scale of turbine would result in adverse visual impacts on nearby settlements, given the proximity of the windfarm to the nearest built-up areas at Ardrossan and Saltcoats, as well as other nearby dwellings in the countryside. Although some tree planting, in the form of corridors alongside the A78 Ardrossan Bypass and a field boundary to the west of the site have been proposed for mitigation, this would offer very limited (if any) screening to most receptors within the nearby built-up area even when mature.

As noted above, the increased height would be around 19% greater than the original permission, with the hub height just over 6.5% greater. Visually, the main difference is therefore unlikely to be the hub height, which is not significantly different, but the 33m increased length of the rotor blades, resulting in an increased area of the swept path. This remains the main issue raised in the current application, a factor that would be more noticeable at this site as well as the difference in design with the nearby Ardrossan Wind Farm, which has 100m high turbines. As well as being 20m higher at the blade tip in comparison with the previously approved design, this would also result in the turbine blades coming much closer to ground level as they rotate. The applicants still consider that the proposed increase in scale would not be substantial. However, this is not agreed with: it is considered that this degree of change would be substantial in terms of landscape and visual impact, especially given the locational context of the site near a built-up area and near an existing wind farm, resulting in a cumulative impact from a variety of viewpoints. However, it is not considered that the proposal would have any additional impact on natural heritage, carbon rich soils, the historic environment or the water environment in comparison with the originally consented development. Nonetheless, the proposal to increase the height of the turbines is not considered acceptable for the environment at this location due to its adverse landscape and visual impacts on the area.

**Community**

Consideration is required to be given to the net economic impacts of the development, such as employment, associated business and supply chain opportunities. Whilst the development would result in an order being placed for the purchase of 3 wind turbines, other materials (such as quarry products) as well as the hire of plant and labour necessary to construct the project, the turbines could not be sourced locally. Construction jobs would be for a relatively short period. However, by hosting the development, the proposal would also support income and employment at Sorbie Farm and help towards the long-term survival of the agricultural unit.

Longer term, other than the agricultural jobs which would be indirect benefits of the development, only a limited number of jobs would be required to manage and maintain the site once it becomes operational. Any net economic benefit to the local area would, therefore, be marginal in the medium to long term. Whilst the scale of the contribution to Scotland's renewable energy targets would be relatively slight, the applicants state that there would be a significant increase in potential electric power output from the increase in installed capacity - from 6MW in the original scheme to 12MW. The development could power up to 11,050 homes and save 100,000 tonnes of CO2 per year, which is roughly twice the power output and twice as much CO2 savings per year in comparison with the original scheme.

The proposal would not impact directly on any walking or cycling routes, nor would it have any direct impact on existing tourism and recreation facilities in the locality. However, the turbines would be widely visible from the coastline at Ardrossan's North Shore, as well as from the town's ferry terminal, where the existing windfarm at Busbie Muir is already visible. The main difference is that the site of Sorbie Wind Farm is over 1km closer to the northern edge of the town than the existing Ardrossan Wind Farm. The increased height and scale of the turbines in the proposal would, therefore, increase the dominance of the development in the rural backdrop to the town in comparison with the original permission. Such long-term impacts on the landscape setting of the town would not be mitigated by increased short-term job opportunities in the procurement or construction of the development.

**Public Safety**
Subject to the radar mitigation scheme being successfully deployed, it is not considered that there would be any adverse impacts on public safety arising from the proposed revisions to the development. As a renewable energy development, the proposal would contribute toward the efforts being made globally to reduce greenhouse gas emissions during its operational phase. The proposal also seeks to reduce the carbon footprint of the development by removing from the project the need to construct 1km of new access roads through the countryside. Instead, access to the site would be made using existing roads in Ardrossan. The abnormal loads this would involve would require some localised road alterations and traffic management for a relatively short duration during the construction phase of the development. These matters have been raised directly with the roads authority. Finally, in terms of decommissioning, current national planning policy guidance is based on wind energy sites becoming permanent once they are established, with repowering rather than decommissioning being the preferred option in order to safeguard infrastructure and energy capacity for a longer period than the lifespan of the original wind farm. Whilst approval is already in place for a three turbine wind farm at Sorbie, the main area of concern in this assessment relates to the landscape and visual impact of an increased scale of turbine, taking into account the effects on the setting of the nearby settlements as well as rural housing.

The final category in Policy 29, entitled Buildings Zero and Low Carbon Technologies, is not considered relevant to the proposal.

In summary, it is considered that there would be a precedent set by supporting a proposal of a scale that exceeds the previously agreed wind turbine height at this location, within 2km of a built-up area. The applicant is of the view that the 2km figure is simply a 'guideline' - however, as is clearly illustrated in the recently adopted LDP, the Council's spatial strategy for wind farm development seeks to safeguard the 2km buffer around settlements from wind farm development as a matter of principle in order to safeguard the amenity, and the setting, of settlements and the houses near them, in accordance with the Scottish Government's Scottish Planning Policy. As is clear in terms of LDP Policy 29, planning has the role of supporting renewable energy developments, provided the development is of an appropriate scale and in the right place. The extant planning permission for Sorbie Farm would be within the 2km buffer, but it is considered that the 104.3m high turbines already approved in terms of the 2015 appeal decision by Scottish Ministers represents an appropriate upper limit for development within this area. The additional scale would be further emphasised by the greatly increased length of the rotor blades. As many views towards the development would combine both the proposed windfarm and the exisiting Ardrossan wind farms together, it is considered that this difference in scale would be more evident, to the detriment of landscape character in the locality.

Having now assessed the proposal against the Council's new LDP and considered the tree planting measures offered by the applicant as mitigation as well as the Climate Emergency, it is recommended that planning permission is refused for the proposed amendment to the Sorbie Wind Farm development for the reasons given below. As noted above, planning permission ref. 18/01061/PP and the associated conditions remains unaffected by any decision on this application.

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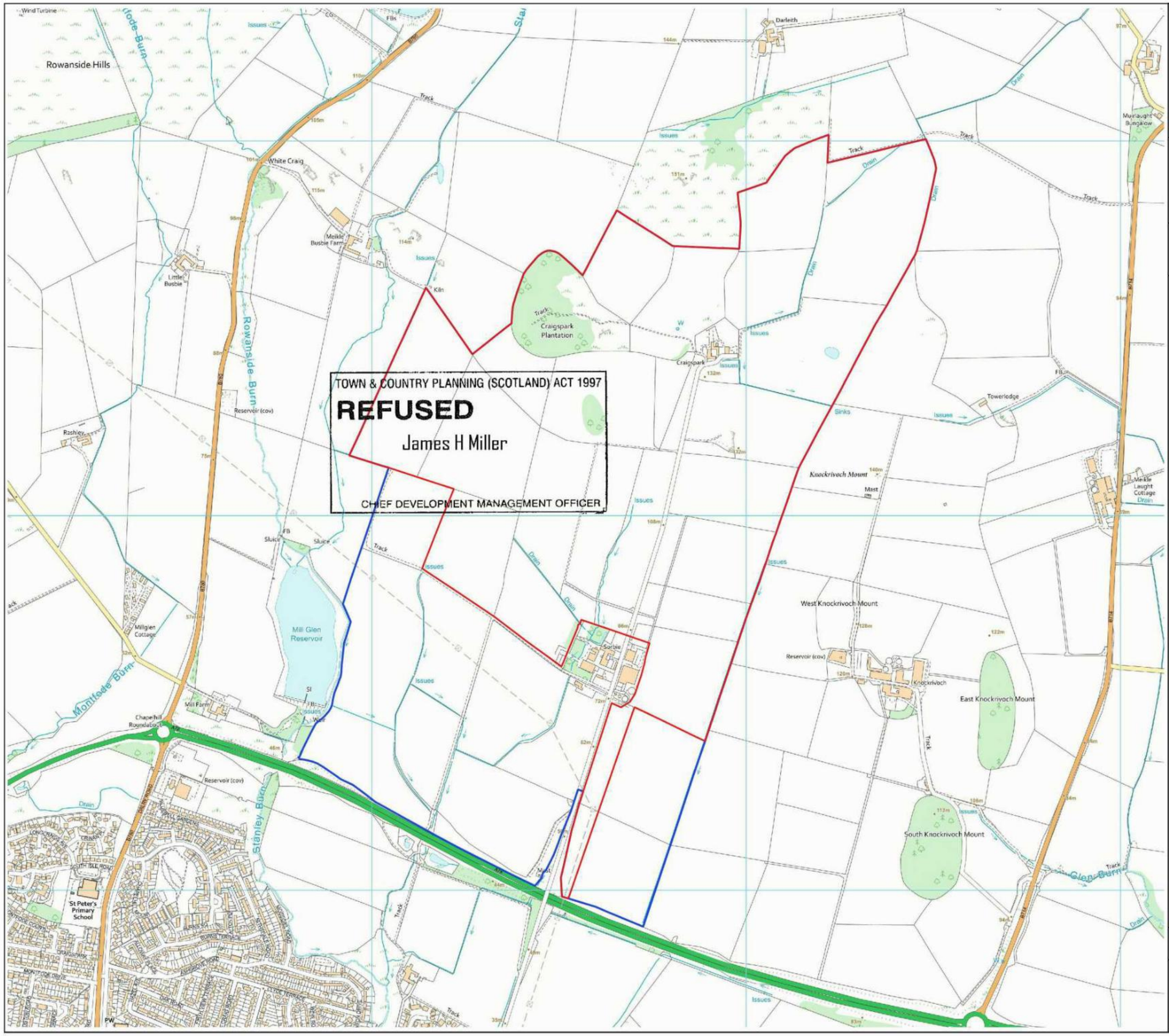
**Decision**

Refused

Case Officer - Mr A Hume

**Appendix 1 - Drawings relating to decision**

| Drawing Title | Drawing Reference (if applicable) | Drawing Version (if applicable) |
|---|---|---|
| Location Plan | Figure 1.1 | A |
| Proposed Elevations | Figure 1.2 | |
| Site Plan | Figure 1.3 | |
| Landscaping | Figure 1.4 | A |




EnergieKontor

**Sorbie Wind Farm**

Office England:
4330 Park Approach
Leeds
LS15 8GB

T:+44 (0)113 204 4850

Office Scotland:
11 Somerset Place
Glasgow
G3 7JT

T:+44 (0)141 354 6544

www.energiekontor.co.uk

**Figure 1.1a: Site Location Plan**

**Key:**

- Planning Application Area
- Land Under the Applicant's Control

0 50 100 150 200 250 m

N

Drawn by: MB Scale:1:10,000 @ A3 Date: 30/01/20

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North Ayrshire Council
Comhairle Siorrachd Àir a Tuath

KAREN YEOMANS : Executive Director (Economy & Communities)

No N/19/00882/PP
(Original Application No. N/100204248-001)

REFUSAL OF PLANNING PERMISSION Type of Application: Local Application

TOWN AND COUNTRY PLANNING (SCOTLAND) ACT, 1997,
AS AMENDED BY THE PLANNING ETC (SCOTLAND) ACT 2006.
TOWN AND COUNTRY PLANNING (DEVELOPMENT MANAGEMENT PROCEDURE) (SCOTLAND) REGULATIONS 2013

To : Energiekontor UK Ltd Fao Mr Michael Briggs
4330 Park Approach
Thorpe Park
Leeds
LS15 8GB

With reference to your application received on 27 November 2019 for planning permission under the above mentioned Acts and Orders for :-

Section 42 application to vary condition 2 of planning permission 18/01061/PP to enable an increase of the consented wind turbine tip height from 104.3m to 125m

at Sorbie Farm
Ardrossan
Ayrshire
KA22 7NP

North Ayrshire Council in exercise of their powers under the above-mentioned Acts and Orders hereby refuse planning permission on the following grounds :-

1. The proposal would be contrary to the provisions of Policy 29 of the adopted North Ayrshire Local Development Plan (LDP) in the following ways: It is considered that the degree of change from 104.3m blade tip to 125m blade tip would be adverse in terms of landscape and visual impacts, especially given the locational context of the site within 2km to the north of the settlement of Ardrossan, which is afforded protection in terms of the Windfarm Spatial Framework as set out in the LDP. Such an increase in scale would contrast markedly with the turbine design approved in the previous consents and would have a significant adverse effect on the rural setting of Ardrossan. This contrast would also be unfavourable against the design of the nearby Ardrossan Windfarm, resulting in adverse effects on the landscape character and visual amenity of the locality.

2. The proposed development would set an undesirable precedent for a scale of windfarm development that is unjustified at a location within 2km of a settlement, which would undermine the Policies of the adopted North Ayrshire Local Development Plan.

Dated this : 5 February 2020

.....
for the North Ayrshire Council

(See accompanying notes)

North Ayrshire Council
Comhairle Siorrachd Àir a Tuath

TOWN AND COUNTRY PLANNING (SCOTLAND) ACT 1997
AS AMENDED BY THE PLANNING ETC (SCOTLAND) ACT 2006.
TOWN AND COUNTRY PLANNING (DEVELOPMENT MANAGEMENT PROCEDURE) (SCOTLAND) REGULATIONS 2013 – REGULATION 28

KAREN YEOMANS : Executive Director (Economy & Communities)

**FORM 2**

1. If the applicant is aggrieved by the decision to refuse permission for or approval required by a condition in respect of the proposed development, or to grant permission or approval subject to conditions, the applicant may require the planning authority to review the case under section 43A of the Town and Country Planning (Scotland) Act 1997 within three months from the date of this notice. The notice of review should be addressed to Committee Services, Chief Executive's Department, Cunninghame House, Irvine, North Ayrshire, KA12 8EE.

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, the owner of the land may serve on the planning authority a purchase notice requiring the purchase of the owner of the land's interest in the land in accordance with Part 5 of the Town and Country Planning (Scotland) Act 1997.

Town and Country Planning (Scotland) Act 1997
Planning, etc (Scotland) Act 2006

## RESPONSE BY , Objector

to

An Application to the North Ayrshire Council Local Review Board

1 INTRODUCTION

This is a response by , a local resident and consistent third-party objector to a s. 42 (1997 Act) application referenced as 19/000882/PP (the Application) by EnergieKontour UK Limited of Leeds (EK). The Application was to allow development to proceed without compliance with the original height limiting conditions, and thereby to permit tip heights for three turbines at Sorbie Farm, Ardrossan to be raised from 104.3m to 125m (a 19.9% increase, described as "modest" (sic)). In addition the application seeks a variation in the internal track layout and the identification of an area which may be used for energy storage, although no such application is made on this occasion. New woodland planting is proposed on the southern boundary, and a 65 m high permanent anemometer mast would be removed.

The Application was refused on 5 February 2020 (the Decision).

EK has appealed to North Ayrshire Council Local Review Board for review of the Decision. That appeal extends to 401 pages. This response answers the principal arguments in the appeal.

2 REFUSAL OF THE APPLICATION

The Application was refused by committee as being contrary to Policy Pl 9 of the adopted North Ayrshire Local Development Plan because "*the change would be adverse in terms of landscape and visual impact, especially given the locational context of the site within 2 km to the north of Ardrossan. That locality is afforded protection in terms of the Council's adopted Windfarm Spatial Framework. Further, such an increase in scale would contrast markedly with the turbine design approved in the previous permissions and would have a significant adverse effect on the rural setting of the town of Ardrossan. Finally, the permission which is sought would set an undesirable precedent for a scale of windfarm development which is unjustified within 2 km of a settlement, and which would undermine the policies of the LDP*."
In short, this reason amounts to refusal on account of a variety of very significant and adverse landscape visual and residential amenity impacts, judged to be unacceptable in the circumstances.

3 GROUNDS

The sole ground argued as the reason for the change of tip height is one of viability (Appeal, §1.11 and §1.12)). It is argued in the Planning Statement submitted on behalf of the Appellant that 100 metre turbines are not available and that the comparative heights of Sorbie and Ardrossan windfarms are not of significance. 100m turbines are said to be unviable, because of the absence of subsidy. §1.13 states the obvious; that larger blades capture more energy. This is not "push(ing) design envelopes further" whatever that means. It is simply that manufacturers have made larger blades in an attempt to secure larger installations and to capture more energy. But that is not the whole picture, because blade lenghts alone are not enough to change the performance of the turbines.

No financial or engineering analysis of these statements is presented anywhere in the Appeal. There is no way of knowing whether or not the statements are true. §1.50 bears to assert that viability can be achieved if the application is granted, but no working is shown.

Table 1.2 asserts that the Approximate Annual Energy Yield will increase from 23GwH to 43 GwH (about a 90% increase), but the same table shows that that the increase in output is ***actually due to the use of larger turbines not larger blades***. They are to increase from 2.05MW Installed Capacity to 4.0 MW Installed Capacity – virtually a doubling in the size of the turbines. That is what generates the extra energy.

A question for the appellant might therefore be to ask whether the improved energy output from the proposed turbines is actually due to the larger blades or the larger turbines. Since it is obviously the latter, but that issue is undisclosed, and no application is made for larger turbines, then in the absence of clarity on this matter, this application should be refused.

In addition, the calculation for the alleged "carbon saving" of an additional 44,5000 per annum to be found in §1.21 (second page) is not shown.

The applicant argues a change in "*planning policy context*" and adherence to Policy 29 as being more supportive and balanced than a previous policy. Some argument is made in relation to the use of landscape capacity studies and compliance therewith – they are now non-prescriptive.

3 CRITERIA TO BE APPLIED

As the Board knows, determinations under the Planning Acts ***must*** be made in accordance with the local development plan unless material considerations indicate otherwise [1]. The Appeal begins correctly by recognising that at page 9. The relevant policy is set out in full at §2.3. It is a criteria based policy, permitting renewables development *subject to* satisfactory

[1] Town and Country Planning (Scotland) Act 1997, ss.25 and 37

compliance with criteria(a) to j). Read properly, the policy means compliance with all of the relevant criteria – "*…subject to the proposal satisfying the following criteria…"* They are then listed, *seriatim*, with the word "AND" in block capitals between each of the criteria. That means that compliance with all of them is required.

4 THE APPELLANT'S ARGUMENT

The Appellant argues for the application instead of adopted policy 29 (page 98 of the Plan), itself adopted only in November 2019. There can be no doubt of its relevancy. This policy only offers support for such projects in certain events. The first of these is a positive contribution to "our transition" to a low carbon economy; and secondly that there is no unacceptable adverse environmental impact – that means NO impact - taking into consideration (a range of criteria).

The appellant argues at paragraph 2.7 that Policy 29 amounts to a "shift in tone". It notes that instead of having to satisfy all of the criteria, the council is merely required to take them into consideration.

The appellant cites national policy in support of its application, beginning with SPP from June 2014, and moving to the Onshore Wind Policy Statement of December 2017. It appears to be at the heart of the appellant's argument that any renewable energy generated by turbines will contribute to carbon saving and work to combat "the climate emergency". That proposition is not otherwise justified.

However, the height of the Appellant's argument is that policy 29 is "inherently supportive of windfarms and the proposals".

The objector submits that the first application was refused because of its <u>proximity to settlement and its significant adverse landscape and visual impact</u>. These turbines are to be 20% bigger *and closer*. How can the impact be less? That proposition defies common sense.

Evidently, in some desperation, the Appellant submits that the Council should not rely on its own landscape capacity study. When it comes to considering the 2 km separation distance, it argues only that that distance is "a guide", not a rule. It also argues that the proposed location of the turbines, despite being less than 2 km from the town of Ardrossan, would not "materially alter the relationship that the consented windfarm maintains with that settlement." This far fetched proposition is advanced despite the very significant increases in height. Proximity of less than 2km is usually thought of as fatal to any windfarm proposal. That is the reason for the constraint, which has existed since the late '90s.

## 5 SUMMARY SUBMISSION AND CONCLUSIONS

Finally, turning to the summary at paragraph 3.55, the appellant asserts compliance with the development plan. The objector disagrees. It is quite clear that the proposal does not comply with policy 29 in respect that

- There is no presumption in law in favour of renewables, and in particular, in favour of wind turbines. Wind turbines which have excessive and immoderate impacts on people and places is NOT sustainable development. That is what SPP (June 2014) says.
- These very few proposed turbines will not make any significant or measurable impact on the causative factors for climate change.
- Scottish Government Policy, however it is expressed, is but a material consideration, according to the law.
- All Scottish Government Policy, however and wherever it is to be found, contains carefully worded caveats against granting consent in respect of impacts on people and places which are significant and adverse.
- It was both the Planning Officer's and the Committee's view that the impacts were significant adverse, and excessive. Those views should be respected. The Appellant does not highlight that they have assessed anything incorrectly.
- Any Community Benefit which may flow from the proposed turbines is not a planning consideration, and should be ignored.

In the whole circumstances, refusal of this application is amply justified. It is resoectfully submitted that the application for review should be refused.

26 February 2020.

Ms Hayley Clancy
Democratic Services,
North Ayrshire Council
Cunninghame House
Irvine,
KA12 8EE

24th February 2020

**Sorbie Local Review Re Ref: 19/00882/PP**

Dear Ms.Clancy,

I refer to a statement submitted to North Ayrshire Council by , objecting to a request for a Local Review of the LPA decision to refuse an application at Sorbie Windfarm for an increase in Turbine Size.

I have seen and read statement and agree profoundly that the review should not be allowed on account of all the points mentioned in it.

P.S.

I must further add:

- Energiekontor simply seeking to overturn the result of the last Local Review Body, and with resources their opponents could only dream of, they use their facilities with unparalleled brutality towards those whose properties they threaten. This is clear from the article in the Saltcoats and Stevenson Herald "A Storm picks up over Windfarm" where they seem completely to disregard even the existence of any objectors whatsoever whose properties are overlooked. **By contrast we objectors operate as part-time operators with only a handful of letter written pages to support our case.**
- Guilty of mis-selling, they allege to power so many 1,000's of homes and seek consent based on maximum 'capacity' but rarely power even 1/3rd of that figure.
- Their 10th February 19/00882/PP 'Supporting Document' submission demonstrates that they will twist Government statement meanings (LDP. WFCS. WFSF. Etc.,) to achieve their aim.
- With Developers receiving £55.7 million added to our electricity bills through Constraint Payments to not even produce electricity within the first 6 weeks of this year, we are saturated with wind turbines. Every turbine consented effectively raises this figure.
- As the Saltcoats & Stevenson Herald article illustrates , this developer has chosen to bribe local councillors with a fraction of even the cost of one small house, to support their plans. Although tempting it might be to lie about employ more people, and brandish 'community benefits', the developer knows fine well that these must not be matters upon which to determine an application. The alleged production of 'clean' 'green' energy must be the sole consideration behind the application.

# Storm picks up around wind farm

*By* Gianni Marini @giannilmariniMultimedia Reporter

Picture Christopher Furlong .Hagshaw Hill windfarm, South lanarkshire.

**A REQUEST for councillors to decide on the fate of a wind farm planning application has been denied.**

Councillors Jean McClung, Tony Gurney and Jim Montgomerie wanted the full planning committee to determine the Sorbie Farm application instead of council officers.

Councillor McClung said: "North Ayrshire Council declared a climate emergency which means we really do have to reduce carbon substantially.

"One of the way to do this is to have more renewable energy produced in a safe, clean way.

"I find it astonishing that an application for a renewable source of energy would be turned down in these circumstances."

The application, to increase the height of three wind turbines which were previously granted planning permission, will now be determined by officers.

Members of both Saltcoats and Stevenston Community Councils want the plans to go ahead, citing a community fund as a motivator.

Kyle Haddow, of Saltcoats Community Council, said: "As it stands it has been refused on two occasions with no real reason other than political differences instead of remaining impartial.

"Saltcoats would have benefitted from an annual community development fund of £20k which would help us address the locality priorities for economy, regeneration and communication."

A North Ayrshire Council spokesperson said: "It has always been the case, both in Scottish Government Planning Guidance and North Ayrshire practice, that community benefits can never be a factor which can be considered in determining a planning application.

"The Supreme Court recently confirmed that such benefits 'constituted a method of seeking to buy the permission sought, in breach of the principle that planning permission cannot be bought or sold.'

Michael Briggs, project manager with planning applicant Energiekontor UK, said: "We are disappointed the planning committee has refused a Call In Request by local councillors to determine our proposed Sorbie Wind Farm at the next available meeting.

"The decision will add more uncertainty and delay for the community who badly want to see this development come forward.

"If consented, the project will provide significant investment both regionally and nationally with a total investment of more than £14.5 million. This includes contracts worth around £3 million in North Ayrshire and £6.1 million in Scotland as a whole.

"The project is vital to supporting a local dairy farm at Sorbie which would be able to expand their milking herd from 370 cows to 500 and build a new state of the art dairy facility. Sorbie Farm currently has three full-time and one part-

time employee. If approved, the business will be in a position to put the part-time employee through a full-time apprenticeship scheme.

"The community benefit associated with the project would equate to £60,000 per annum over the 25-year lifetime of the project. The beneficiaries of this are the communities of Ardrossan, Saltcoats and Stevenston. The application has attracted an overwhelming level of support from the community with 112 letters of support including from Stevenston Community Council.

"Now that the application has been returned to council officers to determine, we await the decision in due course."

Councillor McClung said: "I am very disappointed. I find it ironic after a climate emergency has been announced but I hope it will eventually be approved.

"Previously, applications for wind farms were turned down or approved on the basis of visual impact, but this one has taken that into account.

"Climate change should supersede any other consideration.

"More jobs will be created in North Ayrshire as a whole."

Ian Miller, a North Ayrshire resident who wrote a letter of objection to the proposals, said: "Climate Emergency or not, the Scottish Government and NAC Planning who commissioned the Windfarm Capacity Study and the Local Development Plan with the assistance of landscape architects at considerable expense, cannot allow their set parameters to be simply trampled on by some philistine developer who, rather obviously, simply wishes to overturn the result of the previous local review body's fairly conducted hearing."

Remember that you are personally responsible for what you post on this site and must abide by our site terms. Do not post anything that is false, abusive or malicious. If you wish to complain, please use the 'Report' link underneath the comment.

**Badenoch** 3rd February 8:25 pm

A new observational analysis using data from 10 European Union countries, published in May 2018, affirms the devastating conclusion that wind power installation "Amplifies the growth of fossil fuels", and "Preserves Fossil Fuel Dependency" because for every 1% increase in the installed capacity of wind power, a quarter as much again is permanently required as back up!

Last Updated: 4th February 0:08 pm

ReplyQuote
Report
**The Vid**4th February 8:04 am
Agriculture one of the biggest contributors to climate change and we are using a wind farm to aid expansion. There are places for wind turbines these beautiful hills are not one of them.

Last Updated: 4th February 10:40 am

ReplyQuote
Report
**Camusmore**4th February 10:46 am
I find this article to be very biased as it fails to mention the 100+ letters of objection, that it contravenes the Local Development Plan and the Scottish Governments own advice on proximity of wind farms to communities not to mention that the three massive wind turbines will completely destroy the local vista.

Last Updated: 4th February 0:08 pm

ReplyQuote
Report
**r**6th February 9:47 pm
By far, the more substantive arguments against the development were provided by the 100 + objecting petitioners, which contrasted with the 100 + repetitious but generally rather weak letters of support to which the Ardrossan Herald most studiously singularly referred.

It should also be pointed out that the Ardrossan objectors' petition was signed by almost all the 100 + residents whose very gardens would be immediately overlooked by this development ! - unlike the various houses and gardens, of the Stevenson and Salcoats Comunity councillors.

The £60,000 is a paltry sop to offer the community whose houses would be collectively devalued by many times that amount, while as is the case with most of these subsidised developments, hardly any of the long term jobs would arise for North Ayrshire as spuriously claimed.

Of Wind-Turbines hell-bent on trashing our environment, Enough is Enough !

Last Updated: 7th February 4:40 pm

ReplyQuote
Edit DeleteReport
**gaol**7th February 0:34 pm
Councillors cannot override their own LDP, it is written in stone. If they choose to do so they will leave their council open to legal action which will be footed as always by the innocent tax payers.

Last Updated: 7th February 0:40 pm

# OBJECTION LETTER Ref No: 3

20th December 2019

Mr. A. Hume,
North Ayrshire Council
Planning Department
Cunninghame House
Irvine
KA12 8EE

**N.A.C. ref: 19/00882/PP Section 42 application to vary condition 2 of planning permission of 18/01061/PP to enable an increase of the consented wind turbine tip height from 104.3m to 125m**

Dear Mr. Hume,

The Sad Sorry Sorbie tale goes roughly as follows:-

**1)**
13/00236/PP received `/04/13 Application withdrawn
**2)**
13/00627/PP received 25/10/13 LRB requested ?
**3)**
18/1061/PP to increase size from 104m to 125m Rejected by NAC. Inappropriate to area ?
**4)**
19/00306/PP received 24/04/19 requested LRB . Refused 2/10/19 5 votes to 4.
**5)**
**CURRENT..... 19/00882/PP** section 42 application to vary condition 2 of planning permission of 18/01061/PP to enable an increase of the consented wind turbine tip height from 104.3m to 125m

1. the Ardrossan Wind Farm and the Sorbie cluster both share the Landscape Wind Capacity Study area 19e where it is stated there is no scope for turbines over 100m, it is also affirmed in the **'re-powering section' that 100m turbines** are the optimum size for the area and **should not be increased** when the turbines are being renewed. This application should be refused.

2. The Sorbie cluster is specifically within the Local development Plan, Group 2 Windfarm Spacial Framework, as being firmly in the 'Area of significant Protection'. As such it also **doesn't comply with the N.A.C. Local Development Plan Policy 29** encroaching into the 2km protected zone as it does. In the extraordinary event of the Sorbie re-powering application being consented, - as mentioned 7 months ago, - nothing would stop the **Ardrossan Wind Farm applying for a similar re-empowerment** in complete contradiction of N.A.C. Planning aspirations and no point in producing any further wind capacity studies. This application should clearly be refused.

3. Although the S.G. consented the 104m Sorbie application in 2013, The developer should be reminded that the S.G refused to consent the Blackshaw farm application for 125 metre turbines because of their glaring incompatibility with other turbines in close proximity. Sorbie, in the vicinity of the **Ardrossan Wind Farm is in exactly the same position as the Blackshaw application,** - which is indeed why its 125m re-empowerment application should be similarly refused.

4. Nowhere is it stated in the **Scottish Government's stated Climate Emergency policy** does it indicate that inappropriate developments should be allowed disregarding of either Windfarm Capacity Studies, or Local Development Plans, - nor does it suggest consent being given in the face of local community opposition. Alleged financial community benefits seen as being a form of bribery being offered by the developer, also should not be a treated as a material consideration in this or any other application..

5. The developer claims that the originally consented 104m turbines are no longer available, but on the internet it seems that there are still producers only too willing to supply turbines of similar size and generating capacity. The 125m turbine application admits that although 20% higher than those already consented, not mentioned is that the calculated swept area of the **blades of the preferred turbine would exceed twice that of the already consented** turbines and, they would therefore not only clash badly with the surrounding Ardrossan Windfarm, but also very obtrusively would dominate the housing estates they overlooked. This application should not be consented.

6. The Applicant, hoping to tempt North Ayrshire Council in effect to overturn the previously refused LRB 5:4 application of 2nd of October, by dangling the possibility of battery siting with an indeterminate and separate application at some future date is an insult to N.A.C Planning staff who will be fully aware that **battery technology** is still in its infancy. Apart from ironing out the peaks and troughs on the grid from moment to moment, batteries are a long way from mitigating the shortfall between 'rated output capacity' sold as having, - and the real part-time 'actual output' over weeks and months of intermittent power generation . The possibility of a **separate application (if and "when it is commercially viable")** should therefore not be used as a reason to consent this one. "Pie-in-the-Sky" comes to mind.

7. Similarly the developer hopes that by moving the turbines by 30 metres in any direction and planting a few trees will do the trick of overturning last October's LRB rejection. **Trees take time to grow** and the developer conveniently forgets that the trees may never even grow high enough - to screen the 106 Ardrossan residences mentioned in the petition against the earlier application from the inevitable dominance of these proposed 125 metre turbines. Furthermore the developer conveniently forgets and couldn't care less, - that the **significant strength of local feeling against this development** will hardly have reduced since the previous application. This development variation should be refused.

8. It beggars belief. How many times and at what cost to North Ayrshire Council Planning and the Ardrossan people, can this Sorry Sorbie Saga resuscitation be attempted ? Maybe it is that the **developer counts on residents' 'objection fatigue'** and that following persistence, they only have to win once.

PETITION (MAY 19)

**F.Y.I.** . COPIED OBJECTION PETITION Ref: 36574 below: signed by > 106 petitioners in May 2019, together with the other objectors' letters are as equally valid today as then.

1. In the first instance, with the Ardrossan, Dalry, Neilson and the massively extended Whitelee windfarms, we're being surrounded by turbines wherever we look. Three more proposed turbines now of dis-proportionate size to an area already over exposed, **no way should be allowed further to Cumulatively Impact the area.**

2. The <25% increased turbine blade height to 125m of this Sorbie application would contrast badly with the smaller 104m adjoining Ardrossan turbines. Recently, the Scottish Government well known for over-ruling applications previously dis-allowed by Local authority planners, had nevertheless condemned on the grounds of intrusiveness and dis-proportionality, **the Blackshaw Farm application which had identical blade heights** to this application close to other smaller turbines in the vicinity. This application should therefore be dis-allowed for the same reasons.

3. Increasing Blade height beyond that which has previously been consented (Re-powering) can be a method used by developers disregarding the effect on the environment, to increase the size of turbines beyond which they would have initially been consented. The October '18 **North Ayrshire Landscape Wind Capacity Study also mentions the dominating position the already consented turbines would have,** overlooking Ardrossan. Keeping to agreed standards is important and for this reason **the enlargement** should be dis-allowed.

4. The current very thorough and extensive N.A.L.W.C.S. states that there is 'no scope to increase the height' of the 100m Ardrossan Wind Farm turbines on Haupland Moor on the Southern fringes of Muirshiel Country Park. The dangerous aspect of this will doubtless not have escaped notice, is that in the unfortunate event that should the Sorbie repowering height increase be consented within the same character area, - absolutely nothing would prevent **developers of the adjoining Ardrossan windfarm from seeking similar re-powering** with **the inevitable consequences for environmental and cumulative** impact already at its limit.

5. Finally it should be mentioned that since Wind Turbines possess only one possible function it must be emphasised that developers be prevented from evading their responsibilities to the public by their producing up-front Mandatory Funding for End-of-Life Decommissioning. This should be available for lodgement into a Local Authority Escro a/c, for if and when application is consented. Decommissioning should never be at the taxpayers' expense.

Sincerely

Ms Hayley Clancy
Democratic Services,
North Ayrshire Council
Cunninghame House
Irvine,
KA12 8EE

24th February 2020

**Sorbie Local Review Re Ref: 19/00882/PP**

Dear Ms.Clancy,

I refer to a statement submitted to North Ayrshire Council by objecting to a request for a Local Review of the LPA decision to refuse an application at Sorbie Windfarm for an increase in Turbine Size.

I have seen and read statement and agree profoundly that the review should not be allowed on account of all the points mentioned in it.

Sincerely

Dear Ms. Clancy,

I am extremely disappointed that yet again, despite overwhelming local support for this project, planning has been refused.

This refusal flies in the face of democracy, and is denying benefits and employment to one of the most deprived areas of North Ayrshire.

I sincerely hope that the review body will approve the latest application in line with the wishes of the local people.

Stevenston Community Council

**Review Statement - Objection to request for a Local Review of LPA decision to refuse an application at Sorbie Windfarm for an Increase in Turbine Size**

| | |
|---|---|
| Application Number | 19/00882/PP |
| Location | Sorbie Farm Ardrossan Ayrshire KA22 7NP |
| Proposal | 1997 Act, s.42 application to grant a new permission varying condition 2 of planning permission 18/01061/PP to enable an increased permitted wind turbine tip height from 104.3m to 125m (19.8%). |

Details of Objector

Name

Address

Telephone Number

Email address

**Review Statement – Objection SUMMARY**

Having obtained advice from Legal Counsel the following statement refutes the conclusions submitted by the Applicant in its application for review, specifically that:

- Because the law requires determination to be in accordance with the Local Development Plan unless material considerations indicate otherwise, it can confidently be said that the application does not comply with the requirements of the adopted Local Development Plan (LDP) Policy 29.
- There are no material considerations indicating that Planning Permission should be granted.
- Renewables developments do not carry any presumption in favour of granting planning permission.
- Where an LDP is up to date, SPP 2 is crystal clear that it must have primacy (para 32)
- The applicant is wrong in suggesting the LWCS is general on the specific point of repowering – it is very specific and targeted and states "**Turbines of 100m are the optimum**".
- Scottish Natural Heritage commented and gave explicit clear advice that any new turbines should be smaller in size.
- The proposed development is well within 2km of a major community contravening LDP Policy 29 and SPP 2 (Table 1, col 3, page 39)
- The applicant is wrong to suggest the Planning Officer has applied the 2km guide as a pass or fail test. He has properly assessed the increased impact and concluded that it is significant, adverse, and therefore inappropriate; it should be noted that due to further residential development housing is now closer to the turbines than when the original scheme was consented, thus increasing the impact on the community.
- All independent landscape architect advice has concluded that the proposed increase in size is inappropriate.

**Review Statement - Objection to request for a Local Review of LPA decision to refuse an application at Sorbie Windfarm for an Increase in Turbine Size**

- No account seems to have been taken by the promoter of the 100 plus local objections despite the Scottish Government underlining again and again the importance of community engagement.

- The applicant consistently demonstrates a lack of reliability bias in their arguments, for instance they claim turbines the size of the consented scheme are no longer available. They are. We have checked. One has to ask why an applicant appears to be making untruthful submissions.
- The only opinion that supports the proposed change in tip height is that of the applicant who cannot be considered objective.

DETAILED SUBMISSIONS

1. The application is in essence the same as the previous application 19/00306/PP.
   **On this basis the application should be refused as the resubmission is not materially different.**

2. The Environmental Appraisal submitted by the applicant is not independent and objective and has been prepared by the applicant with the sole purpose of justifying the scheme. It should be disregarded, and the opinion of the professional independent experts should be adopted – all of which reject the proposal.

3. The Applicant States that SPP2 (June 2014) has a presumption in favour of renewables and that renewables are an important new aspect of transport planning policy (sic). This is of questionable relevance, but in any event, SPP makes it clear (§32) that where the LDP is up to date it maintains its primacy, and so **the presumption is in favour of the LDP.**

4. The application introduces the concept of land designated for future battery storage. As recognised by the application the technology for the large scale storage of electricity does not exist at present, and therefore does not form part of this application. This is a clear attempt to differentiate this application from the previous one, but it is based on a non existent proposition.

5. The application introduces the planting of some trees. While tree planting is always to be welcomed, they will not reduce in any way the significant adverse impact of the turbines. Once again this is a bogus, almost pointless attempt to differentiate this application from the previous one.

6. The 2km setoff guidance in SPP2 has been widely and successfully used throughout Scotland. House building adjacent to the site since the first Ardrossan permission would bring houses closer than that, increasing the residential and amenity impacts if this application was granted. This scheme would have individual properties only some 800m from the turbines.
   **Objection – The proposal contravenes Policy 29 of the LDP and Scottish Government Planning Policy, A Low Carbon Place.**

7. The proposed development does not comply with the Local Development Plan (LDP) in that it creates an unacceptable visual and environmental impact – supported by all independent experts.
   **Objection – The proposal contravenes the Local Development Plan.**

8. Local Development Plan Policy 29 designates the area under consideration as Group 2 **Areas of Significant Protection** – as such the application contravenes LDP Policy 29.
   **Objection – The proposal contravenes Policy 29 of the Local Development Plan.**

9. The Applicant's Comparative Environmental Appraisal is conceptually flawed in that it takes the base line as the currently consented turbines installed and then looks at the difference in impact of the proposed change; but this is only part of the picture. When a developer adopts that approach, he neglects the impact of the development as a whole. To consider only the impact of this proposal in isolation will tend to trivialise the proposal and minimise the magnitude of the change and therefore the significance of the impact of the development as a whole.
   **Objection - The Comparative Environmental Appraisal is conceptually flawed.**

10. It is noted that in the assessment the applicant has identified a number of visual effects which have been moved from Medium-High level to High level impact. These impacts have been simply dismissed as not important.

11. Site specific independent advice provided by Scottish Natural Heritage and Carol Anderson Associates (Professional Landscape Architects) **does not** support the proposed amendment.

12. North Ayrshire Landscape Wind Capacity Study 2018 (LWCS), prepared by Carol Anderson Associates, October 2018 section 20.3 provides Guidance for Development in the Haupland Muir. Section 20.3.1 states that there is **No Scope** for additional new development for large turbines. An increase in height of the consented scheme would exacerbate the impact of the already consented scheme.
    **Objection – The proposal contravenes section 20.3.1 of NAC LWCS 2018**

13. In addition, a cognate policy in LWCS section 20.3.2 states that for Repowering of operational and consented wind farms *'Turbines substantially above the height of the existing turbines (which are around 100m) would overwhelm the relief of the low knolly hills of Haupland Muir. They would also adversely affect the setting of Ardrossan (and potentially other coastal settings such as West Kilbride depending on position and height). Cumulative effects would also occur with other operational and consented wind energy developments sited in this and nearby LCT 19d.'* This proposal will give effect to a 20% increase in overall height; a 40% increase in the length of the turbine blades; and a 100% increase in swept path. These figures are not trivial, by any standard.
    **Objection – The proposal contravenes section 20.3.2 of NAC LWCS 2018**

14. North Ayrshire Landscape Wind Capacity Study (NALWCS) of October 2018 Appendix E states that increasing turbine size within the Ardrossan and Kirkhill wind farms would overwhelm the low relief hills within which both these developments are sited and would significantly affect the setting of settlements. It follows from this that the same conclusion would apply to the Sorbie Wind Farm development.
    **Objection – the proposal contravenes Appendix E of NAC LWCS 2018.**

15. When generalising the LWCS refers to 150m Turbines; however, when being specific about area 19e, where the proposal is sited, the LWCS is detailed and targeted. For this area it specifically states that it considers "***Turbines of 100m are the optimum***" and that increasing the height would not be appropriate in landscape and visual terms.

**Objection – The proposal contravenes Annex E, Table B Point 3 of NAC LWCS 2018.**

16. It is also worth noting that the landscape area identified as Area 19e is small in acreage again demonstrating that the Landscape Architects' professional advice is specific and targeted.

17. Furthermore the conclusion reached in the applicant's Planning Statement, s.3 is wrong. The revised LWCS recognises Sorbie Wind Farm Development and is then very specific in stating that **100m turbines are the optimum.** This must carry more weight than the Applicant's Assessment, as it is independent advice.

18. The LWCS also states "*The assessment concluded that there is no scope to increase the heights of the operational wind turbines in the Haupland Muir (19e) landscape character type due principally to effects on the scale of these smaller hills as well as the effects on the setting and views from Ardrossan, the coast and the Firth of Clyde*". This is not a general statement but a specific one.

19. Scottish Natural Heritage (SNH) submitted a consultee response on the consented scheme which significantly challenged the appropriateness of the original proposal. SNH considered that the size of the turbines did not accord with the stated strategy in that they were too large. They stated: *"We recommend that a lower height of turbine be considered to allow closer spacing in order to achieve a more compact and distinctive layout, which may lessen the cumulative effects with the Ardrossan windfarm"*
    This again was specific advice that the turbines should be lower than 100m not increased. The proposed amendment to further increase the turbine size will exacerbate this situation even further.
    **Objection – The proposal contravenes SNH advice that the turbine size should be reduced.**

20. The Comparative assessment by the applicant quotes several comments from the Reporter and concludes that the Reporter's comments are still valid. But the author has been selective in extracting partial quotes and surmising what the Reporter would have concluded.

21. Having attended and presented at the Hearing (note: the applicant was not present as they have only recently become involved in the project) it is the Objector's opinion that their conclusions are wrong. The **Reporter placed a significant weighting on the fact that the turbines were of similar size to the existing Ardrossan Windfarm, that they were in scale of the surroundings and would appear as an extension** – clearly increasing the overall height of the turbines by a significant amount negates that conclusion.
    **Objection – Proposed increase in turbines negates the Reporter's conclusions and the arguments put forward to justify the original scheme.**

22. The consented scheme Environmental Appraisal states that the Design Strategy of the development is inter alia:
    a. Turbine height *similar to adjacent Ardrossan* Windfarm and in keeping with the scale of the existing features; (emphasis added)

    b. Proximity to Ardrossan Windfarm and location in upland ensures that particularly in views from the settled areas to the south and the uplands to the north, the Development appears to have visual unity with Ardrossan Windfarm.

23. This concept of being in keeping and visual unity with the Ardrossan Windfarm was significant in the decision to grant the current planning permission. By increasing the size of

the turbines by some 20% this proposal directly and flagrantly contravenes that strategy, and a corner stone of the consented scheme is removed.
**Objection - The proposal contravenes the consented strategy.**

24. The reference in 3.21 of the Planning Statement to AOD is irrelevant. The authors of the LWCS were fully aware of the difference in ground levels as were the Reporter and SNH when they made their recommendations. The perception of scale that will be derived by the observer will not be affected by the relative difference in AOD. The eye will take in the relative low hills and the increased size of the turbines and perceive them as out of context, complex and inappropriate, which is why all independent advice has been opposed to the proposal.

25. Appendix 3.1 paragraph 1.7.5 of the Comparative Environmental Report recognises that the consistency of image of proposed development in relation to other wind farm developments is likely to be lower if its turbine height, arrangement and layout are broadly similar to other wind farms in the landscape, as they are more likely to appear as relatively simple and logical components of the landscape. The proposed increase in turbine size will create three turbines which will look completely out of place and will create an undesirable and complex visual effect.
**Objection – the proposed significant increase in size will create an undesirable complex visual effect.**

26. All independent advice recognises that the environmental cumulative impact of the wind farms in the area is already at the limit and indeed in many informed opinions the consented scheme at Sorbie takes the area beyond the limit. Certainly, all independent experts agree that a 20% increase would take the cumulative impact above acceptable limits.

27. The applicant claims that Sorbie wind farm has not been constructed due to it no longer being viable; however, no substantiation of that statement is provided. A significant factor must be the fact that despite years of trying, the aviation radar interference concerns have not been addressed.

28. The applicant claims, to support the statement on economic viability, that turbines equivalent to those already consented at Sorbie are no longer available; however, this objector has contacted four suppliers who confirmed that Turbines of 75-100m are available and more efficient that the original Sorbie turbines. Again, this significantly challenges the applicant's report truthfulness and reliability.

29. The removal of subsidies may have increased the challenge in finding suitable sites; however, that is no reason to develop on unsuitable sites and indeed every publication issued by the Scottish Government and North Ayrshire Council makes that clear. The challenge for industry and the planning authorities is to find ways of reducing society's carbon footprint without significant adverse impact on the landscape and people's lives.

30. It is noted that the Comparative Assessment acknowledges that there will be significantly more properties affected by shadow flicker. It is not clear from the assessment if control measures will or will not be put in place and if so what will they be? There is no proposed requirement for that to be agreed/consulted upon with those affected.
**Objection – additional properties affected by shadow flicker.**

31. The proposed development is contrary to planning policy by reason of it not safeguarding the amenity of nearby dwellings due to size and position, furthermore this development will

visually impact on an area which already has other windfarms nearby and thus a cumulative effect will further diminish the landscape value and scenic qualities of the area as a whole.

32. The benefits to the community, such as they are, can be provided by alternative means without having the significant adverse impact on the landscape.

33. This development would add less than 3% to the renewable electricity currently being generated. It is submitted that this small contribution is not sufficient to overturn the conclusions reached by the LWCS and the LDP.

34. Scotland is blessed with many suitable open landscape areas and off shore sites – there is no need to squeeze wind farm developments on top of local communities.

35. Simply looking at the photomontages provided by the Applicant drives home the highly significant impact these turbines will have on the landscape and upon the residents who live closest.

36. The Applicant's Comparative Environmental Appraisal is conceptually flawed in that it takes the base line as the currently consented turbines installed and then looks at the difference in impact of the proposed change. But we submit this is only part of the picture. When one adopts that approach one neglect the overall Impact of the development and that will tend to trivialise the holistic impact. The Baseline must be the landscape as it is and a full assessment of the proposal undertaken to ensure that it still fully meets the criteria identified in the previously consented scheme. As this area is already on the limit the last straw has been reached.

**Objection - The Comparative Environmental Appraisal is conceptually flawed.**

37. Appendix 3.1 paragraph 1.5.7 of the Comparative Environmental Appraisal acknowledges that the magnitude of change that the proposed development will have on the landscape receptors is assessed in terms of size or scale of the change. This supports that an assessment of the scheme as a whole is required rather than just carrying out a comparative study.

38. The applicant places emphasis on this being an *unsubsidised* development – this is irrelevant as the cost is the cost, the customer will now pay rather than the tax payer. If the cost of the energy was uneconomical then, it is now. This is emphatically not a material fact in the consideration.

39. There is constant reference to Scottish Government and North Ayrshire's documents which clearly state the importance of tackling climate change and the importance of wind farms in this task. However, NONE of these documents support inappropriate developments and indeed are at lengths to reinforce that the development of the wind turbines be sympathetic and appropriate to the environment and landscape character and must take cognisance of the communities that will be affected.
Indeed the vision for Scotland states "*By 2023, Scotland will have reduced its emissions by 66% relative to the baseline, while growing the economy, increasing the* ***wellbeing of the people of Scotland and protecting and enhancing our natural environment***"

40. The Applicant makes reference to Paul Wheelhouse MSP's Foreword to the Scottish Government Onshore Wind Policy Statement. However, what they omit is the importance he places on the development of the partnership of all stakeholders. Despite receiving in excess of 100 objections to this proposal the Applicant has made no attempt to reach out to the

community and work with them to see if there is a better solution. They are simply trying to railroad the application through – to suit their business plan and profits, and not to benefit the community.

41. It is noted that North Ayrshire has made significant inroads towards achieving carbon neutrality by the use of solar refit, biomass and landfill gas recovery. This is clearly the way ahead for urban areas and the development of wind farms is for off shore or remote areas.

42. It is noted that in Section 3.52 of the Applicant's Review Statement the money values are emphasised, this seems inappropriate and a cheap attempt to sway the opinion. It is incumbent on us all to protect our natural landscape, we should not sell our beautiful landscape for an apparent short-term gain, no matter how tempting. Development of the scheme in an appropriate location would bring the benefits and not adversely impact on the Landscape.

43. It is also noted that no detailed calculations are provided to substantiate either the carbon reduction or financial claims.

44. The detailed noise calculations are not provided. There has therefore been no opportunity to assesses the appropriateness of the noise limits and to consider whether they take account of all factors, for instance the addition of the cumulative effect of the other wind farms in the area.

45. Note: that the original assessment submitted by Sorbie Windfarm in October 2013 did not (this was identified by myself) which was acknowledged at the hearing and the Reporter provided them the opportunity to submit further calculations at the hearing. This resulted in the noise impact on the residential properties significantly increasing and the developer agreeing to reduce the output of the turbines to ensure compliance with the limits.
**Objection – Impact of increase in noise not fully assessed and insufficient evidence provided that it will comply with the restrictions.**
**Objection – Full noise assessment not provided to allow a review to be obtained and to seek an independent expert to review as necessary.**
**Objection – No evidence AT ALL that a cumulative noise assessment has been undertaken.**

46. While the Turbines will be required to work within the noise limits stipulated given that these turbines generate greater noise than the consented turbines, at the present day they are having to operate at reduced outputs at certain wind speeds. While in theory this may be possible it is difficult to see how this can be policed to ensure that residents are not subject to excessive noise other than installing noise monitoring stations at suitable locations such as the control property.

47. It should be noted that for noise an approach of *"as long as you comply then it is okay"* should not be taken as once the turbines are in place the carbon price of the installation will have been realised and any reduction in efficiency will impact on the whole life benefits vs disbenefits – the impact must be understood before installation to allow a full whole life benefits assessment to be undertaken.

48. Residents are of high sensitivity due to them being static receptors, no visualisations from the greatest affected properties have been supplied. Note this was the case in the original assessment; however, further visualisations were presented at the hearing.

49. The conclusions put forward in the report do not align with the facts within the document which is disappointing as the UK and Scottish government has requested that wind farm developers are sympathetic to the local environment, recognising the strong local opposition that is developing towards wind farms. Clearly this proposal pays no heed to this request as it completely ignores North Ayrshire's own recommendation that there is no further capacity in this area, the accepted strategy developed for the Sorbie Windfarm, the advice provided by SNH and the strong opposition of the local community.

50. It is submitted that the application for Review should be refused, the Planning Officer's recommendation confirmed, and the application for this proposal finally and firmly refused.

Name .....

Signed

Dated 25/2/20