ACKRON WIND FARM

EIA Report – Volume 3 – Technical Appendices

Technical Appendices A6.1 – A6.4

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6.1 APPENDIX A6.1: METHODOLOGY FOR THE LANDSCAPE, VISUAL AND CUMULATIVE ASSESSMENTS

6.1.1 Guidance

This assessment is carried out in accordance with the principles contained within the following documents:

- Guidelines for Landscape and Visual Impact Assessment (referred to hereafter as GLVIA3)[1];
- Landscape Character Assessment – Guidance for England and Scotland[2];
- Topic Paper 6: Techniques and Criteria for Judging Capacity and Sensitivity[3];
- Siting and Designing Windfarms in the Landscape[4];
- Visual Representation of Windfarms[5];
- Visual Representation of Development Proposals (Landscape Institute)[6]; and
- Assessing the Cumulative Impact of Onshore Developments[7].

Desk studies were undertaken to provide information about the baseline landscape and visual resource and to inform field work and the evaluation of effects. For this work, data sources included OS topographic and geological maps, as well as references specific to landscape character (Landscape Character Assessments) and designated areas (e.g. Local Plans).

All Figures referenced in the Appendix are found in Volume 2 of the EIA Report.

6.1.2 Study Area

NatureScot[8] guidance[5] suggests that for turbines of up to 150 metres (m) to blade tip, an initial study area of 40 kilometre (km) radius should be considered, followed by refinement of the study area to focus on potential significant effects. The Zone of Theoretical Visibility (ZTV) to 40 km is shown on Figure 6.1. The study area was reduced to approximately 15-25 km radius for detailed assessment as discussed through scoping consultation, to focus on likely significant effects.

In the interests of proportionality and best practice, the focus of the character assessment is on those Landscape Character Types (LCTs) lying within 15 km of the Site. This is because, taking into account both the Development and its landscape context, it is judged that significant effects on landscape character are unlikely to extend beyond approximately 10 km from the Site. This judgement is in keeping with assessment findings and planning decisions relating to similar types and scales of wind energy development in Highland, for example the recently consented Lairg 2 Wind Farm[9].

Identification of the cumulative assessment study area comprised a review of wind farm development across an area of 60 km radius from the outermost turbines of the Development, in accordance with relevant guidance[5]. Cumulative data has been collected

[1] Landscape Institute and the Institute of Environmental Assessment. (2013) Guidelines for Landscape and Visual Impact Assessment. Third Edition.

[2] The Countryside Agency and Scottish Natural Heritage. (2002) Landscape Character Assessment – Guidance for England and Scotland

[3] Scottish Natural Heritage and the Countryside Agency. (2004) Topic Paper 6: Techniques and Criteria for Judging Capacity and Sensitivity

[4] Scottish Natural Heritage (2017) Siting and Designing Windfarms in the Landscape, Version 3

[5] Scottish Natural Heritage (2017) Visual Representation of Windfarms, Version 2.2.

[6] Landscape Institute (Sept 2019) Visual Representation of Development Proposals – Technical Guidance Note 06/19

[7] Scottish Natural Heritage (2012) Assessing the Cumulative Impact of Onshore Wind Energy Developments

[8] Scottish Natural Heritage (SNH) rebranded in August 2020 as NatureScot. Where relevant reference is still made to SNH within this chapter in respect of guidance which remains valid and is yet to be republished etc.

[9] Lairg 2 Wind Farm, Highland Council planning reference 19/01096/FUL.

for schemes within 25 km of the Development. The assessment focusses on the cumulative relationships of the Development with the closest wind farms which are likely to form part of the key cumulative interactions with it; except for the assessment of sequential effects on routes, the consideration of which extends across the 25 km study area and beyond.

6.1.2.1 Field Survey

Field survey work was carried out during several visits under differing weather conditions, between October 2018 and July 2020. Records were made in the form of field notes and photographs. Field survey work included visits to viewpoints and designated landscapes, and extensive travel around the wider study area to consider potential effects on landscape character and on experiences of views seen from routes.

6.1.3 Graphics Production

Graphics and visualisations are provided to support the assessment of effects. Visualisations for the assessment viewpoints have been produced in accordance with current good practice guidance from NatureScot[10] and the Landscape Institute (LI)[11]. In addition, visualisations compliant with The Highland Council (THC) Visualisation Standards for Wind Energy Developments[12] have been produced for each viewpoint.

6.1.3.1 Data Used for Modelling

- OS Terrain® 5 mid-resolution height data (digital terrain model (DTM)) (5 m grid spacing, 2.5 m RMSE) for detailed modelling;
- OS Terrain® 50 height data (DTM) (50 m grid spacing, 4 m RMSE) for draft modelling;
- Ordnance Survey 1:50,000 raster data; and
- Ordnance Survey 1:250,000 raster data.

6.1.3.2 ZTV Mapping

The Ordnance Survey digital terrain model (DTM) (using 5m resolution within approximately 15 km of the Site and 50 m resolution further away) is used as an input for the production of map based graphics and ZTV mapping. ZTVs use the turbine dimensions (tip height and hub height) and DTM and assume a viewer height of 1.5 m. The calculation uses a 'bare ground' computer generated terrain model, which does not take account of potential screening by buildings or vegetation. This is considered to over-emphasise the extent of visibility of the Development and therefore represents a 'maximum potential visibility' scenario. Separate ZTVs are run from the tip heights and hub heights of the proposed turbines. They take into consideration earth curvature and use a refraction coefficient of 0.13.

The ZTV was calculated to show the number of turbines visible to blade tip height or hub height. The ZTV calculated to blade tip height is shown in Figures 6.1 to 6.3. The hub height ZTV is shown in Figure 6.4. Subsequent figures which include the ZTV make use of the ZTV to blade tip height.

To construct combined ZTVs (CZTVs) to illustrate the combined visibility of the Development with other windfarms, the ZTV to tip height of each windfarm was generated (based on the tip height of each turbine to a radius in accordance with the current NatureScot guidance[10]), and then combined with the Development ZTV. The

[10] Scottish Natural Heritage (2017) Visual Representation of Windfarms, Version 2.2.

[11] Landscape Institute (Sept 2019) Visual Representation of Development Proposals – Technical Guidance Note 06/19

[12] The Highland Council (2016) Visualisation Standards for Wind Energy Developments.

combined CZTV was set up to show the number of windfarms (rather than the number of turbines) visible (Figures 6.9-6.11a). The combined CZTV is colour-coded to distinguish between areas where the Development is predicted to be visible (either on its own, or in conjunction with other windfarms), and areas where other wind farms will be visible but the Development will not be visible. The combined CZTVs do not identify which other wind farms will be visible, but a paired CZTVs are provided where necessary to analyse the relationships between key windfarms.

6.1.3.3 Viewpoint Photography

The methodology for photography is in accordance with guidance from NatureScot[10] and the LI[11]. The focal lengths used are in accordance with recommendations contained in guidance, and are stated on the figures. Photography was undertaken by MVGLA between August 2019 and July 2020. Photography was taken in optimal visibility conditions wherever possible, though unpredictable weather and short daylight hours in autumn/winter make more distant viewpoints harder to get ideal photographs for. The location of each viewpoint and information about the conditions was recorded in the field in accordance with the guidance. The camera used for the photography was a Nikon D610 Full frame sensor digital SLR with a fixed 50 mm focal length lens.

A tripod with vertical and horizontal spirit levels was used to provide stability and to ensure a level set of adjoining images. The camera was orientated to take photographs in landscape format[13]. A panoramic head was used to ensure the camera rotated about the no-parallax point of the lens in order to eliminate parallax errors between the successive images and enable accurate stitching of the images. The camera was moved through increments of 24° (degrees) and rotated through a full 360° at each viewpoint.

Weather conditions and visibility were considered an important aspect of the field visits for the photography. Where possible, visits were planned around clear days with good visibility. Viewpoint locations were visited at times of day to ensure, as far as possible, that the sun lit the scene from behind, or to one side of the photographer. South facing viewpoints can present problems particularly in winter when the sun is low in the sky. Photographs facing into the sun were avoided where possible to prevent the wind turbines appearing as silhouettes. Adjustments to lighting of the turbines were made in the rendering software to make the turbines appear realistic in the view under the particular lighting and atmospheric conditions present at that time.

6.1.3.4 Visualisations

Photographic stitching software PTGui© and Adobe Photoshop© was used to stitch together the adjoining frames to create panoramic baseline photography. This is done separately for cylindrical and planar projections.

The same terrain data used for the production of the ZTVs was also used to generate wire-line drawings, using ReSoft Windfarm software. The DTM includes the Development area, viewpoint locations and all landform visible within the baseline photography. Turbine and viewpoint location coordinates were entered. Photomontages have been constructed to show the candidate turbine with the specified tip height, hub height and rotor diameter. The stitched photographs were matched to the wirelines using Adobe Photoshop. Wirelines were produced using a viewer height of 1.5m above the terrain height.

The panoramic baseline photographic images were imported into the Adobe Photoshop software and from each viewpoint the wireline views of the landform model with proposed turbines were carefully adjusted to obtain a match. Fixed features on the ground, such as buildings and roads, were located in the model and used as markers to help with the

[13] For close viewpoints, portrait photographs were also taken.

alignment process where necessary. Each view was rendered taking account of the sunlight conditions and the position of the sun in the sky at the time the photograph was taken. Blade angle and orientation adjustments were also made to represent a realistic situation. Adobe Photoshop© software was used to combine the images and mask out (remove) turbines or sections of turbines which were located behind foreground elements in the original photograph.

6.1.3.5 Figure Layout

The dimensions for each image (printed height and field of view) are in accordance with NatureScot requirements[14] and THC requirements[15]. Photography information and viewing instructions are provided on each page where relevant.

NatureScot pages include:

- The first A3 page contains an OS 1:50,000 scale map showing the viewpoint location, direction of the 90° and 53.5° photomontage view and turbine locations;
- The following A3 height x A1 width format page contains 90° baseline photography and wireline to illustrate the wider landscape, visual and cumulative context. These are shown in cylindrical projection and presented on an A1 width page. Additional pages in the same format are provided if necessary to illustrate wider cumulative visibility up to 360°; and
- The subsequent pages contain 53.5° wireline and photomontage of the view towards the Development. These images are shown in planar projection and presented on an A1 width page.

THC pages include:

- The first A3 page contains an OS 1:50,000 scale map showing the viewpoint location, direction of the 90° and 53.5° photomontage view and turbine locations;
- The following A3 pages contain 65.5° baseline photography, wireline and photomontage to illustrate the wider landscape context. These are shown in planar projection; and
- The subsequent A3 pages contain 50 mm and 75 mm single frame photomontages of the view towards the Development.

6.1.4 Assessment Structure

Consideration of potential effects on landscape and visual amenity are related but distinct components of LVIA[16]. The methodologies used to assess potential landscape and visual effects are broadly similar, but in order that the differences are clear, the methodologies for assessing significance for landscape and visual effects, and the assessment sections themselves, are set out separately.

The LVIA considers the potential effects of the addition of the Development to the existing landscape, against a baseline that includes existing wind farms (and those under construction if applicable). The cumulative landscape and visual impact assessment (CLVIA), considers the potential changes in effects with the addition of the Development, relating to a baseline landscape that includes wind farms that may or may not be present in the landscape in the future (e.g. consented schemes or undetermined applications).

An additional assessment of effects on residential visual amenity is provided in Appendix 6.3, which follows methodology guidance from the LI[17] (set out in Appendix 6.3). An

[14] Scottish Natural Heritage (2017) Visual Representation of Windfarms, Version 2.2.

[15] The Highland Council (2016) Visualisation Standards for Wind Energy Developments.

[16] This distinction is emphasised and clearly defined in GLVIA3.

[17] Landscape Institute (March 2019) Residential Visual Amenity Assessment (RVAA). Technical Guidance Note 2/19.

assessment of effects on wild land is provided in Appendix 6.4, which follows methodology guidance from NatureScot[18].

The operational phase elements of the Development, *i.e.* turbines, tracks, substation and other infrastructure, are considered to be long term elements as they will be *in situ* for the 30 years of the wind farm. They are reversible upon decommissioning. This is taken to be the case for all effects but is not repeated for each receptor.

Using a precautionary approach, unless otherwise stated, all likely effects identified are considered to be negative or adverse.

6.1.5 Identification of Landscape Effects

Judging the significance of landscape effects requires consideration of the nature of the landscape receptors (sensitivity) and the nature of the effect on those receptors (magnitude of change). GLVIA3 states that the nature of landscape receptors, commonly referred to as their sensitivity, should be assessed in terms of the susceptibility of the receptor to the type of change proposed, and the value attached to the receptor. The nature of the effect on each landscape receptor should be assessed in terms of its size and scale, geographical extent, duration and reversibility. These aspects are brought together, to form a judgement regarding the overall significance of effect. The following sections set out the methodology used to evaluate landscape effects.

6.1.5.1 Sensitivity of Landscape Receptors

The sensitivity (or 'nature') of landscape receptors is assessed in terms of the susceptibility of the receptor to the type of change proposed and the value attached to the receptor.

The susceptibility of the landscape relates to "the ability of the landscape receptor (whether it be the overall character or quality/condition of a particular type or area, or an individual element and/or feature, or a particular aesthetic and perceptual aspect) to accommodate the Development without undue[19] consequences for the maintenance of the baseline situation and/or the achievement of landscape planning policies and strategies" (GLVIA3[20], Page 88).

Criteria that inform judgements of landscape susceptibility to the type of development being proposed include:

- Landscape scale;
- Landform;
- Skylines;
- Pattern and complexity;
- Inter-visibility with adjacent landscapes;
- Settlement and man-made influences; and
- Perceptual influences.

The value of a landscape is recognised as being a key contributing factor to the sensitivity of landscape receptors. Value is informed with reference to:

- A review of designations upon the landscape and the level of policy importance that they signify (such as landscapes designated at international, national, local or community level); and

[18] Scottish Natural Heritage (2017) Scottish Natural Heritage consultation on draft guidance: Assessing impacts on Wild Land Areas – technical guidance.
[19] Undue can be interpreted as 'disproportionate'.
[20] Landscape Institute and the Institute of Environmental Assessment. (2013) Guidelines for Landscape and Visual Impact Assessment. Third Edition.

- Other criteria that indicate value, including landscape quality, scenic quality, rarity, representativeness, conservation interests, recreation value, perceptual aspects, and artistic associations.

It should be noted that whilst landscape designations at an international or national level are likely to be accorded the highest value, it does not necessarily follow that all such landscapes have a high susceptibility to all types of change, and conversely, undesignated landscapes may also have high value and susceptibility to change[31]. There may be a complex relationship between the value attached to a landscape and its susceptibility to change. Therefore, the rationale for judgements on the sensitivity of the landscape needs to be clearly set out for each receptor.

Judgements of relative sensitivity of different LCTs to wind farm development also has cognisance of other assessments of landscape character and sensitivity provided in:

- THC Onshore Wind Energy Supplementary Guidance[21]; and
- Cumulative Landscape and Visual Assessment of Wind Energy in Caithness[22].

Sensitivity of the receptor is a consideration of susceptibility to change and value, and is described using 'high', 'medium' and 'low'. It is based on an evaluation of criteria such as those set out in the tables below, using professional judgement to balance several factors that may raise or lower the level of sensitivity. 'High' is assigned to a receptor that meets all or most of the criteria indicating higher sensitivity, or where one or more criteria are considered to be sufficiently important to outweigh other 'lower' criteria. 'Low' is assigned to receptors where criteria fall into the lower part of the scale. 'Medium' is assigned to receptors where criteria are mixed or of intermediate sensitivity.

Table A6.1.1: Sensitivity of the Receptor: Landscape

Criteria tending towards Higher or Lower Sensitivity		
	Higher ⟷	*Lower*
Susceptibility to Change	Contains features vulnerable to change or loss that would in turn alter key landscape characteristics. Complex, rugged, irregular landform with strong topographical features and distinctive skylines. Few modern artefacts present, presence of small scale, historic or vernacular settlement. Remote from visible or audible signs of human activity and development.	Robust landscape, with few or no vulnerable features, and potentially able to accommodate particular types of change without altering landscape characteristics. Simple, regular landform without strong topographical features, non-prominent or screened skylines. Presence of large scale structures e.g. utility, infrastructure or industrial elements. Close to visible or audible signs of human activity and development.
Value	Relatively rare or 'unique' landscape character type (LCT). Designated landscape with national policy level protection.	Ubiquitous or extensive landscape type. A landscape without formal designation[23].

[21] Addendum Supplementary Guidance: "Part 2", December 2017 - being part of the Highland Strategic Capacity content of the suite: "Onshore Wind Energy Supplementary Guidance, November 2016 (with addendum, December 2017)"

[22] Cumulative Landscape and Visual Assessment of Wind Energy in Caithness (LUC, July 2014)

[23] Note that as stated in the Council of Europe Landscape Convention (2000), all landscapes have value.

6.1.5.2 Magnitude of Landscape Change

Judgements regarding the magnitude of landscape change consider the size, scale, and geographical extent of the landscape effect, and its duration and reversibility.

For landscape elements/features, the size and scale of change depends on the extent of existing landscape elements that will be lost or changed, the proportion of the total extent that this represents (i.e. rarity) and the contribution of that element to the character of the landscape. For LCTs, the size and scale of change depends on the degree to which the character of the landscape is changed through alteration to the key characteristics of the landscape.

Given that wind farms currently exist in the study area, the scale and size of change also considers the relationship between the Development and other wind farms in the landscape, including consideration of:

- The arrangement of wind farms in the landscape, e.g. developments that are clustered or dispersed;
- The position of the wind farms in the landscape, e.g. in similar landscape or topographical contexts;
- The distances between wind farms, and their distances from the viewer;
- The relative perceived scales of the wind farms in the landscape; and
- How the Development fits with the pattern of wind farm development in the baseline, and whether it intensifies the presence of wind farms or fills a gap, leading to a total effect that is greater than the sum of its parts, e.g. creating a 'wind farm landscape'.

The geographical extent of landscape change is the area over which the landscape change being described will occur. Geographical extent is described as being limited to the site, to the local area, or a wider area, which is defined in each case.

Size/scale, geographical extent and duration/reversibility (assumed to be long term theoretically reversible for operational effects as explained above) are combined to form a judgement as to the overall magnitude (nature) of the landscape change, recorded as high, medium, low or negligible.

Magnitude of change is described using criteria such as those set out in the table below, using professional judgement to balance several factors that may raise or lower the magnitude judgement. 'High' is assigned to a change that meets the criteria indicating higher changes, or where one or more criteria are considered to be sufficiently important to outweigh other 'lower' criteria. 'Low' or 'negligible' is assigned to receptors where criteria fall into the lower part of the scale, 'medium' is assigned to receptors where criteria are mixed or of intermediate levels.

Table A6.1.2: Magnitude of Change to the Landscape

Criteria tending towards Higher or Lower Magnitude of Change		
	Higher ⟷	*Lower*
Scale	Large changes or extensive loss of key features;	Small changes to key features, little or no loss of features;
Geographical Extent	Large areas affected by change; Changes perceived as close to the receptor.	Limited area affected; Changes perceived as distant from receptor.

6.1.5.3 Judging the Levels of Landscape Effect and Significance

In judging significance, sensitivity of receptors has to be considered in combination with predicted magnitude of change. As set out above, sensitivity and magnitude are

evaluated by considering a range of aspects. Considering all aspects in a multifaceted assessment, and assigning more or less weight to individual aspects as appropriate, the overall level of effect is identified. This assessment of the level of effect draws on fieldwork, consultation and guidance provided in GLVIA3[24]. It does not use a matrix of sensitivity against magnitude of change, an approach which is not supported by GLVIA3.

Four levels of effect are used in this assessment: major, moderate, minor and negligible. Effects that are significant in the context of EIA regulations include major and moderate effects.

The table below sets out various criteria and descriptions that are used to guide judgments as to the level of effect.

Table A6.1.3: Levels of Effect: Landscape

<table>
<tr><td colspan="4">Criteria tending towards Higher or Lower Effect</td></tr>
<tr><td colspan="4">←→
Major Moderate Minor Negligible</td></tr>
<tr><td colspan="2">HIGHER LEVEL OF EFFECT
Effects on people who may be particularly sensitive to changes in views/ visual amenity, or at recognised viewpoints or from recognised scenic routes.
Large scale changes which introduce new, non-characteristic or discordant or intrusive elements into the view.
These may be long term/ irreversible effects.</td><td colspan="2">LOWER LEVEL OF EFFECT
Effects on people who are generally less sensitive to changes in views/ visual amenity.
Small changes or changes which are well integrated into the view, often involving features already present in the view.
These may be reversible effects or of short duration.</td></tr>
<tr><td colspan="2">Significant</td><td colspan="2">Not Significant</td></tr>
<tr><td>Substantial changes affecting the character of the landscape or the elements therein.</td><td>Changes affecting the character of the landscape or the elements therein.</td><td>Slight changes affecting the character of the landscape or specific elements therein.</td><td>No or minimal perceptible changes affecting the character of the landscape or specific elements therein. Note that this includes no impact.</td></tr>
</table>

6.1.6 Identification of Visual Effects

Visual effects are experienced by people at different locations around the study area, at static locations (for example settlements or viewpoints) and transitional locations (such as sequential views from routes). Visual receptors are the people who will be affected by changes in views at these places, and they are usually grouped by what they are doing at these places (for example residents, motorists, recreational users *etc*.).

6.1.6.1 Sensitivity of Visual Receptors or Views

The sensitivity (or 'nature') of visual receptors is assessed in terms of the susceptibility of the receptor to the type of change proposed and the value attached to the receptor. The susceptibility of visual receptors to changes in views/visual amenity is a function of the occupation or activity of people experiencing the view and the extent to which their attention is focused on views (GLVIA3[25], page 113). Viewers of higher susceptibility to

[24] Landscape Institute and the Institute of Environmental Assessment. (2013) Guidelines for Landscape and Visual Impact Assessment. Third Edition.

[25] Landscape Institute and the Institute of Environmental Assessment. (2013) Guidelines for Landscape and Visual Impact Assessment. Third Edition.

changes in views are those whose attention or interest is focused on their surroundings, including:

- Communities where views contribute to the landscape setting enjoyed by residents;
- People engaged in outdoor recreation (including users of public rights of way whose interest is likely to be focused on the landscape); and
- Visitors to heritage assets, advertised viewpoints or other attractions where views of the surroundings are an important contributor to experience.

Viewers of lower susceptibility to changes in views include travellers on road, rail or transport routes (not recognised as scenic routes); people engaged in outdoor sport or recreation which does not involve or depend upon appreciation of views; and people at their place of work whose attention is not on their surroundings.

Recognition of the value of a view is determined with reference to:

- Planning designations (such as designated landscapes at a local or national level);
- Importance in relation to heritage assets (such as designed views recorded in citations of designated landscapes or views recorded as of importance in Conservation Area Appraisals); and
- Indicators of the value attached to views by visitors, for example through appearances in guide books or on tourist maps, provision of facilities for their enjoyment and references to them in literature and art.

The sensitivity of views and visual receptors may involve a complex relationship between a viewer's susceptibility to change and the value attached to a view. The rationale for judgements of sensitivity of visual receptors are set out for each receptor in relation to both susceptibility and value.

Susceptibility and value are combined to form a judgement as the overall sensitivity of the visual receptor, recorded as 'high', 'medium' and 'low'. It is based on an evaluation of criteria such as those set out in the tables below, using professional judgement to balance several factors that may raise or lower the level of sensitivity. 'High' is assigned to a receptor that meets all or most of the criteria indicating higher sensitivity, or where one or more criteria are considered to be sufficiently important to outweigh other 'lower' criteria. 'Low' is assigned to receptors where criteria fall into the lower part of the scale. 'Medium' is assigned to receptors where criteria are mixed or of intermediate sensitivity.

Table A6.1.4: Sensitivity of the Receptor - Visual

Criteria tending towards Higher or Lower Sensitivity		
	Higher ⟷ *Lower*	
Susceptibility to Change	High scenic quality. Unaffected by overt or intrusive man-made elements. Residential or tourist viewers, cyclists and walkers.	Low scenic quality. View includes overt or intrusive man-made elements. Working or general road users.
Value	Designated viewpoint advertised on OS maps and in tourist information. Location within an area (nationally) designated for landscape/scenic values.	Viewpoints not advertised on OS maps or tourist information. Location on quiet, little used road. Location not within an area designated for landscape/scenic values.

6.1.6.2 Magnitude of Visual Change

Judgements regarding the magnitude of changes to views consider the size and scale, and geographical extent of the visual effect, and its duration and reversibility.

The size and scale of a visual change depends on:

- The scale of the change in view with respect to the loss or addition of features in the view and changes in its composition, including the proportion of the view occupied by the Development;
- The degree of contrast or integration of any new features or changes in the view with the existing elements in the view and their characteristics in terms of form, scale and mass, line, height, colour, texture and lighting; and
- The nature of the view of the Development, in terms of the relative amount of time over which it will be experienced along routes and whether views will be full, partial or glimpses.

All changes to views are considered as they will occur in winter conditions[26], being the maximum case situation with minimal screening by vegetation and deciduous trees. Wirelines and ZTV maps are calculated on the basis of bare ground and therefore also demonstrate the maximum extent of visibility possible, in the absence of buildings or vegetation.

Given that wind farms currently exist in the study area, the scale and size of change also considers the relationship between the Development and other wind farms in the landscape, including consideration of:

- The arrangement of wind farms in the view, e.g. developments seen in one direction or part of the view (combined views), or seen in different directions (successive views in which the viewer must turn) or developments seen sequentially along a route;
- The relationship between the scale of the wind farms, including turbine size and number;
- The position of the wind farms in the view, e.g. on the skyline or against the backdrop of land; and
- The distances between wind farms, and their distances from the viewer, and
- How the Development fits with the pattern of wind farm development visible.

It should be noted that the assessment considered the differences in turbine sizes between wind farms in terms of their appearance from each assessment location, rather than relying on comparisons in numerical terms.

The geographical extent of visual changes records the extent of the area over which the changes will be visible, *e.g.* whether this is a unique viewpoint from where the Development can be glimpsed, or whether it represents a large area from which similar views are gained. Some viewpoints used in the assessment have been selected to represent typical views from wider areas; others have been selected as specific views. The geographical extent of the visual effect is defined in each case.

The duration of changes to views is taken as being short-term for construction and decommissioning effects and long term for operational effects.

Size/scale, geographical extent and duration/reversibility are combined to form a judgement as to the overall magnitude of the visual change, recorded as high, medium, low or negligible. Magnitude of change is described based on an evaluation of criteria such as those set out in the table below, using professional judgement to balance several factors that may raise or lower the magnitude judgement. 'High' is assigned to a change that meets the criteria indicating higher changes, or where one or more criteria are considered to be sufficiently important to outweigh other 'lower' criteria. 'Low' or 'negligible' is assigned to receptors where criteria fall into the lower part of the scale, 'medium' is assigned to receptors where criteria are mixed or of intermediate levels.

[26] Winter conditions without snow cover.

Table A6.1.5: Magnitude of Change to the Visual Resource

Criteria tending towards Higher or Lower Magnitude of Change		
	Higher ⟷ *Lower*	
Scale	Development is large in the view; Large proportion of the view affected.	Development forms a small feature in the view; Small proportion of the view affected.
Geographical Extent	Large areas affected by change; Changes perceived as close to the receptor; Changes viewed over prolonged section(s) of a route.	Limited area affected; Changes perceived as distant from receptor.

6.1.6.3 Judging the Levels of Landscape Effect and Significance

As for landscape effects, visual effects are judged on the combined aspects of susceptibility, value, size and scale, geographical extent, duration and reversibility. In the same way, four main levels of effect are used, major, moderate, minor and negligible. Major and moderate effects that are considered to be significant in the context of EIA regulations.

The table below sets out various criteria and descriptions that are used to guide judgments as to the level of effect.

Table A6.1.6: Levels of Effect - Visual

Criteria tending towards Higher or Lower Effect			
⟷			
Major	*Moderate*	*Minor*	*Negligible*
HIGHER LEVEL OF EFFECT Effects on people who may be particularly sensitive to changes in views/ visual amenity, or at recognised viewpoints or from recognised scenic routes. Large scale changes which introduce new, non-characteristic or discordant or intrusive elements into the view. These may be long term/ irreversible effects.		LOWER LEVEL OF EFFECT Effects on people who are generally less sensitive to changes in views/ visual amenity. Small changes or changes which are well integrated into the view, often involving features already present in the view. These may be reversible effects or of short duration.	
Significant		Not Significant	
The development results in substantial changes in the view, and may become a defining influence or key focal point in the view.	The development results in clearly visible changes to the view, and may form an important but not defining element of the view.	The development results in slight changes to the view, and is neither dominant nor prominent, but is visible in the view.	The development results in hardly perceptible changes to the view, may go unnoticed as a minor element in the view, or is not visible.

6.1.7 Assessment of Cumulative Effects

6.1.7.1 The Aim of Cumulative Assessment

The methodology for the CLVIA is similar to that of the LVIA as set out above, although it focuses on the role played by the Development amongst other wind farms.

The key difference between LVIA and CLVIA is that some of the wind farms in the cumulative baseline do not currently exist. The judgements made in the LVIA are made in the context of the landscape, all its features and characteristics, the existing nature,

quality and type of available views etc. that exist at the time of the assessment, and therefore includes all existing wind farms. The way in which the Development relates to existing wind farms is set out in the LVIA, and the cumulative effect of this 'scenario' forms an element of the LVIA. In this sense the LVIA represents the 'first level' of a cumulative assessment (that which would consider introducing the Development into the landscape in the context of existing wind farms). There is no assessment of the Development on its own (or 'solus') without the existing wind farms as it is not meaningful to imagine a baseline without any wind farms.

The 'next levels' of the CLVIA include wind farms that may be consented but not yet built and those that may be undetermined applications (including those under appeal). These possible future developments are assumed to be present for the purposes of CLVIA. In the consideration of cumulative effects, particular attention is given to the relationships between wind farms in the cumulative baseline, and how those relationships will change with the addition of the Development.

The aim of the CLVIA is to "describe, visually represent and assess the ways in which a proposed windfarm would have additional impacts when considered together with other existing, consented or proposed windfarms"[27]. In accordance with the guidance, this assessment considers different cumulative scenarios, in addition to the existing baseline scenario that is considered in the LVIA, to include:

- Consented Scenario: the addition of the Development in the context of operational, under construction and consented wind farms, i.e. a likely future scenario; and
- In-Planning Scenario: the addition of the Development in the context of operational, under construction, consented, undetermined planning applications and wind farm developments currently at appeal, *i.e.* a less certain future scenario.

6.1.7.2 The Stages of Assessment

The assessment of effects in the CLVIA includes a range of components or types of effect that must be identified in order to inform the decision maker on what 'contribution is made by' or 'role played by' the Development in the context of the overall accumulation of windfarms in the study area. Therefore, it considers both additive effects (which might be seen as quantitative effects) and 'overall' or 'in the round' effects (which might be seen as qualitative effects). Logical analysis and reasoning need then to be applied to judge the significance of the effect. To undertake a CLVIA further information is required to inform the assessment and further professional judgements will be necessary as part of the assessment.

Further information required for the CLVIA includes:

- Preparation and analysis of cumulative ZTVs that focus on those areas where significant effects are most likely, and those schemes with which significant effects are most likely;
- Information setting out the differing baseline scenarios against which judgement are made;
- Analysis of existing and / or emerging patterns of windfarm development in the landscape;
- Information regarding:
  - The directions of view in which the development is visible in context of other developments;
  - Proximity of the development to viewer and relative to other developments;

[27] Scottish Natural Heritage (2012) Assessing the Cumulative Impact of Onshore Wind Energy Developments

- Composition, setting, scale and size of developments and how the Development compares with these; and

- Visualisations (wireframes) showing the Development relative to other schemes.

The cumulative wind farms are shown on visualisations, in accordance with NatureScot[28] and THC[29] guidance.

Taking a precautionary approach, the sensitivity of receptors used for the cumulative assessment is taken to be the same as that identified in the LVIA.

6.1.7.3 Identification of Scope

The process for identifying wind farms to be considered in detail in the CLVIA excluded single wind turbines of less than 50 m to blade tip height. Wind farms within 40-45 km of the Development were reviewed, with data collected for wind farms within 25 km. The assessment focussed on those with the potential to have significant cumulative relationships with the Development.

Wind energy developments at scoping stage are not normally included in the assessment due to the uncertainty of layout or application, except where they are particularly close to the proposed site.

6.1.7.4 Levels of Effect

The levels of cumulative effect are set out as major, moderate, minor or negligible using the same considerations as the LVIA methodology set out above. They also consider the changing relationships between wind farms as per the following descriptions. Major and moderate effects are considered to be significant in the context of the EIA Regulations.

- Major: Substantial changes affecting the character of the landscape or views. The Development plays a determining role in altering the sense of wind energy development in the surrounding area;
- Moderate: Changes affecting the character of the landscape or views. The Development plays a contributing role to the overall level of effect in combination with one or more other windfarms;
- Minor: Slight changes affecting the character of the landscape or views. The Development adds to the relationships set up by the other wind farms, but plays a medium-minor role in the sense of wind energy development in the surrounding area experienced by the receptor; and
- Negligible: No or minimal perceptible changes affecting the character of the landscape or views. No change to the baseline, or no alteration to the sense of the relationships between wind farms in the surrounding area as a result of the Development. Note that this includes no impact.

The levels of effect identified in the cumulative scenarios are compared with the effects identified in the LVIA (the existing scenario), by means of description, which sets out whether the change in baseline means there will be a different relationship between wind farms, and the role which the Development will play in the perception of wind farms surrounding the viewpoint or becoming characteristic of a landscape area.

Combined or synergistic effects, effects for which the overall change is greater than the sum of the parts, are relevant for cumulative relationships between wind farms where there may be, for example, a number of discrete wind farms, which together create the sense of a group or band of wind farms across the landscape. These types of effects are discussed in the LVIA and the cumulative assessment, and are considered using a series

[28] Scottish Natural Heritage (2017) Visual Representation of Windfarms, Version 2.2.

[29] The Highland Council (2016) Visualisation Standards for Wind Energy Developments.

of thresholds or levels to indicate the degree to which the area is characterised by wind energy development and the patterns of development, including:

- A landscape with occasional wind farms: wind turbines or wind farms are seen as separate isolated features within the landscape character type, too infrequent and of insufficient significance to be perceived as a characteristic of the area;
- A landscape with wind farms; wind turbines or wind farms are seen as a key characteristic of the landscape, but not of sufficient dominance to be a defining characteristic of the area; and
- A wind farm landscape: wind turbines or wind farms appear as a dominant characteristic of the area.

A significant in-combination cumulative effect will be one in which the introduction of the Development will cause a change from one level to the next. Not significant effects are those in which the introduction of the Development may cause an increase in the perceptions of wind farms in the landscape, but will not alter the degree to which the area is characterised by wind energy development (using the levels set out above).

6.1.8 Implications of Effects for Designated Landscapes

The implications for designated landscapes as a result of the Development are considered against the values, aims and/or special qualities of the designated areas. This section, at the end of the chapter, does not draw conclusions about *effects on designated areas*. This is to avoid double counting of effects over the same areas of landscape as the landscape assessment, or the same views as the assessment of effects on views and visual amenity. Instead, the section aims to draw out which effects (identified in the assessment sections) would affect the qualities of the area and potentially the reasons for which it was designated.

6.1.9 Assessment Limitations

Limitations to the LVIA include a reliance on bare-ground modelling for wireframes and ZTVs used in graphics, which does not take account of potential screening by buildings and vegetation. The theoretical visibility indicated by the bare-ground models is therefore an over-estimation of visibility. Actual visibility is described for receptors, and is illustrated in photomontages. Whilst this issue has been identified, it is considered that there is sufficient information to enable an informed decision to be taken in relation to the identification and assessment of likely significant effects on landscape and visual amenity.

It should be noted that illustrations and modelling cannot replace the need for site visits and can only be used to represent what people may see from the viewpoint. Whilst accuracy of modelling is essential, modelling can only be as accurate as the data used, and cannot be used to replace field visits.

Limitations to the cumulative assessment include the uncertainty of whether the proposed wind farms will be built in the future. This includes consented schemes that may or may not be built. The assessment also relies on currently available data, and it should be noted that the locations and specifications of turbines may change for proposed and consented schemes before they are actually built, through redesign and/or micro-siting.

Limitations and delays to fieldwork for the LVIA included the lockdown measures imposed for the Covid-19 pandemic (March – June 2020), but all field was completed after restrictions were eased. However, as a response to the pandemic restrictions, the assessment of potential effects on residential properties was undertaken from the closest publicly accessible points to the properties. No properties were inspected internally, nor

were photographs taken of the properties. This was considered to be the appropriate response to Covid 19 pandemic restrictions.

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6.2 APPENDIX A6.2: VIEWPOINT SELECTION

The selection of viewpoints for assessment in the Landscape and Visual Impact Assessment (LVIA) was determined through consultation, both through the Scoping Reports of April 2019 and October 2019, and consultation directly with the Highland Council (THC) and NatureScot[30]; as set out in Table 6.1 of Chapter 6 in Volume 1 of the EIA Report.

6.2.1 Viewpoints included in the Assessment

Table 6.5 of Chapter 6 in Volume 1 of the EIA Report sets out details relating to viewpoint locations selected for inclusion in the LVIA.

6.2.2 Viewpoints omitted from the assessment

The table below sets out details relating to other potential viewpoint locations considered during the viewpoint selection process but not included in the LVIA.

Table A6.2.1: Viewpoint Locations Omitted from the LVIA

Location	Reasons for Omission
A836 Cnoc Craggie	Distant viewpoint with a glimpse of turbine tips only.
A836 Bettyhill – Armadale	More distant glimpsed view from the A836, with few places to stop (few places where road users stop). Omitted in favour of representation by VP7 Strathy Point and VP6 Portskerra.
Sandside Bay Harbour	Not within the ZTV. Views from nearby represented by VP3 within Reay.
Melvich Post Office	No clear view, but glimpses can be represented by VP6 Portskerra.
A836 outside Melvich Hall	View represented by VP6 Portskerra and VP5 Melvich.
A836 at Sutherland/ Caithness boundary, or path to Bighouse	Views close to the site represented by VP4 at the junction to Bighouse.

[30] Scottish Natural Heritage (SNH) rebranded in August 2020 as NatureScot. Where relevant reference is still made to SNH within this chapter in respect of guidance which remains valid and is yet to be republished etc.

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6.3 APPENDIX A6.3: RESIDENTIAL VISUAL AMENITY ASSESSMENT

6.3.1 Introduction

This study provides an assessment of the effects on the visual component of residential amenity from local residential properties that is likely to result from the introduction of the Development.

The residential visual amenity assessment (RVAA) is intended to assist the decision maker in a judgement as to the overall impact of the Development on residential amenity. This assessment explicitly does not consider or provide information on other components of residential amenity, such as noise, dust, shadow flicker etc., and therefore needs to be read alongside other sections of the Environmental Impact Assessment (EIA) Report which cover these subjects.

It is normal to expect a number of significant effects (in EIA terms) on views and visual amenity from local residential properties as a result of introducing a wind farm in any landscape. For properties experiencing a high magnitude of visual change, this study considers the potential effects on the visual component of 'Residential Amenity' or 'Living Conditions'.

All Figures referenced in the Appendix are found in Volume 2 of the EIA Report.

6.3.2 Methodology

The Landscape Institute (LI) has recently published guidance on RVAA[31], upon which this RVAA is based.

The LI guidance sets out a four-staged process including:

- Identifying the scope of the assessment and properties to be considered;
- Evaluating the baseline visual amenity of the properties;
- Assessing changes as a result of the introduction of the development; and
- Judging whether the nature and scale of the effect likely to be experienced is potentially so great so as to reach what in the guidance is called a 'Residential Visual Amenity Threshold'. If this is the case then such effects should be considered as part of the planning judgement.

The LI guidance supports landscape architects in forming their judgements of the effects on visual amenity at residential properties. Incorrectly these judgements were formerly referred to as the 'Lavender Test', but there is no such formal planning test. The LI guidance sets out that the role of the landscape architects should be limited to advising planners as to whether or not visual aspects of residential amenity should be considered in the planning balance.

This RVAA is set out following the stages of assessment outlined above.

Field surveys were undertaken in November 2019 and July 2020 in order to identify the orientation and likely views from each property (including main aspects and direction of windows); layout and orientation of the external spaces and gardens associated with the property curtilage; likely views from private or shared driveways or access tracks; and composition type and experience of existing views from each property. The field surveys considered local variations in topography, tree cover and potential screening by buildings within the landscape.

The assessments were undertaken from the closest publicly accessible points to the properties. No properties were inspected internally, nor were photographs taken of the

[31] Landscape Institute (March 2019) Residential Visual Amenity Assessment (RVAA). Technical Guidance Note 2/19.

properties. This was considered to be the appropriate response to Covid 19 pandemic restrictions in 2020.

Visualisations are provided for each property in the form of wirelines set up to be equivalent to the panoramic view with 65.5° horizontal angle on A3 as per Highland Council visualisation standards[32].

6.3.3 Identification of the Scope of Assessment

The LI guidance[33] suggests that the scope of assessments should be identified on a case-by-case basis, but that for conspicuous structures such as wind farms an initial study area of 1.5 - 2 km radius may be appropriate (as a potential upper limit to the extent of the study area).

Properties within 2 km of the Development turbines are shown on Figure 6.27, and include:

- Ackron Farm;
- Golval Farm;
- Bridge House;
- Kirkton Farm and Cottage;
- Ar Dachaidh; and
- A new house at Loch Earacha (under construction).

Ackron and Golval Farms are involved properties associated with the Development, and as such are not considered further.

A number of additional properties are over 2.5 km from the Development. These properties, whilst not being assessed for residential visual amenity effects, can be represented by VP 5 at the southern end of Melvich or VP8 within Strath Halladale.

The RVAA therefore considers the following properties:

- Property 1: Bridge House;
- Property 2: Kirkton Farm;
- Property 3: Kirkton Cottage;
- Property 4: Ar Dachaidh; and
- Property 5: A new house at Loch Earacha.

6.3.4 Assessment of Effects on Residential Visual Amenity

This section outlines, for each property, the existing visual amenity, the likely changes as a result of the introduction of the Development, and an assessment of visual effects judging whether the nature and scale of the effect likely to be experienced is potentially so great so as to reach what in the guidance is called a 'Residential Visual Amenity Threshold', referenced in Section 6.3.2 of this appendix.

6.3.4.1 Property 1: Bridge House

Approximate OS Grid Reference: 289341 963084	Figure 6.28a
Distance to nearest turbine: 1.70km (Turbine 2)	Primary outlook: east
Potential No. of turbines visible: 12 hubs, 12 tips	Direction of view to the Site: east-south-east

Description of Property, Context and Existing Views: This property is located to the south of the A836 to the west of the Halladale River. There are two buildings, the

[32] The Highland Council (2016) Visualisation Standards for Wind Energy Developments.

[33] Landscape Institute (March 2019) Residential Visual Amenity Assessment (RVAA). Technical Guidance Note 2/19.

main one is L shaped, with the main façade outward looking to the east. There are windows on the south facing side. The north and west facades face the yard area. It is a single storey building with windows in the roof on the east facing side and solar panels on the south facing roof. The property is slightly elevated with no vegetation that screens views eastwards or south-eastward. The approach from the A836 is short but open except for gorse growing along the roadsides. An outbuilding is located a little to the west.

Changes to Views and Visual Amenity: The Development will be visible from the property as an array of turbines across the strath, on the moorland slopes and horizon opposite. It will be within the primary viewing direction from the property. The turbines will be tall structures on the moorland at a higher elevation than the property.

Given the openness of views, it is judged that the magnitude of change to the views and visual amenity will be high and the visual effect will be significant (major).

Conclusion with Respect to the RVAA Threshold: This property will have open views of turbines nearby. The turbines will be large and close, but will be on the far side of the Strath. It is judged that they will not be so dominant as to become overbearing to the extent that they will make this property an unattractive place in which to live. It is judged, therefore, that the RVAA threshold will not be reached.

6.3.4.2 Property 2: Kirkton Farm

Approximate OS Grid Reference: 289027 961914	Figure 6.28b
Distance to nearest turbine: 1.94km (Turbine 2)	Primary outlook: east
Potential No. of turbines visible: 12 hubs, 12 tips	Direction of view to the Site: east

Description of Property, Context and Existing Views: Kirkton Farm lies along a track south of the A836, on the west side of Strath Halladale, opposite Golval. The Farmhouse is at 289027 961914, to the south of the group of agricultural buildings that make up the farm. The primary outlook from the property is eastwards across the Strath. The property is slightly elevated with no vegetation that screens views eastwards or south-eastwards, although there are a few trees immediately south and buildings to the north. The approach to the property is along a private track from the A836 past the gravel pits. Views from the track are open, and include the quarry workings, the Calgarry substation and views of the domestic scale turbines at Ackron Farm.

Changes to Views and Visual Amenity: The Development will be visible from the property as an array of turbines across the strath, on the moorland slopes and horizon opposite. The turbines will be tall structures on the moorland approximately 2 km away. It will be within the primary viewing direction from the farmhouse.

Given the openness of views from Kirkton Farmhouse, although the quarry workings and Calgarry substation are visible from the approach to the property, it is judged that the magnitude of change to the views and visual amenity will be high and the visual effect will be significant (major).

Conclusion with Respect to the RVAA Threshold: This property will have open views of turbines nearby. The turbines will be large, but will be on the far side of the Strath. It is judged that they will not be so dominant as to become overbearing to the extent that they will make the property an unattractive place in which to live. It is judged, therefore, that the RVAA threshold will not be reached.

6.3.4.3 Property 3: Kirkton Cottage

Approximate OS Grid Reference: 288984 962053	No figure (refer to Figure 6.28b)
Distance to nearest turbine: 1.95km (Turbine 2)	Primary outlook: south

Potential No. of turbines visible: 12 hubs, 12 tips Direction of view to the Site: east

Description of Property, Context and Existing Views: Kirkton Cottage lies to the north of the farm buildings at Kirkton Farm. It is surrounded by trees and garden vegetation such that there are limited views in to the property from the track, and limited views out from the property. It is orientated with a primary outlook southwards, with an approach from the rear (north) and a garden space to the south. There are no windows on the east façade of the building, but there is a porch structure on the south façade.

The approach to the property is along the private track from the A836 past the gravel pits, shared with Kirkton Farm. Views from the track are open, and include the quarry workings, the Calgarry substation and domestic scale turbines at Ackron Farm.

Changes to Views and Visual Amenity: The Development will theoretically be visible from the property as an array of turbines across the strath, on the moorland slopes and horizon opposite. However, they will not be in the primary viewing direction, and will be screened by vegetation within the curtilage of the property. The magnitude of change to views from the property are judged to be low. The visual effect is judged to be not significant (minor). The RVAA threshold will not be reached.

6.3.4.4 Property 4: Ar Dachaidh

Approximate OS Grid Reference: 289019, 961708 Figure 6.28c

Distance to nearest turbine: 2.01km (Turbine 2) Primary outlook: east

Potential No. of turbines visible: 12 hubs, 12 tips Direction of view to the Site: east

Description of Property, Context and Existing Views: Ar Dachaidh is a relatively new house located to the south of Kirkton Farm. The primary outlook from the property is eastwards across the Strath, although a pair of French doors open onto a small terrace on the south side. The property is slightly elevated with no screening vegetation in the garden space.

The approach to the property is along the track from the A836 past the gravel pits, and though Kirkton Farm. Views from the track are open, and include the quarry workings, the Calgarry substation and domestic scale turbines at Ackron Farm.

Changes to Views and Visual Amenity: The Development will be visible from the property as an array of turbines across the strath, on the moorland slopes and horizon opposite. The turbines will be tall structures on the moorland approximately 2km away. It will be within the primary viewing direction from the property.

Given the openness of views from Ar Dachaidh, it is judged that the magnitude of change to the views and visual amenity will be high and the visual effect will be significant (major).

Conclusion with Respect to the RVAA Threshold: The property will have open views of turbines nearby. The turbines will be large, but will be on the far side of the Strath. It is judged that they will not be so dominant as to become overbearing to the extent that they will make the property an unattractive place in which to live. It is judged, therefore, that the RVAA threshold will not be reached.

6.3.4.5 Property 5: New House by Loch Earacha

Approximate OS Grid Reference: 289850 960940 Figure 6.28d

Distance to nearest turbine: 1.62km (Turbine 7) Primary outlook: south-west

Potential No. of turbines visible: 0 hubs, 12 tips Direction of view to the Site: north-east

Description of Property, Context and Existing Views: This is a new property adjacent to the A897 at Loch Earacha south of Golval. It was under construction and was not occupied at the time of field visits. Architectural plans on the council planning portal call it the Sweeting House, and it will have a south facing principle aspect, taking advantage of views over the loch and south along Strath Halladale. It is an open site, with no vegetation for screening.

Changes to Views and Visual Amenity: The Development will be visible from the property as an array of turbine blades on the horizon to the north of the property. This will be towards the rear of the property, on the moorland skyline. It will not affect the principle views from the property.

Given the principle direction of the property away from the Development to the south, it is judged that the magnitude of change to the views and visual amenity at the property will be medium and the visual effect will be significant (moderate).

Conclusion with Respect to the RVAA Threshold: The turbine blades will be seen on the horizon behind the property. Although they will be nearby, it is judged that they will not be overbearing to the extent that they will make this property an unattractive place in which to live. It is judged, therefore, that the RVAA threshold will not be reached.

6.3.5 Assessment Summary

There are five uninvolved properties within approximately 2 km of the Development turbines. These properties will have generally open views of the Development from the buildings, curtilages and approaches. However, the Residential Visual Amenity Threshold will not be reached at the properties assessed.

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6.4 APPENDIX A6.4: WILD LAND ASSESSMENT

6.4.1 Introduction

This Technical Appendix sets out the assessment of potential effects of the Ackron Wind Farm (the Development) on the East Halladale Flows Wild Land Area (WLA 39). The Development is not located in the WLA but lies close to the northern boundary of the WLA as shown on Figure 6.5. There are three other WLAs within 40km of the Site, but these have been scoped out of the assessment due to distance and limited ZTV coverage[34].

The East Halladale Flows WLA is made up of open sweeping moorland and flat peatland, with undulating landform and occasional hills. It extends from Strath Halladale in the west to Ben Dorrery in the east, and Aultnabreac Forest in the south. The northern boundary is a line of transmission pylons south of the A836 and Limekiln Forest in the north-west.

All Figures referenced in the Appendix are found in Volume 2 of the EIA Report.

6.4.2 Relevant Background

6.4.2.1 Identification of Wild Land by NatureScot[35]

WLAs have been identified by NatureScot in reference to:

- Perceived naturalness of land cover;
- Ruggedness of the terrain which is therefore challenging to cross;
- Remoteness from public roads, ferries or railway stations; and
- Visible lack of buildings, roads, pylons and other modern artefacts.

Search Areas for Wild Land were published in 2002[36], and were analysed against the key wildness characteristics set out above in 2012. This analysis led to the publication of Core Areas for Wild Land in 2013[37], which were refined as WLAs in 2014[38].

The methodology used for the mapping of Scotland's wildness and wild land[39] notes that in mapping the lack of built modern artefacts, a distance of 30 km was used in analysing visibility of existing wind turbines at that time. This indicates that visibility of wind farms was taken into account in identifying WLAs, and that wind turbines may potentially have an effect on the wildness of WLA, if located within 30 km of them. However, it is also noted that the boundary of WLA 36 Causeymire and Knockfin Flows comes to within 1.1 km of Causeymire, and 0.9 km of Buolfruich, both of which were extant in 2014, and that Baillie and Forss Wind Farms were extant at the time when the East Halladale Flows was defined. This indicates that wildness qualities were considered to be sufficient, even within this proximity to existing wind farms, for these areas to be defined as wild land.

6.4.2.2 Preceding Cases

The Site is close to the sites for Drum Hollistan 1 (750 m east[40]) and Limekiln 2 (4.9 km east, shown on Figure 6.8).

[34] The scope of the wild land assessment was agreed by NatureScot in April 2020.

[35] Scottish Natural Heritage (SNH) rebranded in August 2020 as NatureScot. Where relevant reference is still made to SNH within this chapter in respect of guidance which remains valid and is yet to be republished etc.

[36] Scottish Natural Heritage (2012) Mapping Scotland's Wildness.

[37] Scottish Natural Heritage (2013) Core Areas of Wild Land in Scotland 2013.

[38] Scottish Natural Heritage (2014) Wild Land Areas 2014.

[39] Scottish Natural Heritage (2014) Assessing effects on wild land and wildness – second update 2014

[40] The Drum Hollistan 1 site included Drum Hollistan 2 (shown on Figure 6.8), and more turbines to the north and north-west closer to the A836.

Drum Hollistan 1 was refused at appeal on the basis of landscape and visual effects, and the Report to the Scottish Ministers dated 16 October 2018 states that "*there would be significant adverse effects upon parts of wild land area 39, which is an additional negative aspect of the proposal, but it would retain its overall integrity*" and "*The wild land effects contribute further to this finding but in isolation we do not consider the effect upon WLA 39 to be so great as to justify refusal*"[41].

Limekiln 2 Wind Farm was consented[42] on the same date following revision to the layout and a second application (and appeal, conjoined with Drum Hollistan 1). Effects on wild land were again a key concern, with the Reporters stating that "*For the overall integrity of WLA 39 to be compromised, we consider adverse effects upon wildness would need to be more widespread, and/ or they would need to reduce the highest strength of wildness available anywhere within its boundary. We are left in no doubt that Limekiln 2 would have a significant effect upon a large proportion of this area of strongest wildness (which would be intensified further in a cumulative scenario where Drum Hollistan was to also exist), but the ability to experience this same level of wildness would not be lost from WLA 39 altogether, whether considered in isolation or cumulatively with Drum Hollistan*"[43].

Given the proximity of the Site, adjacent to the west of Drum Hollistan 1 Wind Farm[44], and the exposed nature of the landscape around the two sites, effects on wild land are likely to be an important matter for the Development.

6.4.3 Policy Context

The National Planning Framework (NPF3, 2014[45]) and Scottish Planning Policy (SPP, 2014[46]) recognise wild land as an asset of national importance. The Development will be positioned wholly outside the boundary of WLA 39, and consequently, the provisions of SPP relating to development within wild land do not apply. SPP identifies the effects on wild land as a relevant consideration in wind farm proposals in paragraph 169. It goes on to state in paragraph 200 that wild land is "*very sensitive to any form of intrusive human activity and have little or no capacity to accept new development*", and in paragraph 215 that "*In areas of wild land (see paragraph 200), development 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*".

Further analysis of the policy context for wild land is set out in the accompanying Ackron Wind Farm Planning Statement.

6.4.4 Methodology

Early guidance on the assessment of effects on wild land focussed on how the development would affect the physical and perceptual wildness characteristics which were used to identify Wild Land Areas[47]. This was updated with draft guidance in 2017[48] to reflect the publication of the Wild Land Area descriptions[49] for each Wild Land Area,

[41] Inquiry Report in respect of Drum Hollistan Wind Farm (WIN-270-9) dated 16 October 2018.

[42] Referred to as 'Limekiln Wind Farm' in the cumulative assessment.

[43] Inquiry Report in respect of Limekiln 2 Wind Farm (WIN-270-8) dated 16 October 2018.

[44] Drum Hollistan 2 is a new application on a similar site to Drum Hollistan 1, and is considered in the cumulative assessment.

[45] Scottish Government (2014) Scottish Planning Policy.

[46] Scottish Government (2014) National Planning Framework 3.

[47] Scottish Natural Heritage (2014) Assessing effects on wild land and wildness – second update 2014.

[48] Scottish Natural Heritage (2017) Scottish Natural Heritage consultation on draft guidance: Assessing impacts on Wild Land Areas – technical guidance.

[49] Scottish Natural Heritage (2014) Wild Land Areas

focussing more on how the development affects the physical attributes and perceptual responses, described collectively as the wild land qualities[50] of the individual wild land area, rather than the more generic wildness characteristics, although these are still considered. Current guidance, published by NatureScot in September 2020[51], is broadly similar to the 2017 methodology, and is used for this assessment.

The assessment methodology considers the potential effects on the physical attributes of, and perceptual responses to wild land, using the wild land qualities set out in the published wild land area descriptions. The guidance sets out a number of steps:

- Step 1 – Define the study area and scope of the assessment;
- Step 2 – Verify the WLA baseline
- Step 3 – Assess the sensitivity of the qualities
- Step 4 – Assess the magnitude of the effects; and
- Step 5 – Judgement of the significance of effects[52].

These steps are followed below.

6.4.5 Step 1 - Study Area and Scope of the Assessment

The initial study area for the LVIA of the Development was an area of 40 km radius. Within this study area there are four WLAs:

- WLA 39 East Halladale Flows, 1.15 km south of the site at its closest point;
- WLA 36 Causeymire – Knockfin Flows, approximately 19 km south;
- WLA 35 Ben Klibreck & Armine Forest, approximately 31 km to the south-south-west;
- WLA 38 Ben Hope & Ben Loyal, approximately 32 km to the west.

WLA 35 Ben Klibreck & Armine Forest and WLA 38 Ben Hope & Ben Loyal are over 30 km from the Site and have very limited areas within the ZTV (see Figure 6.5[53]). WLA 36 Causeymire & Knockfin Flows is approximately 19 km from the Site at its closest point. The ZTV extends to parts of it (generally within 25 km of the Site, see Figure 6.5). Intervening forest around Altnabreac may slightly reduce the actual visibility of distant turbines low on the horizon. It is noted that the existing wind farms of the Causeymire group[54] are closer to the WLA than the Development will be, and it is judged that significant effects on wildness qualities are unlikely to occur. An assessment of effects on this WLA is therefore not considered necessary.

NatureScot, in a consultation meeting on 16 April 2020 were content with the wild land assessment limited to WLA39 East Halladale Flows.

6.4.5.1 WLA 39 East Halladale Flows

WLA 39 East Halladale Flows lies to the south and south-east of the Site with the closest point of its boundary passing 1.15km from the nearest proposed turbine. The WLA extends to 18 km away at the south-eastern boundary along the railway line. Most effects will be experienced closer to the Site, and the ZTV (Figures 6.2 and 6.29a) indicates that the north-western part of the WLA, north-west of the subtle ridge formed by Cnoc Maol Donn – Cnoc an Fhuarain Bhain – Cnoc Bad Mhairtein and on and to the west of the Beinn Ràtha – Sean Airigh ridge will have more visibility (indicated by ZTV coverage across open ground), whilst the rest of the WLA will have visibility only from higher

[50] NatureScot (2020) Assessing Impacts on Wild Land Areas – Technical Guidance. Paragraph 12.
[51] NatureScot (2020) Assessing Impacts on Wild Land Areas – Technical Guidance.
[52] Ibid. page 3.
[53] The edge of WLA 35 is shown in the south-west corner of Figure 6.5, WLA38 is west of the area within the Figure.
[54] Including Causeymire, Bad a Cheo, Achlachan and Halsary Wind Farms.

ground, such as over Beinn nam Bad Mòr and Beag, and more distant fringes (along the southern forested edges).

The assessment will focus on potential effects in the north-western part of the WLA within 8-9 km of the Development, but effects on the remainder of the WLA are also considered.

In identifying the scope of the assessment, the following factors have been considered:

- The ZTV indicates that there will be visibility from much of the north-western part of the WLA limited visibility from the rest of the WLA (*extent of visibility*[55]);
- The Development may affect some of the wild land qualities set out below (*wild land qualities likely to be affected*); and
- Cumulative relationships will occur with existing wind farms Baillie and Strathy North, and with consented wind farms Limekiln, Strathy South, and with in-planning wind farms Drum Hollistan 2 and Limekiln Extension (*the potential for cumulative effects*).

Effects on landscape character and on visual receptors within WLA 39 are considered in the LVIA and include:

- Sweeping Moorland and Flows Landscape Character Type (LCT, see Figure 6.6);
- Viewpoint 9 Beinn Ràtha, Ceann Mòr (Figure 6.20).

Four additional locations were selected to illustrate the assessment of effects on wild land qualities from within WLA 39, as listed in Table A6.4.1. These locations were selected to represent typical views from within the WLA[56].

Table A6.4.1: Additional Viewpoints used to illustrate the Wild Land Assessment

ID	Name	Easting	Northing	Distance (km)	Figure Number
A	Sean Airigh	294733	958777	4.2	6. 30
B	Cnoc Bad Mhairtein	293203	954908	6.9	6. 31
C	Loch na Caorach	291030	958575	3.2	6. 32
D	Beinn nam Bad Mòr	299849	955061	10.5	6. 33

6.4.6 Step 2 - Baseline

The description for WLA 39 East Halladale Flows sets out the key qualities of the WLA as:

1. 'An awe-inspiring simplicity of landscape at the broad scale, with a strong horizontal emphasis, 'wide skies' and few foci;
2. A remote, discrete interior, with limited access and a strong sense of solitude;
3. A rugged and complex pattern of hidden burns, lochans and pools at the local level, despite the landscape's simple composition at the broad scale; and
4. A remarkably open landscape with extensive visibility, meaning tall or high features in the distance are clearly visible'[57].

Fieldwork undertaken between November 2019, July and October 2020 confirmed that these qualities are present in the WLA.

In reference to the description that human artefacts outside the WLA are visible from within the WLA, it is noted that the high voltage power line that runs from the Connagill

[55] NatureScot (2020) Assessing impacts on Wild Land Areas – technical guidance. Paragraph 16.

[56] The viewpoints have not been assessed for visual effects in the same way as those used in the LVIA, but are provided to illustrate character within the wild land area.

[57] Scottish Natural Heritage (2017) Description of Wild Land Area, Area 39 East Halladale Flows Wild Land Area

Substation in Strath Halladale to Reay, the more distant Dounreay UKAEA site, the masts on Ben Dorrery, and Baillie, Forss and Strathy North Wind Farms and the Causeymire group of wind farms are clearly visible from large parts of the WLA (Figure 6.29a illustrates visibility of existing wind farms). The forest plantations outside the WLA to the east and south are visible as dark blocks of forest in contrast to the open moorland. The railway along the southern boundary of the WLA is not visible from within the WLA except from some locations at close proximity, though trains using it are visible. Depending on elevation within the WLA, ranging from higher ground such as Beinn Ràtha (see VP9 and Figure 6.20) and Beinn nam Bad Mòr (Figure 6.33) to much lower elevation areas, actual visibility of external features varies. Figure 6.9 indicates that existing wind farms are visible from almost all the WLA.

There is little access into the area, with a small number of rough tracks that do not traverse the area but go to lochs where there are occasionally small boatsheds/fishing huts. Paths are also very infrequent, and a very limited number of footbridges mean that watercourses form barriers to access. The railway forms a barrier to access into the WLA from the south, with only a few crossing points.

Views into the area are also relatively limited, the most open views are from the A836 near Portskerra and upper Melvich (see Figure 6.17, VP6 Portskerra), where views across Strath Halladale extend some way into the WLA. From Strath Halladale and from other sections of the A836 views extend up to the edge of the WLA (i.e. the horizon within Strath Halladale) but not into the WLA. Views from elsewhere also tend to be limited, from the north-east around Reay and Forss Beinn Ràtha forms the horizon, and whilst this is within the WLA, prevents views into the interior. Ben Dorrery is perhaps the most readily accessible viewpoint from which to look into the WLA (VP13, Figure 6. 24). Views from the train on the railway line to the south of the WLA provide brief glimpses in passing through forested areas.

Generally, the key qualities for the WLA 39 East Halladale Flows are weaker around the edges of the WLA where external features such as forest plantations, wind farms or settled areas are more apparent and there is a sense of proximity to them. However, it is not possible to define a 'discrete' interior area as there are no sizeable areas without some views of turbines or forest or tracks and no pronounced horizons or boundaries within the area. However, the most remote areas occur over 2-3 km from the boundaries where external features such as wind farms and forest plantations are at a greater distance and tracks are further away or have been part of a very long journey into the area. In the north-western part of the WLA views include Strathy North Wind Farm and the settled coastal area of Melvich and Portskerra; the south-eastern part of the WLA includes views of the Causeymire group of windfarms; and the higher ground over Beinn nam bad Mòr and Beag and Beinn Ràtha gives greater visibility over external man-made features or land uses. These areas therefore have a sense of being less remote than other parts of the WLA.

6.4.7 Step 3 - Sensitivity

WLA 39 is wholly covered by the Sweeping Moorland and Flows LCT, though it borders on Strath (Caithness and Sutherland) LCT in Strath Halladale. Sweeping Moorland and Flows LCT was judged in Chapter 6: Landscape and Visual Impact Assessment (the LVIA) to be low to medium sensitivity. These judgements took account of all landscape characteristics, including those that contribute to wildness qualities, and the presence of high voltage power lines, forest plantations, and existing wind farms.

The sensitivities of the key qualities of the WLA to development are set out in the assessment tables below. These recognise that whilst the WLA is not well visited, the WLA is sensitive to changes in attributes and character.

6.4.8 Steps 4-5 - Assessment of Effects

The Existing Scenario

The baseline for the LVIA includes existing wind farms (see Figure 6.29a):

- Strathy North on the open moorland to the west, across Strath Halladale but which is perceived as a continuation of the open moorland from many locations;
- Baillie to the north-east with the Forss group on the coast, perceived as being in more settled landscapes; and
- The Causeymire group in the distance to the south-east beyond the forest around Altnabreac and on the Causeymire-Knockfin Flows moorland that from some locations appears to be a continuation of this WLA.

6.4.8.1 Visibility across the WLA

The Development will be visible from much of the north-western part of the WLA to approximately 8-9 km away as shown on Figures 6.5 and 6.29a. The ZTV indicates that the turbines (to blade tip) will be visible from the top and west facing slopes of the Beinn Ràtha – Sean Airigh ridge (approximately 4-6 km away from the Development, see viewpoints VP9 (Figure 6.20); VPA Figure 6.30; and VPC Figure 6.32), and southwards to the subtle ridge formed by Blàr Mòr, Cnoc Bad Mhairtein and Cnoc an Fhuarain Bhàin (approximately 6-9 km away from the Development, see viewpoint B, Figure 6.31). Visibility will also extend along the north-west facing slopes of Cnoc Maol Donn.

In the remainder of the WLA, there will be more limited visibility, from elevated ground on Beinn Nam Bad Mòr (Viewpoint D, Figure 6.33), and Creag na Criche near forest plantations along the southern boundary. There will be more limited visibility, of a few tips only and no hubs from over Bad nam Bò and along the southern edge of the WLA south of the Cnocloisgte Water (compare Figures 6.5 and 6.4).

6.4.8.2 Landscape and Visual Effects with the Existing Baseline (LVIA)

It is noted that in the LVIA that the effect on landscape character of the LCT 134 Sweeping Moorland and Flows was judged to be significant (major) within 2-3 km of the Development, reducing to significant (moderate) with distance up to 5-7 km at most in the west and south. Beyond 7 km, effects were judged to be not significant. The assessment of effects on landscape character considered all aspects of landscape character, including wildness characteristics and the presence of existing wind farms.

In respect to visual effects, Viewpoint 9 of the LVIA, located on Beinn Ràtha, Ceann Mòr was assessed and found to have significant (major) visual effects Figure 6.20). As stated in Chapter 6 (Section 6.7, Viewpoint 9), the views south and west from this elevated location are over the extensive open moorland that makes up the wild land. There is little access across the extensive moorland seen from Beinn Ràtha, and the moorland has boggy areas that are riddled with ponds in places increasing the difficulty of the terrain that otherwise appears smooth. There are few foci in these views inland from Beinn Ràtha, though they include distant forest plantations and Strathy Wind Farm in front of distant mountains. The views north and north-east from Beinn Ràtha are very different, towards forest plantations and settled coastal landscapes. The wild land qualities are therefore perceptible at this location, although it is elevated above the undulating moorland flows, and has views out towards settled landscapes.

Views from the north-western parts of the WLA that are within the ZTV (see Figure 6.5 or 6.29) will include the Development as an array of turbines at the northern edge of the WLA. It will be seen over the moorland horizon with varying degrees of screening by landform (depending on the elevation of the viewer) but visible and prominent in those

views from within the ZTV within approximately 6-7 km. From elevated locations where the Development will be more visible there is also more visibility of Strathy North Wind Farm and Melvich/Portskerra. Visualisations from within the WLA are provided in Figures 6.20 and 6.30 to 6.32 (viewpoints 9 and A-C). The Development will be a set of large modern artefacts close to the northern edge of the WLA, and will influence the views northwards from these locations. From Viewpoints A Sean Airigh (Figure 6.30) and C Loch na Caorach (Figure 6.31), the turbines of the Development will be seen beyond the horizon created by Druim an Laraidh and the low knolls around Caol Loch. From these locations there is sufficient sense of the settled landscapes beyond (in the form of views into Strath Halladale and to Melvich/Portskerra) that there is a sense of 'edge' to the wild land (in the form of not only the pylon line but also the drop of the landform). The Development, being over this horizon, reads as outside the WLA. From viewpoint B Cnoc Bad Mhairtein (Figure 6.31), there is less of a sense of where the edge of the wild land is, although the pylon line is visible. From this viewpoint the Development will be seen beyond a land horizon set back from the middle distance view of moorland and lochs (in particular the Smigel Burn and Loch na Seilge).

It should be noted that views in other directions from each of these viewpoints (A-C, Figure 6.31-6.32) will not be affected, and that views south from these locations tend to be towards wilder landscapes away from the coast.

From viewpoint D Beinn nam Bad Mòr (Figure 6.33), representing an elevated view from the remainder of the WLA, the Development will be more distant at 10.6km, and whilst visible on the horizon to the north, will not affect the sense of expanse in the intervening landscape.

Some views *towards* the WLA area will have the Development seen in front of the WLA or in the same direction of view. These include views from Portskerra and the A836 above Melvich (see VP6, Figure 6.17), where the edge of the WLA is visible but not the interior. Ben Dorrery (VP13, Figure 6.24) has views into the WLA also albeit the south-eastern part of the WLA, and will have views of the Development as blade tips beyond Beinn Ràtha, peripheral to the main views of wild land which are to the west and south. Strathy North turbines are just visible from Ben Dorrery to the right of Beinn nam Bad Mòr approximately 24 km away to the west.

6.4.8.3 Effects on the Key Qualities of the WLA

The assessment of effects (including judgment of magnitude of change and significance of effects) on each of the WLA key qualities of WLA 39 (East Halladale Flows) as a result of the Development is set out in Table A6.4.2.

Table A6.4.2: Assessment of Effects on WLA Qualities[58]

Key Wildness Quality (from description)	1. An awe-inspiring simplicity of landscape at the broad scale, with a **strong horizontal emphasis, 'wide skies' and few foci**
Strength of Expression of Quality (baseline)	This is strongly felt within the WLA, particularly further away from the edges and further from the coast and higher tops such as Beinn Ràtha which have higher elevation views that reveal more variation in topography and more distant focal features and man-made land uses. Foci include distant lone mountains and long undulating skylines, and existing wind farms to the west, north and south-east. This quality is less strongly felt in the north-western part of the WLA where there is a presence of the settled coast and strath Halladale nearby. Eye-catching features include Melvich and the enclosed coastal farmland, existing wind farms (Strathy North, Baillie, Forss, and the Causeymire group, see Figure 6.29a) and the Dounreay UKAEA site, and to a lesser extent, pylons, forest areas, and the edges of Strath Halladale.

[58] Scottish Natural Heritage (2017) Description of Wild Land Area, Area 39 East Halladale Flows Wild Land Area

	This quality is more strongly expressed in parts of the remainder of the WLA where there is a greater distance from wind farms and forest, and lower undulating land (i.e. not around Beinn nam Bad Mòr, but stronger around some of the remoter lochs). This quality can also be perceived from Ben Dorrery looking into the WLA, and from Portskerra, where the views into the WLA as open moorland inland contrast with the settled coastal areas.
Sensitivity of Quality	This quality is of high susceptibility to development that affects the horizontal emphasis of the sweeping moorland and introduces eye-catching features. Wild land is afforded nationally important status and is therefore of high value. The sensitivity is judged to be high.
Effects on Quality (Magnitude of Change)	The Development will not affect the topography of the landscape across the WLA, but will introduce vertical features which will be eye-catching in views out to the north of the WLA, more visible than the pylons that cross to the south of the Site. Views northwards from the north-western part of the WLA include the settled coast with other man-made features (see Viewpoints 9, A and C, Figures 6.20, 6.30 and 6.32), and the Development will be seen in that context, rather than in other direction of more extensive sweeping wild land, such as westwards beyond Strath Halladale (to lone mountains albeit with Strathy North Wind Farm visible) or southwards beyond forests to the Causeymire - Knockfin Flows albeit with Altnabreac forests and the Causeymire group visible. The Development will affect some views inwards towards the north-western part of the WLA, by acting as vertical eye-catching features at the edge of the WLA in views from Portskerra (VP6, Figure 6.17), interrupting the horizontal emphasis of views inland. However, there will remain a perception of the openness of the extensive moorlands beyond. It is judged that the magnitude of change to this characteristic will be high within approximately 4-5km of the Development, medium for some areas to approximately 7-8km and low for more peripheral areas that are more influenced by other external features. From the remainder of the WLA views from elevated areas will include the Development as blade tips or hubs low on the horizon, but at a distance that will not affect the sense of this quality. Other wind farms are visible at similar distances or closer (e.g. the Causeymire group), and although the Development will form an additional feature in some views, the quality will not be affected. In views from Ben Dorrery into the south-eastern part of the WLA, while the Development will be visible as blade tips (see VP13, Figure 6.24) from this elevated location, it will not alter the experience of this quality and the contrast with landscapes in other directions. The magnitude of change across the remainder of the WLA is judged to be negligible.
Significance of Effects on Quality	For the north-western part of the WLA, this quality is judged to be eroded to a significant (major) degree within 4-5km of the site (to Beinn Ràtha, Sean Airigh and around Loch na Seilge). The Development will be prominent and more visible than the pylons, Strathy North or Baillie Wind Farms, but the simplicity and horizontal emphasis of the landscape will still be perceptible. The quality will be affected less further away, judged to be significant (moderate) to the edge of the Cnoc Bad Mhairtein ridge (up to 7-8 km from the Development) around Cnoc Bad Mhairtein and Cnoc Mairi Mùileir, reducing to not significant (minor) eastwards towards Strath Halladale (Blàr Mòr) and over Cnoc Maol Donn (with views of Limekiln forest). Views southwards from within the WLA, which display this characteristic more than northward views, will not be affected. For the remainder of the WLA, this WLA quality will be affected to a not significant (negligible) degree at most. Areas not within the ZTV will not be affected.
Key Wildness Quality (from description)	2. A remote, discrete interior, with limited access and a strong sense of solitude

Strength of Expression of Quality (baseline)	It is not possible to define a 'discrete interior', but this characteristic is expressed in the north-western part of the WLA away from the edges which have a sense of greater accessibility. It is most strongly expressed in the area of the upper Smigel Burn basin, roughly between Cnoc Bad Mhairtein and Clachgeal Hill (south-east of Sean Airigh), and south-eastwards over the Cnoc an Fhuarain Bhàin ridge. This includes areas that are furthest from tracks or have more limited views out to other less wild areas. This characteristic is present in the remainder of the WLA, strongly expressed to the west of Loch Tuim Glais and around the upper Cnocloisgte Water and Glen Urlan. It is also perceptible in views from Ben Dorrery, where views towards the south-eastern part of the WLA suggest remoteness and difficulty of access.
Sensitivity of Quality	This characteristic is highly susceptible to development that brings tracks and access into the WLA, and to development that brings a perception of human activity. The remoteness is an important part of the perception and experience of the WLA. Wild land is afforded nationally important status and is therefore of high value. The sensitivity is judged to be high.
Effects on Quality (Magnitude of Change)	The Development will be outside the WLA and very limited views of access tracks will not affect the sense of remoteness. Views of turbines at a distance from within the remoter parts of the north-western part of the WLA will reduce the sense of remoteness and solitude for some people, but for others wind farms are associated with remote windy places and the perception of remoteness will be altered but may not be reduced. The magnitude of change is judged to be medium or areas within 4-5km of the Development, and low to negligible for areas further away.
Significance of Effects on Quality	In the northern part of the WLA, within 4-5 km of the Site, the presence of the Development 'nearby' will reduce the sense of remoteness and solitude to a significant (moderate) degree, although this area is already less remote with a perception of the active and settled coastal areas nearby. For the area of the north-western part of the WLA with a stronger sense of being the 'interior' (as descried above), the Development will be more distant, and although visible will not affect the sense of remoteness more than not significant (minor). For the remainder of the WLA, the Development will be seen at a distance, and will not affect the sense of remoteness. This quality will be affected to a not significant (negligible) degree at most. Areas not within the ZTV will not be affected.
Key Wildness Quality (from description)	3. A rugged and complex pattern of hidden burns, lochans and pools at **the local level, despite the landscape's simple composition at the broad** scale
Strength of Expression of Quality (baseline)	This characteristic is expressed in many places within the WLA, both in the north-western part of the WLA and the wider WLA, particularly in the shallow valleys or flat plateau tops where the landform is essentially flat and poorly drained.
Sensitivity of Quality	This quality is highly susceptible to direct effects including drainage, but is not susceptible to development outside the WLA. Wild land is afforded nationally important status and is therefore of high value. Overall, however, the sensitivity to development outside the WLA that will not directly affect the water regime, is judged to be nil or low.
Effects on Quality (Magnitude of Change)	There will be no effects on this quality as the Development is outside the WLA. Magnitude of change is negligible.
Significance of Effects on Quality	Not significant (negligible).
Key Wildness Quality (from description)	4. A remarkably open landscape with extensive visibility, meaning tall or high features in the distance are clearly visible

Strength of Expression of Quality (baseline)	The characteristic of extensive visibility is strongly expressed in the north-western part of the WLA as the WLA boundaries were drawn to exclude coniferous plantations, with the exception of a small area of plantation west of Loch Akran within the WLA. There is scattered open woodland on the eastern flanks of Beinn Ràtha, but the landscape is otherwise open. Just outside the WLA (and defining the boundaries) there is a pylon line to the north of the WLA, and coniferous forest to the east (Limekiln forest). Existing wind farms are tall structures visible from the WLA and include Strathy North, Baillie and Forss, and the Causeymire Group. The Dounreay UKAEA site is also visible from parts of the WLA. The landscape is dominated by grassy moorland, and views are open and extensive where the subtle topography allows. In clear conditions, visibility extends far, and the undulating topography means that distant tall objects are visible and contrast with the horizontal emphasis of the landscape (see characteristic 1). These include both man-made features (wind farms, pylons and the UKAEA site as set out above) and lone mountains and distinctive landforms such as the cliffs of Hoy, Orkney. The other aspect of this characteristic, being the perceived extent of the WLA going beyond its boundaries, is most strongly expressed when looking westwards, over Strath Halladale to the open moorland beyond which appears to be a continuation of the East Halladale flows because Strath Halladale is not generally visible from within the plateau; and south-eastwards beyond the railway line (not a prominent feature in the landscape) to the Causeymire-Knockfin Flows. To the south the edge of the WLA is apparent in the form of forest plantations. To the north, the Limekiln forest and Shurrery area create a transition from wild to not wild. To the north-west, the edge is a pylon line, which is generally not so prominent in views as to create the sense of an edge, such that the perceived area of wild land can appear to continue further towards the horizon without a clear indication of where the WLA stops (for example when viewed from Cnoc Bad Mhairtein, Figure 6.28). However, from many locations within the north-west part of the WLA views of Melvich and Portskerra provide a sense of there being an edge to the WLA where the land drops down into the valley. An example is the edge of the perceived wild land (beyond the pylons) being on the moorland horizon in front of Strath Halladale when viewed from Sean Airigh, Figures 6.27. This sense of a clear boundary diminishes further to the east in this view as the sea becomes the only thing visible beyond the moorland boundary. In the remainder of the WLA, the sense of edge to the wild land is more affected by views of forest nearer by to the north or south, and the clarity of the edge to the north-west is diminished by Melvich, Portskerra and the sea not being visible.
Sensitivity of Quality	This characteristic is highly susceptible to plantations or screening that would reduce openness of views or create a sense of enclosure, it is also sensitive to development that appears to reduce the extent of the WLA or which defines the edge more clearly. Wild land is afforded nationally important status and is therefore of high value. Sensitivity is judged to be high. However, it can also be said that in some ways distant tall objects, similar to existing wind farms, will be visible and will confirm rather than diminish this characteristic of long-range visibility.
Effects on Quality (Magnitude of Change)	The Development will be visible as a group of tall features to the north of the WLA, but will not diminish the characteristic of openness and distance of views as the separation between turbines on the Site will mean that the group is visually permeable and will not reduce views to landscapes or seascapes beyond. In views from within the WLA, the Development will be seen as being beyond the moorland horizon to the north-west. From Beinn Ràtha and Sean Airigh, (VP9, Figure 6.20 and A, Figure 6.27) it will be seen in the context of the clearly defined edge of the WLA going down to Strath Halladale, and it will not alter where the edge is perceived to be. This is also the case from Viewpoint C that is itself close to the edge of Strath Halladale (Figure 6.30). In views from Cnoc Bad Mhairtein (Figure 6.28) and from lower elevation areas around Loch na Seilge and the Smigel Burn basin where the perceived edge of the WLA in the direction of the Site is less clear (the pylons are less visible and no land is visible beyond

	the moorland horizon) the Development will create a clear definition of the edge, affecting this wild land quality. Therefore, within approximately 3-4km of the site and up to Beinn Ràtha and Sean Airigh there is a greater sense of edge (with the pylons and Strath Halladale more visible), the strength of this quality will not be altered greatly, and the magnitude of change to the sense of the extent of the WLA is judged to be low. However, for the area approximately 4-8km from the Site yet away from Strath Halladale and Limekiln Forest, this sense of the Development clarifying the north-western edge of the WLA is judged to be a medium to high level (scale) of change. From the remainder of the WLA, the Development will be distant features visible on the low horizon from limited areas (within the ZTV, see Figure 6.29a). Whilst there will be a sense of knowing where the edge is when within the ZTV, the north-western edge plays a lesser role in the experience of the WLA than other edges and it is more distant. The magnitude of change to this quality from the remainder of the WLA is judged to be low to negligible.
Significance of Effects on Quality	The effect on this characteristic is judged to be not significant (minor) within 3-4km of the Development and around its fringes to Blar Mòr and Cnoc Maol Donn, but significant (moderate to major) between approximately 4-8km in the Smigel Burn basin and over Cnoc Bad Mhairtein to Cnoc and Fhuarain Bhàin. The effect on this characteristic is judged to be not significant (minor to negligible) for the remainder of the WLA.

6.4.8.4 Cumulative Effects

The Consented Scenario

In the Consented Scenario, in which consented and existing schemes are assumed to be present, the baseline will entail:

- Limekiln 2 will be in the forest plantation to the north-east of the WLA, close to the boundary and visible from much of the WLA. It will be closer and more visible than Baillie and Forss from within the WLA, and it will be in the direction of settled coast and forest plantations;
- Strathy South will extend the spread of turbines southwards from Strathy North on the open moorland to the west;
- Dounreay Tri Wind Farm will be seen to the north, although when seen low on the horizon it may not be perceptible that the turbines are offshore;
- The Forss group will be enlarged by Hill of Lybster, where this group is visible; and
- The Causeymire group to the south-east enlarged by Achlachan 2.

Figure 6.10 illustrates that consented wind farms will increase the area over which there are wind farms visible[59], Figure 6.29b illustrates the visibility of Limekiln 2. From much of the higher ground within the WLA either Limekiln 2 or Strathy South will be visible, and there will be more of an awareness of wind farms to the north (associated with the settled coast) and to the west on open moorland below the distant mountains. In spite of this the wild land key qualities (set out in Table A6.4.3 below) will remain perceptible albeit somewhat eroded (alteration to the baseline without the Development).

In this context, the Development will be an additional group of turbines at the northern edge of the WLA, in front of Dounreay Tri for some views from within the WLA to the west, but generally as a separate group of turbines. It will be located on the western side of Beinn Ràtha, whilst Limekiln 2 will be to the east of Beinn Ràtha.

The cumulative assessment in Chapter 6: Landscape and Visual (the CLVIA) identified effects on the Sweeping Moorland and Flows LCT to be slightly greater than predicted in the LVIA, but still within the level bracket of significant (major to moderate) across the

[59] Shown in yellow, green, orange and grey on Figure 6.10.

same areas as for the LVIA, i.e. within 5-7 km. Viewpoint 9 on Beinn Ràtha (Ceann Mòr, Figure 6.20) was assessed and found to have significant (major) effect in this cumulative scenario. This relates to view from an elevated location close to the site, with Limekiln to the east and the Development introduced to the west.

For other locations further south within the WLA (e.g. viewpoints A and B, Figures 6.30 and 6.31) both Limekiln and the Development will be seen on either side of the low form of Beinn Ràtha (which does not stand out as such a landmark when seen from the south), and the cumulative element of the effect will relate to the addition of another group of turbines in the panorama to the north towards the settled coast. The Development will increase the presence of wind farms in the surrounding landscape, but will not affect views southward into the interior of the WLA.

Views towards the WLA from Portskerra will not be altered in this scenario as neither Limekiln 2 nor Strathy South will be visible. From Ben Dorrery, Limekiln 2 will be more visible than the Development and the additional blade tips in the distance will not further affect the sense of wildness from there. Strathy South will be visible in the distance to the left of Beinn nam Bad Mòr when viewed from Ben Dorrery.

The assessment of effects on each of the key qualities of WLA 39 (East Halladale Flows) as a result of the Development in the Consented Scenario is considered in Table A6.4.3.

Table A6.4.3: Assessment of Effects on WLA Qualities in the Consented Scenario[60]

Key Wildness Quality (from description)	1. An awe-inspiring simplicity of landscape at the broad scale, with a **strong horizontal emphasis, 'wide skies' and few foci**
Strength of Expression of Quality (baseline)	This quality will remain felt within the north-western part of the WLA in this scenario although the consented wind farms will form additional foci in panoramic views, particularly Limekiln 2 to the north and Strathy South to the west. For the remainder of the WLA, this quality will remain strong, albeit with Limekiln 2 to the north, Strathy South in the distance to the west, and Achlachan increasing the number of turbines but not the spread of the Causeymire group.
Effects on Quality (Magnitude of Change)	The Development will introduce more vertical features which will be eye-catching in views out of the WLA to the north. Views northwards from the north-western part of the WLA will include Limekiln 2, Dounreay Tri, Baillie, Forss and the settled coast with other man-made features (pylons, the Dounreay UKAEA site), and the Development will be seen in that context, rather than in the direction of more extensive sweeping wild land southwards which will remain unaffected by the Development. There will be no change to the views inwards towards the north-western part of the WLA from Portskerra, as Limekiln 2 and Strathy South are not visible. As set out in Table A6.4.2, there will remain a perception of the openness of the extensive moorlands beyond. For the north-western part of the WLA, this quality is judged to be eroded to a high magnitude of change within 4-5km of the site (to Beinn Ràtha, Sean Airigh and around Loch na Seilge), as the Development will be prominent and will have a repeating relationship with Limekiln 2 (and Strathy North and Baillie) being of similar structures but forming a new group. The simplicity and horizontal emphasis of the landscape will still be perceptible although it will be eroded to a degree by the repeating groups of vertical structures. The quality will be affected less further away, judged to be a medium magnitude of change to the edge of the Cnoc Bad Mhairtein ridge (up to 7-8 km from the Development) around Cnoc Bad Mhairtein and Cnoc Mairi Mùileir, reducing to low magnitude of change eastwards towards Blàr Mòr (where the presence of Strath Halladale increases)

[60] The sensitivity of the quality is judged remain as described in the existing scenario (Table A6.4.2).

	and over Cnoc Maol Donn (where Limekiln 2 becomes closer and more prominent in views of Limekiln forest). For the remainder of the WLA, the Development will be seen low on the horizon at greater distances (over 10km), as an additional distant group of turbine blades or hubs further away and further west than Limekiln 2. In views from Ben Dorrery into the WLA, Limekiln 2 will be west of Baillie and more visible than the Development and the experience of this quality will not be altered. The magnitude of change will be negligible.
Significance of Effects on Quality	For the north-western part of the WLA, effects on this quality are judged to be significant (major) within 4-5km of the site (to Beinn Ràtha, Sean Airigh and around Loch na Seilge and significant (moderate) to the edge of the Cnoc Bad Mhairtein ridge (up to 7-8 km from the Development) around Cnoc Bad Mhairtein and Cnoc Mairi Mùileir. Effects will be not significant (minor) eastwards towards Blàr Mòr and over Cnoc Maol Donn. Views southwards, which display this characteristic more than northward views, will not be affected. For the remainder of the WLA, this WLA quality will remain little affected, not significant (negligible).
Key Wildness Quality (from description)	2. A remote, discrete interior, with limited access and a strong sense of solitude
Strength of Expression of Quality (baseline)	Where this characteristic is expressed most strongly in the north-western part of the WLA (see Table 6.4.2 for the existing scenario), views of additional wind farms, in particular Limekiln 2 to the north, will reduce the sense of remoteness and solitude to a degree. Limekiln 2 and, to a lesser extent Achlachan 2 and Strathy South, will reduce this quality for the remainder of the WLA also.
Effects on Quality (Magnitude of Change)	The Development will be outside the WLA and will be further from the areas with a stronger sense of this quality than Limekiln 2. Views of an additional group of turbines at a distance from within the WLA will reduce the sense of remoteness and solitude to a degree. In the north-western part of the WLA, within 4-5 km of the Site, the presence of the Development 'nearby' will reduce the sense of remoteness and solitude to a similar degree to that described for the existing scenario (Strathy South is visible at a distance and Limekiln 2 is visible from limited locations). This is judged to be a medium magnitude of change. For the area where this quality is stronger, roughly between Cnoc Bad Mhairtein and Clacgheal Hill, in the upper Smigel Burn basin and over the Cnoc an Fhuarain Bhàin ridge, the Development, in the context of Limekiln and Strathy South as well as existing wind farms, the magnitude of change will be low. For the remainder of the WLA the Development will be an additional group of turbines seen at a distance, and the sense of remoteness will not be affected, and the magnitude of change will be negligible.
Significance of Effects on Quality	Significant (moderate) within 4-5 km of the Site. Not significant (minor) to Cnoc Bad Mhairtein and the Cnoc an Fhuarain Bhàin ridge. Not significant (negligible) for the remainder of the WLA.
Key Wildness Quality (from description)	3. A rugged and complex pattern of hidden burns, lochans and pools at **the local level, despite the landscape's simp**le composition at the broad scale
Strength of Expression of Quality (baseline)	This characteristic is expressed in many places within the WLA, and remains unaffected by cumulative wind farms.
Effects on Quality (Magnitude of Change)	There will be no change to this quality. Negligible magnitude of change.
Significance of Effects on Quality	Not significant (negligible).

Key Wildness Quality (from description)	4. A remarkably open landscape with extensive visibility, meaning tall or high features in the distance are clearly visible
Strength of Expression of Quality (baseline)	This characteristic of extensive views is strongly expressed, and remains so even though there are consented wind farms that will be additional tall high structures seen in far reaching views of the surrounding landscape. The perception of the limits of the wild land area will be altered by the introduction of the consented schemes, Strathy South will extend the presence of turbines in the distance to the south-west (which is beyond Strath Halladale), and although Limekiln will be located within forest there will be locations from which the forest is not visible and Limekiln turbines will create a sense of edge. This quality is judged to be expressed somewhat less strongly from some parts of the interior of the WLA, although the perception of the north-western edge to the WLA will remain unchanged.
Effects on Quality (Magnitude of Change)	The Development will be visible as an additional group of tall features to the north of the north-western part of WLA, separate from Limekiln 2 and to the west rather than the east of Beinn Ràtha. It will not diminish the characteristic of openness and distance of views, and changes to the perception of the WLA edge will be as for the existing scenario. Within approximately 3-4km of the site and up towards Beinn Ràtha and Sean Airigh Limekiln will not be visible and the effect on the perceived edge of the WLA will remain unchanged. From the top of the Beinn Ràtha and Sean Airigh ridge where Limekiln is visible it will be seen to be within forest. The magnitude of change to the sense of the extent of the WLA from this area is judged to be low. For the area approximately 4-8km from the Site yet away from Strath Halladale and Limekiln Forest (east of Blar Mòr and west of Cnoc Maol Donn), Limekiln will be visible generally without forest below, and will create a sense of limit to the WLA in views north-east. The perception of the Development clarifying the north-western edge of the WLA will remain, but as the quality is somewhat reduced by Limekiln the scale of change is judged to be medium. From the remainder of the WLA, the Development will be distant features visible over the low horizon from limited areas, often where Limekiln is visible also (see Figure 6.29). Whilst there will be a sense of knowing where the edge is when within the ZTV, the north-western edge is more distant and plays a lesser role in the experience of the WLA than other edges including the north edge on which Limekiln will be visible. The magnitude of change to this quality from the remainder of the WLA is judged to be low to negligible.
Significance of Effects on Quality	The effect on this quality is judged to be not significant (minor) within 3-4km of the Development and around its fringes to Blar Mòr and Cnoc Maol Donn, but significant (moderate) between approximately 4-8km in the Smigel Burn basin and over Cnoc Bad Mhairtein to Cnoc and Fhuarain Bhàin. The effect on this characteristic is judged to be not significant (minor to negligible) for the remainder of the WLA.

The In-planning Scenario

In the In-Planning scenario, in which all in-planning, consented and existing schemes are assumed to be present, the baseline[61] will entail the following, in addition to the Consented Scenario:

- Drum Hollistan 2 will be seen as seven turbines on the horizon at the edge of the WLA to the north, to the west of Beinn Ràtha and in front of Dounreay Tri for some viewing directions;
- Limekiln Extension will be located adjacent to Limekiln 2 on its eastern side;

[61] It is noted that the cut-off date for the cumulative assessment was 15 September 2020.

- Strathy South will have larger turbines in the form of Strathy South Variation; and
- Strathy Wood will be located to the south-west, extending from Strathy North to Strathy South Variation.

Figure 6.11 illustrates that in-planning wind farms will further increase the area over which there are wind farms visible[62]. From much of the higher ground, and almost all of the ZTV of the Development, Drum Hollistan 2 will be visible (See Figures 6.11a and 6.29b). In the in-planning baseline, Drum Hollistan 2 will already be present adjacent to the Development site, such that there will be turbines adjacent to the WLA to the west of Beinn Ràtha. The enlargement of Limekiln will increase the visual influence of that group, particularly in the eastern parts of the WLA and areas to the east of Beinn Ràtha. The enlargement of Strathy South turbines with its variation and the introduction of Strathy Wood will increase the baseline presence of turbines on the moorland to the west of the WLA.

In this context, the Development will be an additional group of turbines at the northern edge of the WLA, adjacent to Drum Hollistan 2 but forming a separate group in some views. Both Drum Hollistan 2 and the Development will be prominent in views from within approximately 6-7 km where they are visible. They will be seen on the horizon to the west of Beinn Ràtha, with Dounreay Tri offshore wind farm beyond.

The cumulative assessment in Chapter 6: Landscape and Visual (the CLVIA) identified effects on the Sweeping Moorland and Flows LCT to be within the level bracket of significant (major to moderate) across the same areas as for the LVIA, i.e. within 5-7 km. Viewpoint 9 on Beinn Ràtha (Ceann Mòr, Figure 6.20) was assessed and found to have a significant (major) effect in this cumulative scenario. This relates to view from an elevated location close to the Site, with the extended Limekiln to the east and the Development introduced to the west, albeit adjacent to Drum Hollistan 2.

For other locations further south within the WLA, the extended Limekiln and Drum Hollistan 2 will be seen on either side of the low form of Beinn Ràtha, and the cumulative element of the effects will relate to the addition of another group of turbines in the panorama, adjacent to Drum Hollistan 2. The Development will increase the presence of wind farms in the surrounding landscape, but will not affect views southward into the interior of the WLA.

Views towards the north-western part of the WLA from around Portskerra (VP6, Figure 6.17) will be altered in this scenario as Drum Hollistan 2 will be visible on the other side of Strath Halladale, in front of Beinn Ràtha. This will mean that there are turbines seen in the direction of the WLA from this area. The introduction of the Development in this situation will not affect the impression of the WLA as much as if Drum Hollistan 2 were not there, as the Development will be additional rather than new features in the views towards the WLA (albeit as a separate group in some views).

From Ben Dorrery looking into the south-eastern part of the WLA, Strathy South Variation will be seen to the south (left) of Beinn nam Bad Mòr, approximately 25km away, as larger turbines than Strathy South. The enlarged Limekiln and Drum Hollistan 2 will be seen on either side of Beinn Ràtha and will be more visible than the Development. The additional blade tips of the Development in the distance will not further affect the sense of wildness from Ben Dorrery.

The assessment of effects on each of the key qualities of WLA 39 as a result of the Development in the In-Planning Scenario is set out in Table A6.4.4.

[62] Shown in yellow, green, orange and grey on Figure 6.11.

Table A6.4.4: Assessment of Effects on WLA Qualities in the In-planning Scenario

Key Wildness Quality (from description)[63]	1. An awe-inspiring simplicity of landscape at the broad scale, with a **strong horizontal emphasis, 'wide skies' and few foci**
Strength of Expression of Quality (baseline)	The awe-inspiring simplicity and strong horizontal emphasis of the landscape will remain felt within the WLA, although the combination of existing, consented and in-planning wind farms will create multiple foci in panoramic views from some parts of the WLA, particularly in the north-western part of the WLA where this quality will be reduced by the presence of Drum Hollistan 2 and the extended Limekiln. The Strathy group will form an extensive array of turbines on moorland to the west.
Effects on Quality (Magnitude of Change)	The Development will introduce more vertical features in views outwards from the north-western part of the WLA, but will be adjacent to Drum Hollistan 2 and not new features in this part of the WLA surroundings. Views northwards from the north-western part of the WLA will include Drum Hollistan 2, Dounreay Tri, the Limekiln group, and the settled coast with other man-made features, and the Development will be seen as additional features in that context, rather than in the direction of more extensive sweeping wild land southwards, views of which it will not affect (see VP B Cnoc Bad Mhairtein, Figure 6.31). The Development will affect views inwards towards the north-western part of the WLA, by acting as additional vertical eye-catching features close to Drum Hollistan 2 at the edge of the WLA in views from Portskerra. However, there will remain a perception of the openness of the extensive moorlands beyond. For the north-western part of the WLA within 7-8km of the site, this quality is judged be eroded to a low magnitude of change for views northwards where the Development will be visible, as the Development will be adjacent to Drum Hollistan 2 and although it will have a repeating relationship with Drum Hollistan 2 and the extended Limekiln, with the enlarged Strathy group (Strathy North, Strathy South Variation and Strathy Wood) at a distance to the west, the proposed turbines will not be new features in the landscape. The cumulative element will reduce the additional effect of the Development in this context from that in the existing scenario (Table A6.4.2 sets out a significant effect on this quality). The simplicity and horizontal emphasis of the landscape will still be perceptible although it will be eroded to a degree by the repeating groups of vertical structures. Views southwards, which display this characteristic more than northward views, will not be affected. For the remainder of the WLA, the Development will be seen low on the horizon at greater distances (over 10km), as additional turbine blades or hubs to the west of Drum Hollistan 2, and further away and further west than the extended Limekiln. In views from Ben Dorrery into the WLA, the extended Limekiln and Drum Hollistan 2 will be more visible than the Development and the experience of this quality will not be further altered (see Figure 6.24). The magnitude of change is judged to be negligible.
Significance of Effects on Quality	Not significant (minor) within 7-8km of the site. Not significant (negligible) for the remainder of the WLA.
Key Wildness Quality (from description)	2. A remote, discrete interior, with limited access and a strong sense of solitude
Strength of Expression of Quality (baseline)	Where this characteristic is expressed most strongly in the north-western part of the WLA (see Table 6.4.2 for the existing scenario), views of additional wind farms, in particular Drum Hollistan 2 and the extended Limekiln group, will reduce the sense of remoteness and solitude.

[63] The sensitivity of the quality is judged remain as described in the existing scenario (Table A6.4.1).

Effects on Quality (Magnitude of Change)	The Development will be outside the WLA and will be adjacent to Drum Hollistan 2 (albeit separate), and further from the areas with a stronger sense of this quality than the extended Limekiln group. Views of an additional group of turbines adjacent to Drum Hollistan 2 at a distance from within the WLA will reduce the sense of remoteness and solitude to a slight degree. In the north-western part of the WLA, within 4-5 km of the site, the presence of the Development adjacent to Drum Hollistan 2 and 'nearby' will further reduce the sense of remoteness and solitude. This is judged to be a low magnitude of change. For the area where this quality is stronger, roughly between Cnoc Bad Mhairtein and Clacgheal Hill, in the upper Smigel Burn basin and over the Cnoc an Fhuarain Bhàin ridge, the Development, in the context of Drum Hollistan 2, the extended Limekiln, and the spread of turbines in the Strathy group to the west, the magnitude of change is judged to be low. For the remainder of the WLA the Development will be seen as additional turbines in the distance adjacent to Drum Hollistan 2, and the sense of remoteness will not be affected. The magnitude of change is judged to be negligible.
Significance of Effects on Quality	In the north-western part of the WLA, within 4-5 km of the site, the effect on this quality will be not-significant (minor). For the area roughly between Cnoc Bad Mhairtein and Clacgheal Hill, in the upper Smigel Burn basin and over the Cnoc an Fhuarain Bhàin ridge, the effect will also be not significant (minor). For the remainder of the WLA the effect will be not significant (negligible).
Key Wildness Quality (from description)	3. A rugged and complex pattern of hidden burns, lochans and pools at **the local level, despite the landscape's simple composition at the broad** scale
Strength of Expression of Quality (baseline)	This characteristic is expressed in many places within the WLA, and remains unaffected by cumulative wind farms.
Effects on Quality (Magnitude of Change)	There will be no change to this quality. Negligible magnitude of change.
Significance of Effects on Quality	Not significant (negligible).
Key Wildness Quality (from description)	4. A remarkably open landscape with extensive visibility, meaning tall or high features in the distance are clearly visible
Strength of Expression of Quality (baseline)	This characteristic of extensive views is strongly expressed, and remains so even though there are additional wind farms that will be tall high structures seen in far reaching views of the surrounding landscape. The perception of the limits of the wild land area will be altered by the introduction of additional wind farms. Strathy South Variation and Strathy Wood will extend the presence of turbines in the distance to the south-west (which is beyond Strath Halladale). The extended Limekiln will be located within forest but there will be locations from which the forest is not visible and Limekiln turbines will create a sense of edge to the north or north-east of the WLA. Drum Hollistan 2 to the north of the north-western part of the WLA will clarify the edge in views that otherwise have moorland up to the skyline (Drum Holliston 2 is not in the same direction of view towards Strath Halladale and the clearer edges to the WLA towards the north-west. With the northern boundary clearer, this quality is judged to be expressed less strongly from parts of the interior of the WLA, particularly within the north-western part of the WLA.
Effects on Quality (Magnitude of Change)	The Development will be visible as an additional group of tall features to the north of the WLA, adjacent to Drum Hollistan 2. It will not diminish the characteristic of openness and distance of views. While the Development will be an additional feature that can be used to judge the extent of the WLA, Drum Hollistan 2 will have made clear that there is a limit to the WLA to the north. The

	magnitude of change will be this quality will be reduced by the presence of Drum Hollistan 2, and is judged to be low. From the remainder of the WLA, with Limekiln and Drum Hollistan 2 clarifying the northern edge of the WLA, the magnitude of change as a result of the Development will be negligible.
Significance of Effects on Quality	Not significant (minor) in the north-western part of the WLA. Not significant (negligible) across the remainder of the WLA.

Combined Cumulative Effects

When considering combined cumulative effects (additive cumulative effects are addressed above), the combined effect of all wind farms together in the landscape will lead to an increased presence of wind energy development in the area around (outside) WLA 39.

Existing Scenario: With the existing wind farms, the landscape is one with 'occasional wind farms and turbines', seen intermittently from higher ground within the WLA, and from the peripheral areas. The Development will contribute to this as an additional 'occasional' wind farm in the wider landscape, but will be close to the north-western boundary for the north-western part of the WLA, which is an area showing less strong wild land qualities.

Consented Scenario: With consented wind farms present as well as existing wind farms, Limekiln 2 will be present approximately 4 km west of Baillie, set in forest adjacent to the north-eastern boundary of the WLA. Forss will be enlarged by Hill of Lybster, Baillie is inland of the Forss group, south of the Dounreay UKAEA station. Dounreay Tri will be visible offshore. Strathy North and Strathy South will form a pair of large wind farms inland to the south-west. The Causeymire group will be enlarged by Achlachan 2. With these wind farms present, the area around the WLA will be a 'landscape with wind farms' to the north-east, with 'occasional' wind farms in other directions, albeit these large groups (Strathy group and Causeymire group). The area of 'landscape with wind farms' to the north-east of the WLA will not generally be perceptible from the north-western part of the WLA as the form of Beinn Ràtha will screen views of these wind farms, although they will be visible from the Beinn Ràtha-Sean Airigh ridge.

The Development will introduce an additional group of turbines approximately 5 km west of Limekiln, extending the presence of turbines westwards along the northern boundary of the WLA. It will not extend the area of 'landscape with wind farms' when viewed from within the WLA (either from the north-western part or the remainder of the WLA), but will be an additional separate 'occasional' wind farm further to the north-east.

In-planning Scenario: With consented and in-planning wind farms present as well as existing wind farms, Drum Hollistan 2[64] will be present close to the north-western boundary of the WLA west of Beinn Ràtha; Limekiln 2 and its Extension will be set in forest adjacent to the northern boundary of the WLA with Baillie and the Forss group further away to the north. Strathy North, Strathy South Variation and Strathy Wood will form a large group inland to the south-west; Dounreay Tri will be present offshore to the north. The Causeymire group will be enlarged by Achlachan 2. With these wind farms present, the area along the north-east of the WLA will be a 'landscape with wind farms', albeit not generally perceptible from the north-western part of the WLA. Drum Hollistan 2 will be located to the west of Beinn Ràtha as an 'occasional' wind farm at the edge of the WLA.

[64] It is noted that the cut-off date for the cumulative assessment was 15 September 2020.

The Development will introduce an additional group of turbines west of Drum Hollistan 2 extending the presence of turbines westwards slightly, although turbines will already be present to the west of Beinn Ràtha along the north-western boundary of the WLA. The Development will increase the influence of turbines in the north-western part of the WLA, rather than introduce them as new features. It will not alter the impression of the area of 'landscape with wind farms' to the north-east of the WLA (as experienced from the remainder of the WLA). It is judged that the Development will contribute to the increasing influence of wind farms north of the WLA, and whilst the total or combined effect of all wind farms will be increased, this cannot be attributed to any one wind farm (and not solely to the Development).

6.4.9 Summary

No significant effects on key qualities are identified for parts of the WLA beyond approximately 8 km, the assessment has focussed on the potential effects on key qualities across the north-western part of the WLA, north-west of the subtle ridge formed by Cnoc Maol Donn – Cnoc an Fhuarain Bhain – Cnoc Bad Mhairtein.

The effects on the key qualities of the north-western part of the WLA are summarised in Table A6.4.5 below, with significant effects in bold text. Mitigation of landscape and visual effects has been through design, as set out in Chapter 4: Development Description.

Table A6.4.5: Summary of Effects on WLA Qualities

Key Wildness Quality	Existing/LVIA Scenario	Consented Scenario	In-planning Scenario
1. An awe-inspiring simplicity of landscape at the broad scale, with a strong horizontal emphasis, 'wide skies' and few foci	Significant (major) within 4-5 km (to Beinn Ràtha, Sean Airigh and around Loch na Seilge) Significant (moderate) to 7-8 km (around Cnoc Bad Mhairtein and Cnoc Mairi Mùileir) Not Significant (minor) elsewhere within the north-western part of the WLA (within 7-8km).	Significant (major) within 4-5 km (to Beinn Ràtha, Sean Airigh and around Loch na Seilge) Significant (moderate) to 7-8 km (around Cnoc Bad Mhairtein and Cnoc Mairi Mùileir) Not Significant (minor) elsewhere within the north-western part of the WLA	Not significant (minor) within 7-8 km (the north-western part of the WLA)
2. A remote, discrete interior, with limited access and a strong sense of solitude	Significant (moderate) within 4-5 km Not Significant (minor) elsewhere within the north-western part of the WLA	Significant (moderate) within 4-5 km Not Significant (minor) elsewhere within the north-western part of the WLA	Not significant (minor) within 7-8 km
3. A rugged and complex pattern of hidden burns, lochans and pools at the local level, despite the landscape's simple composition at the broad scale	Not significant (negligible)	Not significant (negligible)	Not significant (negligible)
4. A remarkably open landscape with extensive visibility, meaning tall or high features in the	Not significant (minor) within 3-4km (and around its fringes to Blar Mòr and Cnoc Maol Donn)	Not significant (minor) within 3-4km (and around its fringes to Blar Mòr and Cnoc Maol Donn)	Not significant (minor)

distance are clearly visible	Significant (moderate to major) between 4-8km (Smigel Burn basin, Cnoc Bad Mhairtein, Cnoc and Fhuarain Bhàin)	Significant (moderate to major) between 4-8km (Smigel Burn basin, Cnoc Bad Mhairtein, Cnoc and Fhuarain Bhàin)	

It is judged that although there are significant effects identified for key qualities 1, 2 and 4 within 8 km of the Development (across parts of the north-western part of the WLA), overall, the perception of wildness qualities will be reduced but not lost, and neither would the boundary need to be redrawn nor the key qualities need to be re-written after the introduction of the Development either in the context of existing wind farms or in the cumulative scenarios considered. It is judged that overall the Development will not affect the WLA to the extent that its key qualities are compromised.

6.5 APPENDIX A6.5: SUPPLEMENTARY GUIDANCE CRITERIA

6.5.1 Onshore Wind Energy Supplementary Guidance

The Onshore Wind Energy Supplementary Guidance[65] sets out ten criteria against which the landscape and visual effects of proposed wind farm developments will be measured, including:

1. "Relationship between Settlements/Key locations and wider landscape respected
2. Key Gateway locations and routes are respected
3. Valued natural and cultural landmarks are respected
4. The amenity of key recreational routes and ways is respected.
5. The amenity of transport routes is respected
6. The existing pattern of Wind Energy Development is respected.
7. The need for separation between developments and/ or clusters is respected
8. The perception of landscape scale and distance is respected
9. Landscape setting of nearby wind energy developments is respected
10. Distinctiveness of Landscape character is respected"

Responses to these criteria, following the detailed assessment of landscape, visual and cumulative effects, are set out in Table A6.5.1. This table also sets out responses to sensitivities and constraints identified in the Addendum Supplementary Guidance[66].

All Figures referenced in the Appendix are found in Volume 2 of the EIA Report.

Table A6.5.1: Criteria for landscape and visual effects

Criterion 1: Relationship between Settlements/Key locations and wider landscape respected	
Measure	• The extent to which the proposal contributes to perception of settlements or key locations being encircled by wind energy development. • Development should seek to achieve a threshold where: Turbines are not visually prominent in the majority of views within or from settlements/Key Locations or from the majority of its access routes.
Evaluation	Key settlements in the local area include Melvich, Portskerra and Reay. Thurso is not within the ZTV. The Development will be approximately 2.3 km from the southern end of Melvich and approximately 4 km from the southern edge of Portskerra. Viewpoints 5 and 6 are relevant (Figures 6.16 and 6.17). The Development will be visible to the south-east from these settlements where local screening by properties allows, as a group of turbines on the open moorland in the middle distance on the other side of Strath Halladale. The Development will be prominent in views inland, but will not affect the key views (along the coast), nor will it contribute to a sense of being encircled by wind farms. The Development will be visible from the A836 on approach to the settlements. The Development will be approximately 3.7 km from the western edge of Reay, and with Baillie and Forss present to the south-east and north-east respectively, the addition of the Development to the west will mean that there are turbines in another part of the panorama. It will contribute to a sense of having wind farms present in different directions of view, but it is noted that there will be relatively few places within the settlement where all of these wind farms will be visible simultaneously. The Development will be visible from the A836 on approach to the settlement.
Criterion 2: Key Gateway locations and routes are respected	
Measure	• The extent to which the proposal reduces or detracts from the transitional experience of key Gateway Locations and routes. • Development should seek to achieve a threshold where: Wind Turbines or other infrastructure do not overwhelm or otherwise detract from landscape characteristics which

[65] Onshore Wind Energy Supplementary Guidance, November 2016, page 18

[66] The Highland Council (2017) Addendum Supplementary Guidance: 'Part 2b'.

	contribute the distinctive transitional experience found at key gateway locations and routes.
Evaluation	Key Gateway Locations[67] are Scrabster Hill, Ben Dorrery, Dunnet Head, and the '*transition from the open flat moorland/agricultural plain of Caithness, to the more undulating and rugged moorland of Sutherland'*. Scrabster Hill is at the edge of the Thurso basin with panoramic views eastwards from the A836. There are no views west from the layby on the A836 above Scrabster Lodge, nor until one reaches VP1 at New Houses (Figure 6.12), at which point views open along the coast towards distant rugged moorland. Whilst the Development will be visible approximately 15 km away, it will be a distant feature and will not overwhelm or otherwise detract from landscape characteristics that contribute to the experience of this transition. Ben Dorrery (VP13, Figure 6.24) is located inland of the coast, with views from the summit over agricultural farmland to the east and moorland to the west, with extensive areas of forest plantation along the north-west to south-east transition. From this location the Development will be seen low on the horizon to the north-west approximately 16 km away. It will not affect the perception of the transition that occurs either side of Ben Dorrery. From Dunnet Head (see VP11, Figure 6.22), the Development will be over 30 km away, seen along the coast to the west beyond Baillie and Forss Wind Farms. The Development will not affect the key views from this location which are over the dramatic coastal stretches nearby and over the Pentland Firth to Orkney. The '*transition from the open flat moorland/agricultural plain of Caithness, to the more undulating and rugged moorland of Sutherland'* is gradual and one such area with a sense of the transition occurs to the west of Reay. This transition can be seen from VP10 on Hill of Shebster (Figure 6.21), from which the Development will be seen on the horizon to the west beyond the transition to moorland without reducing the perceptibility of the transition.
Criterion 3: Valued natural and cultural landmarks are respected	
Measure	• The extent to which the proposal affects the fabric and setting of valued natural and cultural landmarks. • Development should seek to achieve a threshold where: The development does not, by its presence, diminish the prominence of the landmark or disrupt its relationship to its setting.
Evaluation	Natural landmarks may include Beinn Ràtha, Ben Dorrery (see criterion 2 above), and Dunnet Head (see criterion 2 above). Cultural landmarks are dealt with in Chapter 9: Cultural Heritage. Beinn Ràtha (VP9, Figure 6.20) is a local landmark to the south of Reay, seen as a hill emerging from lower moorland and forested ground in views from the east, although it is less prominent in views from the west. The Development will be seen to the west of it, and in views from it, located on the moorland below to the west. It will not diminish the presence of this landmark. Viewpoints 2, 3 and 9 are relevant. Ben Dorrery and Dunnet Head, whilst having visibility of the Development from their summits, will not be affected as landmarks as the Development will be 16 km and 31 km away respectively.
Criterion 4: The amenity of key recreational routes and ways is respected	
Measure	• The extent to which the proposal affects the amenity of key recreational routes and ways (e.g. Core Paths, Munros and Corbetts, Long Distance Routes etc.) • Development should seek to achieve a threshold where: Wind Turbines or other infrastructure do not overwhelm or otherwise significantly detract from the visual appeal of key routes and ways.
Evaluation	A number of recreational routes have been assessed in the LVIA, the key route listed in the Supplementary Guidance[68] within 15 km of the Site is the A836 between Thurso and Drum Hollistan. The A836 carries the North Coast 500 route, and part of the National Cycle Route NCN1.

[67] Gateway locations are based on Onshore Wind Energy Supplementary Guidance, addendum part 2, 2017.
[68] Ibid.

	The Scrabster Hill to Portskerra section of the A836 as generally open views but for some sections of the route the Development will be hidden by local topography. The Development will be visible to the west from sections east of Reay, the route will pass the site over Drum Hollistan Moss, and the Development will be seen across Strath Halladale from sections west of Strath Halladale. It will form one of a series of wind farms visible along the route. Significant (major or moderate) visual effects are identified for road users between Forss and Armadale. Viewpoints 1-7 are relevant. National Cycle Route NCN1 runs along the A836 but leaves it at Reay to run past Shebster and Westfield. From this route the Development will be visible ahead for westbound road users, who will pass Baillie Wind Farm adjacent to the route.
Criterion 5: The amenity of transport routes is respected	
Measure	• The extent to which the proposal affects the amenity of transport routes (tourist routes as well as rail, ferry routes and local road access) • Development should seek to achieve a threshold where: Wind Turbines or other infrastructure do not overwhelm or otherwise significantly detract from the visual appeal of transport routes.
Evaluation	A number of transport routes have been assessed in the LVIA, including the A836 (see criterion 4 above), the A897 and the Thurso-Westfield-Shebster-Reay road (see criterion 4 above). The A897 runs along Strath Halladale. There will be limited visibility of the Development from this route, from around Forsinard where it will be seen at a distance (approximately 21km, VP14 Figure 6.25), and from sections close to the site, north of Craigton (VP8, Figure 6.19). Significant visual effects were identified for the sections north of Craigton. However, it is judged that the Development will not overwhelm the visual appeal of this transport route.
Criterion 6: The existing pattern of Wind Energy Development is respected	
Measure	The degree to which the proposal fits with the existing pattern of nearby wind energy development, considerations include: • Turbine height and proportions, • density and spacing of turbines within developments, • density and spacing of developments, • typical relationship of development to the landscape. • previously instituted mitigation measures • Planning Authority stated aims for development of area Development should seek to achieve a threshold where: The proposal contributes positively to existing pattern or objectives for development in the area
Evaluation	The Development will form an additional group of turbines to the west of a series of wind farm sites along the north coast, extending that series westwards. The turbines will be larger than at other sites, although the distance between schemes will mean that comparisons will not be direct. Whilst there will be an increase in the perception of wind farms along the north, it is not solely attributable to the Development. It is noted in the cumulative assessment that the role of the Development in the changing perception of landscape character and visual amenity of the study area in the consented scenario is considered to be significant (moderate) as it will extend the area that can be described as a 'landscape with wind farms' westwards, but that in the in-planning scenario, the cumulative effect is considered to be not significant (minor) as Drum Hollistan will be present to the west of Beinn Ràtha and the Development will not extend the 'landscape with wind farms'.
Criterion 7: The need for separation between developments and/ or clusters is respected	
Measure	• The extent to which the proposal maintains or affects the spaces between existing developments and/ or clusters • Development should seek to achieve a threshold where: The proposal maintains appropriate and effective separation between developments and/ or clusters

Evaluation	The Development will be at a distance from other wind farms, the closest being Strathy North approximately 10 km to the south-west, and Baillie, approximately 10 km to the east. This maintains effective separation between the Development other wind farms. Viewpoint 9 is relevant. The Development is 4.9 km from the consented Limekiln Wind Farm, separated by Beinn Ràtha. The Development is 9.8km from the consented Strathy South Wind Farm.
Criterion 8: The perception of landscape scale and distance is respected	
Measure	• The extent to which the proposal maintains or affects receptors' existing perception of landscape scale and distance. • Development should seek to achieve a threshold where: The proposal maintains the apparent landscape scale and/or distance in the receptors' perception.
Evaluation	The scale of the host landscape is large, although it is seen in view from smaller scale landscapes. The size of the turbines will be large, but will not overpower the scale of the host landscape. They will however, be prominent in views from across Strath Halladale around Melvich and Portskerra which include smaller scale landscapes. Viewpoints 5 and 6 are relevant.
Criterion 9: Landscape setting of nearby wind energy developments is respected	
Measure	• The extent to which the landscape setting of nearby wind energy developments is affected by the proposal. • Development should seek to achieve a threshold where: Proposal relates well to the existing landscape setting and does not increase the perceived visual prominence of surrounding wind turbines.
Evaluation	The Development is approximately 10 km from existing wind farms, will not affect the visual prominence of the existing turbines. The Development is 4.9 km from the consented Limekiln Wind Farm, separated by Beinn Ràtha. The Development is 9.8km from the consented Strathy South Wind Farm.
Criterion 10: Distinctiveness of Landscape character is respected	
Measure	• The extent to which a proposal affects the distinction between neighbouring landscape character types, in areas where the variety of character is important to the appreciation of the landscape. • Development should seek to achieve a threshold where: Integrity and variety of Landscape Character Areas are maintained
Evaluation	The Development will be located within the Central Caithness (Highland LCA CT4) part of the Sweeping Moorland and Flows LCT (134). Whilst there will be significant effects on the LCT within approximately 6 km of the Site, the Development will not affect the distinction between neighbouring LCTs, nor the integrity of the host LCT.