

Technical Appendix 4.1: Landscape and Visual Impact Assessment Methodology

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4.1.1 Introduction

4.1.1.1 This Technical Appendix describes the methodology that has been applied to undertake the Landscape and Visual Impact Assessment (LVIA) of the Proposed Development. The LVIA identifies and assesses the level of landscape and visual effects from the Proposed Development and reports on any likely significant effects. The following are considered in the LVIA:

- Effects during construction, operation and decommissioning on the landscape fabric of the Site and the character of the surrounding Study Area;
- Effects during the operational phase on visibility across the Study Area towards the Proposed Development, including views from residential receptors within 2.5 kilometres (km), settlements and sequential experiences along routes, supported by visualisations from viewpoint locations agreed through consultation;
- Cumulative effects on landscape character and visual amenity should other consented or in-planning wind farm sites be present;
- Effects from aviation lights on landscape character and visual amenity; and
- The implications of landscape and visual effects on the special qualities and integrity of designated landscapes.

4.1.1.2 This LVIA has been prepared by landscape architects MVGLA, led by Marc van Grieken, a Fellow of the Landscape Institute (FLI), former member of the Board of Trustees, and a Design Forum member for Architecture & Design Scotland (A&DS). Marc was also previously Chairman of the Landscape Institutes Technical Committee responsible for technical guidance and chair of the Advisory Panel of the Guidelines for Landscape and Visual Impact Assessment (GLVIA3).

4.1.1.3 Marc was assisted by MVGLA's in-house team of Chartered Members of the Landscape Institute (CMLI), Geographical Information Systems (GIS) consultants, photographer and visualisation specialist.

4.1.1.4 This Technical Appendix should be read in conjunction with the following:

- **Chapter 4: Landscape and Visual (EIAR Volume 2);**
- **EIAR Volume 3a - Figures;**
- **EIAR Volume 3b - Visualisations;**
- **EIAR Volume 4 – Technical Appendices:**
 - **Technical Appendix 4.2: Landscape Assessment;**
 - **Technical Appendix 4.3: Visual Assessment;**
 - **Technical Appendix 4.4: Cumulative Assessment;**

- **Technical Appendix 4.5: Aviation Lighting Assessment;**
- **Technical Appendix 4.6: Implications on Designated Landscapes;** and
- **Technical Appendix 4.7: Residential Visual Amenity Assessment.**

Guidance

- 4.1.1.5 The LVIA has been prepared in accordance with the principles set out in the Guidelines for Landscape and Visual Impact Assessment, Third Edition (GLVIA3) (Landscape Institute, Institute of Environmental Management and Assessment (IEMA), 2013)¹.
- 4.1.1.6 GLVIA3 is guidance that sets out good practice for undertaking LVIA, ensuring a degree of consistency and a framework for reaching professional judgements and identifying likely significant effects. GLVIA3 is acknowledged in guidance and policy as the leading reference for LVIA.
- 4.1.1.7 In addition, the LVIA also draws upon the principles set out within the following documents:
- Technical Guidance Note LITGN-2024-01, Notes and Clarifications on Aspects of Guidelines for Landscape and Visual Impact Assessment Third Edition (GLVIA3) (Landscape Institute (LI), 2024)²;
 - Landscape Character Assessment: Guidance for England and Scotland (Countryside Commission and Scottish Natural Heritage (SNH), 2002)³;
 - Siting and Designing Windfarms in the Landscape (SNH, 2017)⁴;
 - Visual Representation of Wind Farms, Guidance (SNH, 2017)⁵;
 - Technical Guidance Note 06/19 Visual Representation of Development Proposals (LI, 2019)⁶;
 - Assessing the Cumulative Landscape and Visual Impact of Onshore Developments (NatureScot, 2021)⁷;
 - Guidance on Aviation Lighting Impact Assessment (NatureScot, 2024)⁸;
 - Special Landscape Qualities - Guidance on assessing effects (NatureScot, 2025)⁹;
 - Assessing Impacts on Wild Land Areas: technical guidance (NatureScot, revised 2023)¹⁰; and
 - Residential Visual Amenity Assessment (RVAA), Technical Guidance Note 2/19 (Landscape Institute, 2019)¹¹.
- 4.1.1.8 Please note that SNH changed its name to NatureScot officially in August 2020. Therefore, where documents were published prior to this date, SNH has been referred to, and thereafter, NatureScot.

¹ Landscape Institute., Institute of Environmental Management and Assessment. (2013) Guidelines for Landscape and Visual Impact Assessment, Third Edition. London. Routledge

² Landscape Institute (2024) Technical Guidance Note LITGN-2024-01 Notes and Clarifications on Aspects of Guidelines for Landscape and Visual Impact Assessment Third Edition (GLVIA3) Available online from: https://www.landscapeinstitute.org/wp-content/uploads/2024/08/LITGN-2024-01-GLVIA3-NC_Aug-2024.pdf

³ Swanwick, C., Department of Landscape University of Sheffield., Land Use Consultants. (2002) Landscape Character Assessment, Guidance for England and Scotland. Cheltenham. Countryside Agency Publications.

⁴ Scottish Natural Heritage. (2017) Siting and Designing Wind Farms in the Landscape, Guidance. Available online from: <https://www.nature.scot/sites/default/files/2017-11/Siting%20and%20designing%20windfarms%20in%20the%20landscape%20-%20version%203a.pdf>

⁵ Scottish Natural Heritage. (2017) Visual Representation of Wind Farms, Guidance. Available online from: <https://www.nature.scot/sites/default/files/2019-09/Guidance%20-%20Visual%20representation%20of%20wind%20farms%20-%20Feb%202017.pdf>

⁶ Landscape Institute (2019) Technical Guidance Note 06/19. Visual Representation of Development Proposals. Available online from: https://www.landscapeinstitute.org/wp-content/uploads/2019/09/LI_TGN-06-19_Visual_Representation-1.pdf

⁷ NatureScot (2021) Assessing the Cumulative Landscape and Visual Impact of Onshore Developments. Available online from: <https://www.nature.scot/doc/guidance-assessing-cumulative-landscape-and-visual-impact-onshore-wind-energy-developments>

⁸ NatureScot (2024) Guidance on Aviation Lighting Impact Assessment. Available online from: <https://www.nature.scot/doc/guidance-aviation-lighting-impact-assessment>

⁹ NatureScot. (2025) Special Landscape Qualities – Guidance on assessing effects. Available online from: <https://www.nature.scot/doc/special-landscape-qualities-guidance-assessing-effects>

¹⁰ NatureScot. (2023) Assessing impacts on Wild Land Areas – technical guidance. Available online from: <https://www.nature.scot/doc/assessing-impacts-wild-land-areas-technical-guidance>

¹¹ Landscape Institute (2019) Residential Visual Amenity Assessment (RVAA), Technical Guidance Note 2/19. Available online from: <https://www.landscapeinstitute.org/technical-resource/rvaa/>

4.1.2 Scope of Assessment

Study Area

- 4.1.2.1 NatureScot guidance (SNH, 2017)⁵ suggests that for turbines of over 150 metres (m) to blade tip, an initial Study Area of 45 km radius should be considered, followed by refinement of the Study Area to focus on potential significant effects.
- 4.1.2.2 A tip-height Zone of Theoretical Visibility (ZTV) map to 45 km is shown on **Figure 4.2.1, (EIAR Volume 3a)** at a scale of 1:340,000, and at a scale of 1:100,000 at A1 size on **Figure 4.2.2, (EIAR Volume 3a)**. The Study Area was reduced to allow reporting to focus on the extent of likely significant effects. This was based on a desk-top review, fieldwork, analysis of ZTV mapping, consultation and professional judgement. The following provides details of the Study Areas assessed:
- Initially landscape effects were considered for landscape character up to 20 km which was reduced following a field visit to locations between 15 and 20 km. The Landscape Study Area considered in the LVIA was reduced to 15 km from the outer turbines, see **Technical Appendix 4.2 (EIAR Volume 4)**;
 - Visual effects were considered for locations across the wider area, but those reported on in detail were identified following a review of the design freeze layout and fieldwork which identified an area of approximately 25 km radius for routes, and approximately 10 km radius for settlements, see **Technical Appendix 4.3 (EIAR Volume 4)**;
 - Cumulative effects on landscape character and visual amenity within 25 km, see **Technical Appendix 4.4 (EIAR Volume 4)**;
 - Landscape and visual effects from aviation lighting within 25 km, see **Technical Appendix 4.5 (EIAR Volume 4)**;
 - Effects on the special qualities of designated landscapes within 25 km, see **Technical Appendix 4.6 (EIAR Volume 4)**; and
 - Visual effects on residential amenity has focussed on properties within 2.5 km of the outer turbines, see **Technical Appendix 4.7 (EIAR Volume 4)**.

Elements Scoped out of the Assessment

- 4.1.2.3 To allow focussing of the assessment, the scoping exercise identified where receptors are unlikely to be affected by the Proposed Development, either through having little or no theoretical visibility, or being distant from the Proposed Development. Those receptors have been scoped out of the LVIA. In addition to this, the scope of reporting was further focussed on those effects that were found to be significant or contribute to the meaningful discussion of landscape and visual effects of the Proposed Development.
- 4.1.2.4 Scoped out of the LVIA, on the basis of initial fieldwork and ZTV coverage, are the following elements (distances from the outer turbines):
- Effects on landscape character beyond approximately 15 km;
 - Effects on views from routes beyond approximately 25 km;

- Effects on views from local paths and locally promoted paths beyond approximately 5 km;
- Effects on views from settlements beyond approximately 10 km;
- Cumulative effects with turbines of less than 50 m to blade tip;
- Effects on landscape and visual receptors beyond 25 km;
- Effects on designated landscapes beyond approximately 25 km; and
- Decommissioning effects, which are similar to, but in reverse of construction effects, reducing on completion.

- 4.1.2.5 Viewpoint selection was also a form of containing the scope of the assessment, through the selection of viewpoints that are representative of sensitive landscape and visual receptors identified by ZTV mapping of receiving theoretical visibility of the Proposed Development, rather than exhaustive inclusion of all locations within the ZTV.

4.1.3 Baseline Methodology

Desk-based Assessment

- 4.1.3.1 Desk studies were undertaken to provide information about the baseline landscape and visual resource and to inform fieldwork and the evaluation of effects. For this work, the following data sources have been consulted:
- Ordnance Survey (OS) topographic and geological maps;
 - South Lanarkshire Local Development Plan 2 (South Lanarkshire Council (SLC), 2021)¹²;
 - SiteLink (NatureScot, 2025)¹³;
 - Scottish Landscape Character Types Map and Descriptions (NatureScot, 2019)¹⁴;
 - Landscape Character Assessment: Glasgow and the Clyde Valley – Landscape Evolution and Influences (NatureScot, 2019)¹⁵;
 - South Lanarkshire Landscape Character Assessment (Ironside Farrar, 2010)¹⁶;
 - Wild Land Areas (SNH, 2017)¹⁷; and
 - South Lanarkshire Validating Local Landscape Designations (Ironside Farrar, 2010)¹⁸.
- 4.1.3.2 The LVIA also takes cognisance of other supplementary assessments of landscape character and sensitivity provided in the South Lanarkshire Landscape Capacity Study for Wind Energy (Ironside Farrar, 2016)¹⁹.

Field Assessment

- 4.1.3.3 Field survey work was carried out during several visits under differing weather conditions, between September 2023 and October 2025. 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 settlements, residential properties within 2.5 km, routes and the summits of hills.

¹² South Lanarkshire Council. (2021) South Lanarkshire Local Development Plan 2. Available online from: <https://www.southlanarkshire.gov.uk/developmentplan2>

¹³ NatureScot. (2025) SiteLink. Available online from: <https://sitelink.nature.scot/home>

¹⁴ NatureScot. (2019) Scottish Landscape Character Types Map and Descriptions. Available online from: <https://www.nature.scot/professional-advice/landscape/landscape-character-assessment/scottish-landscape-character-types-map-and-descriptions>

¹⁵ NatureScot. (2019) Landscape Character Assessment: Glasgow and the Clyde Valley – Landscape Evolution and Influences. Available online from: <https://web.archive.org/web/20250119153854/https://www.nature.scot/doc/landscape-character-assessment-glasgow-and-clyde-valley-landscape-evolution-and-influences>

¹⁶ Ironside Farrar (2010) South Lanarkshire Landscape Character Assessment.

¹⁷ Scottish Natural Heritage. (2017) Wild Land Areas. Available online at: <https://www.nature.scot/doc/wild-land-areas-map-and-descriptions-2014>

¹⁸ Ironside Farrar (2010) South Lanarkshire Validating Local Landscape Designations.

¹⁹ Ironside Farrar (2016) South Lanarkshire Landscape Capacity Study for Wind Energy. Available online from: https://www.southlanarkshire.gov.uk/downloads/download/868/renewable_energy_supplementary_guidance

4.1.4 Methodology for the Assessment of Effects

Graphics Production

- 4.1.4.1 Graphics and visualisations are provided to support the assessment of effects and are included in **EIAR Volume 3a: Figures** and **Volume 3b: Visualisations**.
- 4.1.4.2 Visualisations for the LVIA and Cultural Heritage assessment viewpoints have been produced in accordance with current good practice guidance from NatureScot (SNH, 2017) and the Landscape Institute (LI, 2019).

Data Used for Software Modelling

- 4.1.4.3 The following data was used for modelling:
- OS Terrain® 50 height data Digital Terrain Model (DTM) (50m grid spacing, 4m RMSE) for wider landscape modelling;
 - Ordnance Survey 1:50,000 raster data; and
 - Ordnance Survey 1:250,000 raster data.

ZTV Mapping

- 4.1.4.4 The OS DTM 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 2 m. The calculation uses a *'bare ground'* computer generated terrain model, which does not take account of potential screening by buildings or vegetation.
- 4.1.4.5 This is considered to over-emphasise the extent of visibility of the Proposed Development and therefore represents a *'maximum potential visibility'* scenario. Separate ZTVs are run from the proposed turbine tip heights, see **Figures 4.2.1, 4.2.2 and 4.4, (EIAR Volume 3a)**, and hub heights, see **Figure 4.3, (EIAR Volume 3a)**, which can be used to indicate the proportion of the turbines likely to be visible. They take into consideration earth curvature and use a refraction coefficient of 0.075.
- 4.1.4.6 The ZTVs of the Proposed Development were calculated to show the number of turbines visible to blade tip height or hub height and are based on the following candidate turbine (see **Figure 2.2 (EIAR Volume 3a)**):
- Turbine height: 240 m;
 - Rotor diameter: 170 m; and
 - Hub height: 155 m.
- 4.1.4.7 Cumulative ZTVs (CZTVs) were also created to illustrate the potential combined visibility of the Proposed Development with consented or in-planning wind farms, see **Figures 4.13 to 4.16.2, (EIAR Volume 3a)** included in the cumulative assessment.
- 4.1.4.8 To create CZTVs, a ZTV to tip height of each wind farm was generated, based on the tip height of each turbine to a radius in accordance with the current NatureScot guidance (SNH, 2017) and then combined with the Proposed Development ZTV. The ZTVs were set up to show the number of wind farms (rather than the number of turbines) visible and are colour-coded to distinguish between areas where the Proposed Development is predicted to be visible (either on its own, or in conjunction with other wind farms), and areas where other wind farms would be visible, but the Proposed Development would not be visible. The ZTVs do not necessarily identify which other wind farms would be visible, but paired CZTVs are provided where necessary to analyse the relationships between key cumulative wind farms.

- 4.1.4.9 The aviation lighting ZTVs were modelled as an aggregate of the minimum vertical viewing angle calculated for Turbines (T) T1, T2, T7, T8, T9, T11 and T13 proposed to be lit, see **Figures 4.17 to 4.18.7, (EIAR Volume 3a)**. This ZTV therefore shows the minimum vertical viewing angle for these turbines, i.e. the angle closest to the horizontal for the brightest light, which is not necessarily the closest turbine. Whilst the ZTV does not indicate which turbine would be the brightest, it indicates the least amount of downward reduction in intensity.

Viewpoint Photography

- 4.1.4.10 The methodology for photography is in accordance with guidance from NatureScot (SNH, 2017) and the LI (LI, 2019). The focal lengths used are in accordance with recommendations contained in guidance and are stated on the figures. Photography was undertaken by MVGLA between June 2025 and October 2025. Photography was taken in optimal visibility conditions wherever possible, though unpredictable weather such as low cloud and short daylight hours in autumn/winter make more distant viewpoints harder to get ideal photographs for.
- 4.1.4.11 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 Single-Lens-Reflex (SLR) with a fixed 50 millimetre (mm) focal length lens.
- 4.1.4.12 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 set at 1.65 m from ground level, except where noted, and orientated to take photographs in landscape format. 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° sweep at each viewpoint.
- 4.1.4.13 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.
- 4.1.4.14 Where weather conditions prevented photography from being taken, and to provide consistency with the Applicant's other sites within the Study Area, previous photography was used as follows:
- Viewpoint 1: Tinto – 31/01/2024;
 - Viewpoint 3: Culter Fell – 15/08/2024;
 - Viewpoint 7: Hart Fell – 06/09/2023; and
 - Viewpoint 8: Lowther Hill – 20/08/2024.
- 4.1.4.15 Any changes recorded in the landscape since photography was undertaken have been described in **Technical Appendix 4.3 (EIAR Volume 4)**.

Visualisations

- 4.1.4.16 Photographic stitching software PTGui© and Adobe Photoshop© was used to stitch together the adjoining frames to create panoramic baseline photography.
- 4.1.4.17 The same terrain data used for the production of the ZTVs was also used to generate wireline drawings, using ReSoft Windfarm software. The DTM includes the Site, 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. Infrastructure elements are also shown where they would be visible.

- 4.1.4.18 The stitched photographs were matched to the wirelines using Adobe Photoshop®. Wirelines were produced using a viewer height of 1.65 m 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 mountain summits, buildings, and roads, were located in the model and used as markers to help with the alignment process where necessary.
- 4.1.4.19 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. Location and rendering of infrastructure took a similar process.
- 4.1.4.20 Finally, where applicable the images were converted from Cylindrical Projection to Planar Projection using PTGui® software.
- 4.1.4.21 Distances shown on the visualisations are to the nearest turbine of the Proposed Development.

Dusk photomontages showing aviation lighting

- 4.1.4.22 Photography for nighttime photomontages to illustrate potential effects of aviation lighting was carried out in the evening. A set of photographs was taken prior to sunset to ensure that the camera was correctly set up, and to allow cross reference between lights caught on dark photographs and development caught on day-time photographs. A series of photograph sets were taken over a period of about an hour and a half from sunset to full darkness. This enabled the photographer to take multiple sets as the sky darkened, with varied camera settings. Downloaded sets were then reviewed to select a set that best matched NatureScot advice on having the sky relatively dark and other lights in the landscape on, but the form of the landscape still visible.
- 4.1.4.23 Photomontage illustrations prepared for night-time views using photography taken during twilight were produced using the same method as for daylight photomontages, with turbines rendered in black as silhouettes. Images of aviation lights are provided for indicative illustration only and have been modelled on the basis of approximately 200 candela (cd) with attenuation for distance.

Figure Layout

- 4.1.4.24 The dimensions for each image (printed height and field of view) are in accordance with NatureScot requirements (SNH, 2017). Photography information and viewing instructions are provided on each page where relevant. Thumbnail maps are provided for location reference. A 5 centimetre (cm) rule is provided on each page to guide viewers when zooming in on electronic copies of the figures.
- 4.1.4.25 For each viewpoint, pages include:
- The first 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 (showing the LVIA baseline) and photomontage of the view towards the Proposed Development. These images are shown in planar projection and presented on an A1 width page.

4.1.5 Assessment Structure

- 4.1.5.1 Consideration of potential effects on landscape and visual amenity are related but distinct components of LVIA. The methodologies used to assess potential landscape effects and visual effects are broadly similar but, in order that the differences are clear, the methodologies for assessing significance for landscape effects and visual effects, and the assessment sections themselves, are set out separately.
- 4.1.5.2 The LVIA considers the potential effects of the addition of the Proposed Development to the existing landscape, against a baseline that includes existing wind farms (and those under construction). The Cumulative Landscape and Visual Impact Assessment (CLVIA), considers the potential changes in effects with the addition of the Proposed 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 developments that have not yet been built, or undetermined applications).
- 4.1.5.3 The operational phase elements of the Proposed Development, i.e. turbines, access tracks, Battery Energy Storage System (BESS), substation and other infrastructure, are considered to be long term elements as they would be in situ for the 40 years of the wind farm. They are theoretically reversible upon decommissioning. This is taken to be the case for all effects but is not repeated for each receptor.
- 4.1.5.4 Using a precautionary approach, unless otherwise stated, all likely effects identified are considered to be negative or adverse.
- 4.1.5.5 The assessment is based on the candidate turbine specification, see **Chapter 2: Description of Proposed Development (EIAR Volume 2)**, with an awareness that there may be hub height or rotor diameter changes within the parameters of the application, depending on the turbine model selected at the time of construction.

4.1.6 Identification of Landscape Effects

- 4.1.6.1 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.

Sensitivity of Landscape Receptors

- 4.1.6.2 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.
- 4.1.6.3 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 consequences for the maintenance of the baseline situation and/or the achievement of landscape planning policies and strategies" (GLVIA3, Page 88).
- 4.1.6.4 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.

4.1.6.5 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
- Other criteria that indicate value, including landscape quality, scenic quality, rarity, representativeness, conservation interests, recreation value, perceptual aspects, and artistic associations.

4.1.6.6 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. 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.

4.1.6.7 Judgements of relative sensitivity of different Landscape Character Types (LCTs) to wind farm development also has cognisance of other assessments of landscape character and sensitivity provided in South Lanarkshire Landscape Character Assessment.

4.1.6.8 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 **Table TA4.1.1**, 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 TA4.1.1: Sensitivity of the Receptor: Landscape		
Sensitivity tending towards Higher or Lower Sensitivity		
	Higher	Lower
Landscape Susceptibility to Change	<ul style="list-style-type: none"> ▪ 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. 	<ul style="list-style-type: none"> ▪ Robust landscape, with few or no vulnerable features, and potentially able to accommodate 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.
Landscape Value	<ul style="list-style-type: none"> ▪ Relatively rare or 'unique' landscape character type (LCT). ▪ Designated landscape with national policy level protection. 	<ul style="list-style-type: none"> ▪ Ubiquitous or extensive landscape type. ▪ A landscape without formal designation.

Landscape Magnitude of Change

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

4.1.6.10 For landscape elements/features, the size and scale of change depends on the extent of existing landscape elements that would 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.

4.1.6.11 Given that wind farms currently exist in the Study Area, the scale and size of change also considers the relationship between the Proposed 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 Proposed 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'.

- 4.1.6.12 The geographical extent of landscape change is the area over which the landscape change being described would 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.
- 4.1.6.13 Size/scale, geographical extent, and duration/reversibility (assumed to be long term theoretically reversible for operational effects as explained above, **Section 4.4.1.5.3**) are combined to form a judgement as to the overall magnitude (nature) of the landscape change, recorded as **High, Medium, Low** or **Negligible**.
- 4.1.6.14 Magnitude of change is described using criteria such as those set out in **Table TA4.1.2**, 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 TA4.1.2: Magnitude of Change to the Landscape		
Criteria tending towards Higher or Lower Magnitude of Change		
Higher		Lower
Scale	<ul style="list-style-type: none"> ▪ Large changes or extensive loss of key features. 	<ul style="list-style-type: none"> ▪ Small changes to key features, little or no loss of features.
Geographical Extent	<ul style="list-style-type: none"> ▪ Large areas affected by change. ▪ Changes perceived as close to the receptor. 	<ul style="list-style-type: none"> ▪ Limited area affected. ▪ Changes perceived as distant from receptor.

Judging the Levels of Landscape Effect and Significance

- 4.1.6.15 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. It does not use a matrix or scoring of sensitivity against magnitude of change, an approach which is not supported by GLVIA3.
- 4.1.6.16 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.
- 4.1.6.17 **Table TA4.1.3** sets out various criteria and descriptions that are used to guide judgments as to the level of effect.

Table TA4.1.3: Levels of Effect: Landscape	
Major	Moderate
<p>HIGHER LEVEL OF EFFECT</p> <ul style="list-style-type: none"> ▪ 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. 	<p>LOWER LEVEL OF EFFECT</p> <ul style="list-style-type: none"> ▪ 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.

Table TA4.1.3: Levels of Effect: Landscape			
Significant		Not Significant	
Substantial changes affecting the character of the landscape or the elements therein	Changes affecting the character of the landscape or the elements therein.	Slight changes affecting the character of the landscape or specific elements therein.	No or minimal perceptible changes affecting the character of the landscape or specific elements therein. Note that this includes no impact.

4.1.7 Identification of Effects

4.1.7.1 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 would 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.).

Sensitivity of Visual Receptors or View

4.1.7.2 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, page 113). Viewers of higher susceptibility to 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.

4.1.7.3 Viewers of lower susceptibility to changes in views include the following:

- 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.

4.1.7.4 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 guidebooks or on tourist maps, provision of facilities for their enjoyment and references to them in literature and art.

4.1.7.5 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.

4.1.7.6 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 **Table TA4.1.4**, using professional judgement to balance several factors that may raise or lower the level of sensitivity.

4.1.7.7 '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 TA4.1.4: Sensitivity of the Receptor: Visual		
Sensitivity tending towards Higher or Lower Sensitivity		
Higher ←————→ Lower		
Visual Susceptibility to Change	<ul style="list-style-type: none"> High scenic quality. Unaffected by overt or intrusive man-made elements. 	<ul style="list-style-type: none"> Low scenic quality. View includes overt or intrusive man-made elements.
Visual Value	<ul style="list-style-type: none"> Residential or tourist viewers. Designated viewpoint advertised on OS maps and in tourist information. Location within an area (nationally) designated for landscape/scenic values. 	<ul style="list-style-type: none"> Working or travelling viewers. 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.

Magnitude of Visual Change

4.1.7.8 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.

4.1.7.9 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 Proposed 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 Proposed Development, in terms of the relative amount of time over which it would be experienced along routes and whether views would be full, partial or glimpses.

4.1.7.10 All changes to views are considered as they would occur in winter conditions, 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.

4.1.7.11 Given that wind farms currently exist in the Study Area, the scale and size of change also considers the relationship between the Proposed 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, proportions, and number;
- The position of the wind farms in the view, e.g. on the skyline or against the backdrop of land;
- The distances between wind farms, and their distances from the viewer, and
- How the Proposed Development fits with the pattern of wind farm development visible.

4.1.7.12 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.

4.1.7.13 The geographical extent of visual changes records the extent of the area over which the changes would be visible, e.g. whether this is a unique viewpoint from where the Proposed 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.

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

4.1.7.15 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 Table TA4.1.5, using professional judgement to balance several factors that may raise or lower the magnitude judgement.

4.1.7.16 '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 TA4.1.5: Magnitude of Change to the Visual Resource		
Criteria tending towards Higher or Lower Magnitude of Change		
Higher ←————→ Lower		
Scale	<ul style="list-style-type: none"> Proposed Development is large in the view. Large proportion of the view affected. 	<ul style="list-style-type: none"> Proposed Development forms a small feature in the view. Small proportion of the view affected.
Geographical Extent	<ul style="list-style-type: none"> Large areas affected by change; Changes perceived as close to the receptor. Changes viewed over prolonged section(s) of a route. 	<ul style="list-style-type: none"> Limited area affected. Changes perceived as distant from receptor.

Judging the Levels of Visual Effect and Significance

4.1.7.17 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.

4.1.7.18 **Table TA4.1.6** sets out various criteria and descriptions that are used to guide judgments as to the level of effect.

Table TA4.1.6: Levels of Effect: Visual			
Major	Moderate	Minor	Negligible
<p>HIGHER LEVEL OF EFFECT</p> <ul style="list-style-type: none"> 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. 		<p>LOWER LEVEL OF EFFECT</p> <ul style="list-style-type: none"> 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 Proposed Development results in substantial changes in the view and may become a defining influence or key focal point in the view.	The Proposed Development results in clearly visible changes to the view and may form an important but not defining element of the view.	The Proposed Development results in slight changes to the view, and is neither dominant nor prominent, but is visible in the view.	The Proposed Development results in hardly perceptible changes to the view, may go unnoticed as a minor element in the view, or is not visible.

4.1.8 Assessment of Cumulative Effects

The Aim of the Cumulative Assessment

- 4.1.8.1 The methodology for the CLVIA is similar to that set out for the LVIA, although it focuses on the role played by the Proposed Development amongst other wind farms that are consented or in-planning at the time of writing.
- 4.1.8.2 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 Proposed 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 Proposed Development into the landscape in the context of existing wind farms).
- 4.1.8.3 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 would change with the addition of the Proposed Development.
- 4.1.8.4 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" (NatureScot, 2021). A cumulative assessment considers different cumulative scenarios, in addition to the existing baseline scenario:
 - Consented Scenario: the addition of the Proposed 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 Proposed 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.

4.1.8.5 Regarding sites at scoping stage, NatureScot guidance states "Occasionally it may be appropriate to include proposals in an assessment which are at earlier stages of development (including at scoping), particularly where clusters of development or "hotspots" emerge, or where proposals are adjacent to one another. However, a degree of pragmatism is required to enable proposals to progress to determination, and to cater for proposals which may not yet be in the public domain" (NatureScot, 2021). Scoping stage sites are identified on the cumulative figure shown on **Figure 4.12, (EIAR Volume 3a)** and wirelines on visualisations **Figures 4.21.1 to 4.35.4, (EIAR Volume 3b)**. No scoping developments were identified in a review of developments to be included in the CLVIA.

The Stages of Cumulative Assessment

4.1.8.6 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 Proposed Development in the context of the overall accumulation of wind farms 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.

4.1.8.7 To undertake a CLVIA further information is required to inform the assessment, and further professional judgements would be necessary as part of the assessment. Further information required for the CLVIA includes:

- Preparation and analysis of combined ZTVs that focus on those areas where significant effects are most likely, and those developments 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 wind farm development in the landscape;
- Information regarding:
 - The directions of view in which the Proposed Development is visible in context of other developments;
 - Proximity of the Proposed Development to viewer and relative to other developments;
 - Composition, setting, scale and size of developments and how the Proposed Development compares with these; and
- Visualisations (wireframes) showing the Proposed Development relative to other developments.

4.1.8.8 The cumulative wind farms are shown on wireline visualisations, in accordance with NatureScot (SNH, 2017) guidance.

4.1.8.9 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.

Identification of Scope

4.1.8.10 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. Data was collected for wind farms within 45 km of the Proposed Development; those within approximately 25 km are shown on **Figure 4.12, (EIAR Volume 3a)**. The assessment of effects focussed on those with the potential to have significant cumulative relationships with the Proposed Development, which tended to be those within approximately 15 to 20 km of the Proposed Development. In order to allow time for the cumulative

assessment and the production of supporting visualisation wirelines, a cumulative developments cut-off date of 18th December 2025 has been applied.

Levels of Effect

Additional Effects

- 4.1.8.11 The levels of additional cumulative effect are set out as **Major, Moderate, Minor** or **Negligible** using the same considerations as the LVIA methodology set out above and taking the level of effect to be the additional change as a result of the Proposed Development to the scenario baseline (as if it were existing).
- 4.1.8.12 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 would be increased or reduced effect created by the Proposed Development in that context.

Combined Effects

- 4.1.8.13 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, several discrete wind farms, which together create the sense of a group or band of wind farms across the landscape. These types of effects relate to patterns of development across the landscape and the role that the Proposed Development plays in altering the sense of wind energy development in the surrounding area.
- 4.1.8.14 Patterns of development are discussed in the LVIA and the cumulative assessment, and are considered using a series of thresholds or levels to indicate the degree to which the area is characterised by wind energy development, including:
- A landscape with occasional wind farms: wind turbines or wind farms are seen as separate isolated features within the LCT, 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.
- 4.1.8.15 A significant in-combination cumulative effect would be one in which the introduction of the Proposed Development would cause a change from one level to the next. Not significant effects are those in which the introduction of the Proposed Development may cause an increase in the perceptions of wind farms in the landscape but would not alter the degree to which the area is characterised by wind energy development (using the levels set out above).

4.1.9 Implications of Effects for Designated Landscapes

- 4.1.9.1 The implications for designated landscapes as a result of the Proposed Development are considered against the values, aims and/or special qualities of the designated areas and whether the Proposed Development would compromise the integrity of the designation. This section, necessarily at the end of the chapter, does not draw conclusions about effects on designated areas, 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 draws out which effects (identified in the assessment sections) would affect the special qualities of the area and the reasons

for which it was designated, to conclude on whether the integrity of the designated area would be affected.

4.1.10 Assessment Limitations

- 4.1.10.1 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, or subsequent modifications to landform since the DTM was created.
- 4.1.10.2 The theoretical visibility indicated by the bare-ground models is therefore an over-estimation of visibility. Actual visibility is described for receptors based on fieldwork and is illustrated in photomontages.
- 4.1.10.3 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.
- 4.1.10.4 Viewpoint photography captures the landscape at the date taken (displayed on each visualisation) and does not consider any forestry felling or wind-blown trees occurring thereafter.
- 4.1.10.5 The assessment does not include any storm damage or felling of trees, woodland and forestry post-September 2025.
- 4.1.10.6 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. It is noted also that the movement of the turbines may render them more noticeable in the view than static photographs/photomontages can portray.
- 4.1.10.7 Limitations to the cumulative assessment include the uncertainty of whether the proposed wind farms would be built in the future. This includes consented schemes developments 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 developments schemes before they are actually built, through redesign and/or micro-siting.
- 4.1.10.8 Wirelines have been produced with cumulative developments out to 25 km from the turbine array. Therefore, photographs may include operational or under construction wind farms that are not shown on wirelines.
- 4.1.10.9 The Future Baseline is based on sources of information covering the Study Area rather than the opinion of the assessors.

4.1.11 References

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Technical Appendix 4.2: Landscape Assessment

Technical Appendix 4.2: Landscape Assessment

4.2.1 Introduction

- 4.2.1.1 This Technical Appendix identifies and assesses the effects on the landscape fabric of the Site and the landscape character of the wider Study Area, as a result of the Proposed Development described in **Chapter 2: Description of Proposed Development (EIAR Volume 2)**.
- 4.2.1.2 The landscape assessment has been undertaken in accordance with the principles set out in **Technical Appendix 4.1 (EIAR Volume 4)** and is based on professional judgement.
- 4.2.1.3 This Technical Appendix should also be read in conjunction with the following:
- **Chapter 4: Landscape and Visual (EIAR Volume 2);**
 - **Volume 3a - Figures;**
 - **Volume 3b - Visualisations;**
 - **Volume 4 – Technical Appendices:**
 - **Technical Appendix 4.3: Visual Assessment;**
 - **Technical Appendix 4.4: Cumulative Assessment;**
 - **Technical Appendix 4.5: Aviation Lighting Assessment;**
 - **Technical Appendix 4.6: Implications on Designated Landscapes;** and
 - **Technical Appendix 4.7: Residential Visual Amenity Assessment.**

4.2.2 Scope of Assessment

Study Area

- 4.2.2.1 The extent of the initial Study Area for the landscape assessment was set at 45 kilometres (km) in accordance with good practice¹ which recommends a Study Area of 45 km for turbines above 150 metres (m) in height. The turbines proposed are based on a 240 m tip height candidate model and the typical wind turbine elevations are shown on **Figure 2.2 (EIAR Volume 3a)**.
- 4.2.2.2 Initially, in the Scoping Report, it was noted that landscape effects would be considered to 20 km from the proposed turbines. However, following a review of landform, Zone of Theoretical Visibility (ZTV) mapping, and site visits of the design freeze layout, it was concluded that potential significant effects on landscape character would likely occur up to an area of approximately 15 km from the outermost turbines. Therefore, a detailed Study Area of 15 km was assessed in the Landscape and Visual Impact Assessment (LVIA) chapter.

4.2.3 Landscape Baseline

Landscape Character

- 4.2.3.1 Landscape character is defined as a distinct, recognisable, and consistent pattern of elements in the landscape that makes one landscape different from another. Landscape Character Types (LCTs) or

Landscape Character Areas (LCA), refer to different types of landscape that are relatively homogenous in character. They are generic in nature and can occur more than once in different parts of the country, but wherever they occur they share broadly similar combinations of geology, soils, climate, flora, and fauna, interact, and perceived alongside cultural and social components of historical and cultural heritage land use, settlement, enclosure, and other human interventions.

Landscape Sources

- 4.2.3.2 NatureScot (2019) database² identifies distinct areas as LCTs at 1:50,000 scale comprising geographical areas of combinations of landform, landcover and pattern conveying a sense of place and is the most recent landscape character assessment covering the Study Area. For each LCT identified, NatureScot sets out the location and context, key characteristics, and description. The LCTs identified form the basis of this assessment on landscape character and were verified during fieldwork.
- 4.2.3.3 The LCT baseline was also informed by the following sources:
- Ordnance Survey (OS) topographic and geological maps;
 - South Lanarkshire Local Development Plan 2 (South Lanarkshire Council (SLC), 2021)³;
 - SiteLink (NatureScot, 2025)⁴;
 - Scottish Landscape Character Types Map and Descriptions (NatureScot, 2019)²;
 - Landscape Character Assessment: Glasgow and the Clyde Valley – Landscape Evolution and Influences (NatureScot, 2019)⁵;
 - South Lanarkshire Landscape Character Assessment (Ironside Farrar, 2010)⁶;
 - Wild Land Areas (SNH, 2017)⁷;
 - South Lanarkshire Validating Local Landscape Designations (Ironside Farrar, 2010)⁸; and
 - South Lanarkshire Landscape Capacity Study for Wind Energy (Ironside Farrar, 2016)⁹.

4.2.4 Landscape Character within the initial 45 km Study Area

- 4.2.4.1 **Figure 4.1 (EIAR Volume 3a)** shows that the initial 45 km Study Area extends between Forth in the north, Carsethorn in the south, Teviothead in the east, and Dalmellington in the west. Within 45 km of the Site, the landscape varies and includes large-scale upland moorland and hills forming the Southern Uplands which occupy a large area in the middle of the 45 km Study Area extending from the northeast to southwest. These are incised by a series of broad valleys such as Annandale to the east of the Site extending southwards towards the Solway Firth, and Nithsdale to the west which is orientated northwest to southeast between Kilmarnock and Dumfries. Additionally, there are a series of medium to small-scale valleys within the Southern Uplands including the River Clyde Valley, and the narrower Dalveen and Mennock Passes. The Southern Uplands provides a buffer between lowland farmland in the north surrounding Glasgow, and the lowland coastal landscapes to the south along the Solway Firth. Approximately 5.6 km to the east of the Site is a narrow corridor which

¹ Scottish Natural Heritage. (2017) Visual Representation of Wind Farms, Guidance. Available at: <https://www.nature.scot/sites/default/files/2019-09/Guidance%20-%20Visual%20representation%20of%20wind%20farms%20-%20Feb%202017.pdf>

² Available at: <https://www.nature.scot/professional-advice/landscape/landscape-character-assessment/scottish-landscape-character-types-map-and-descriptions>

³ South Lanarkshire Council. (2021) South Lanarkshire Local Development Plan 2. Available at: <https://www.southlanarkshire.gov.uk/developmentplan2>

⁴ NatureScot. (2025) SiteLink. Available at: <https://sitelink.nature.scot/home>

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⁶ Ironside Farrar (2010) South Lanarkshire Landscape Character Assessment.

⁷ Scottish Natural Heritage. (2017) Wild Land Areas. Available at: <https://www.nature.scot/doc/wild-land-areas-map-and-descriptions-2014>

⁸ Ironside Farrar (2010) South Lanarkshire Validating Local Landscape Designations. Available online from: https://www.southlanarkshire.gov.uk/downloads/file/4147/landscape_designations_report_november_2010

⁹ Ironside Farrar (2016) South Lanarkshire Landscape Capacity Study for Wind Energy. Available at: https://www.southlanarkshire.gov.uk/downloads/download/868/renewable_energy_supplementary_guidance

accommodates the M74 Motorway/A74(M) road, West Coast Main Line railway line, and National Cycle Route (NCR) 74.

4.2.4.2 In recent years, wind energy development has taken place both within this corridor with several small to large-scale turbines located close to the M74 Motorway, and larger developments on the edge of the Southern Uplands and to the north, east and west of the motorway. A total of 16 operational wind farms, and three currently under construction, are located within the 25 km Study Area and are shown on **Figure 4.6 (EIAR Volume 3a)** and listed on **Table TA4.2.1** as follows:

Table TA4.2.1: Operational Wind Farm Developments to 25 km		
Site	Details	Distance and Direction from the nearest proposed turbine
Operational¹⁰		
1. Andershaw	11 turbines at 140 m to tip	17.5 km, northwest
2. Clyde	152 turbines at 126.5 m to tip	4.3 km, northeast
3. Clyde Extension	54 turbines at 142 m to tip	13.2 km, northeast
4. Dalswinton	15 turbines to 126 m to tip	15.5 km, south
5. Glenkerrie	11 turbines at 118 m to tip	23.2 km, northeast
8. Harestanes	68 turbines at 125 m to tip	7.6 km, northeast
9. Kennoxhead Phase 1	13 turbines at 180 m to tip	22.6 km, northwest
10. Middle Muir	15 turbines at 152 m to tip	17.5 km, northwest
11. Minnygap	10 turbines at 125 m to tip	10.6 km, southeast
12. Sandy Knowe	24 turbines at 125 m to tip	23.2 km, west
13. Sanquhar	9 turbines at 130 m to tip	22.6 km, west
14. Sunnyside	2 turbines at 62 m to tip	17.5 km, west
15. Twenty Shilling	9 turbines at 140 m to tip	15.1 km, southwest
16. Whiteside	10 turbines at 121.2 m to tip	21.4 km, west
Under Construction		
17. Priestgill	7 turbines at 200 m to tip	16.9 km to the north
18. Sanquhar Phase 2	44 turbines at 149 and 200 m to tip	20.4 km to the west
19. Whitelaw Brae	14 turbines at 133.5 m to tip	15.9 km, northeast

4.2.4.3 There are also several consented and wind farms currently in-planning in the 25 km Study Area, which are considered separately in **Technical Appendix 4.4 (EIAR Volume 4)** and shown on **Figure 4.12 (EIAR Volume 3a)**.

4.2.4.4 More recently, several Battery Energy Storage System (BESS) have received planning consent in the M74 Motorway corridor which combined with the supporting infrastructure and existing overhead lines, gives a perception of a landscape of power generation along the corridor.

Detailed 15 km Study Area

4.2.4.5 The assessment of landscape character considered potential effects on LCTs, out to approximately 15 km, which was established as an appropriate range to catch all likely significant effects based on previous reviews and site visits. Using the ZTV shown on **Figure 4.8 (EIAR Volume 3a)** as an indicator of likely visibility, and visualisations within **EIAR Volume 3b, Table TA4.2.2** sets out the

overview of potential landscape effects. Some LCTs are selected and discussed further following the initial review.

Table TA4.2.2: Overview of Potential Effects on LCTs within the 15 km Study Area		
Landscape Character Type	Potential Effect	Included in the Assessment
95 Southern Uplands - Borders ¹¹	<p>The LCT covers a large remote upland area approximately 8.6 km to the northeast of the Site to the east and west of the A701 road and is known as the Broad Law group of hills. Comprising open moorland and high rounded summits, extensive visibility can be experienced from high ground across the surrounding Southern Uplands. Within the 15 km Study Area, landcover comprises open moorland in the south including Chalk Rig Edge (500 m Above Ordnance Datum (AOD)) on the Annandale Way, and Crown of Scotland (538 m AOD). To the north is an extensive area of forestry which lies directly to the east of Clyde Wind Farm.</p> <p>The Proposed Development would be seen mostly in its entirety from upper slopes and summits of open ground including a section of the Annandale Way leading towards Hart Fell (808 m AOD) further to the east and beyond the 15 km Study Area. From these locations, the proposed turbines would be seen beyond the Clyde Wind Farm and in some cases extend turbines further to the south. This would affect views from the Crown of Scotland, Chalk Rig Edge and path leading to Hart Fell which also forms part of the Annandale Way, with the greatest visibility within the LCT occurring beyond 15 km.</p> <p>Following a review, it was concluded that the key characteristics that define the LCT would be not be altered by the presence of the Proposed Development which would be seen beyond Clyde Wind Farm. .</p>	Scoped out
163 Middle Dale – Dumfries & Galloway ¹²	<p>This LCT is located in two locations within the 15 km Study Area extending from the east of the Site southwards towards the Solway Coast and is known as Annandale, and to the west of the Site covering Nithsdale between Kilmarnock and Dumfries.</p> <p>A small part of the Annandale unit of the LCT is located within the 15 km Study Area and includes the town of Moffat and follows the A74 (M) road corridor. This comprises farmland interspersed with forestry and woodland forming the northern head of a broad corridor between the upland fringe and foothills extending between the Southern Uplands to the north, and the Solway Coast to the south beyond the 15 km Study Area.</p> <p>Theoretical visibility of the Proposed Development is predicted to mainly occur on the more elevated eastern side and a smaller part of the western side of the A74 (M) road. This would be reduced by forestry and woodland within the LCT, and in the intervening area at distances between 11.6 – 15 km where the proposed turbines would be viewed within the context of and sometimes beyond Harestanes and Minnygap Wind Farms.</p> <p>It is judged that the addition of the Proposed Development to this baseline would not alter the key characteristics of the Annandale unit of the LCT.</p>	Scoped out

¹⁰ Hare Hill (no. 6) and Harehill Extension (no. 7) are outwith the 25 km Study Area and as such are not noted in the Table. Their location is shown on Figure 4.6 as they border the 25 km Study Area.

¹¹ NatureScot (2019) SNH National Landscape Character Assessment, Landscape Character Type 95 Southern Uplands – Borders. Available at: <https://www.nature.scot/sites/default/files/LCA/LCT%20095%20-%20Southern%20Uplands%20-%20Borders%20-%20Final%20pdf.pdf>

¹² NatureScot (2019) SNH National Landscape Character Assessment, Landscape Character Type 163 Middle Dale – Dumfries & Galloway. Available at: <https://www.nature.scot/sites/default/files/LCA/LCT%20163%20-%20Middle%20Dale%20-%20Dumfries%20&%20Galloway%20-%20Final%20pdf.pdf>

Table TA4.2.2: Overview of Potential Effects on LCTs within the 15 km Study Area

Landscape Character Type	Potential Effect	Included in the Assessment
	<p>The Nithsdale unit covers a broad area of farmland between the Upper Dale LCT to the northwest, and the Lower Dale LCT to the southeast for approximately 10.5 km. Theoretical visibility of the Proposed Development is predicted to be widespread at Thornhill extending to the south and southwest, with the number of turbines visible increasing from 1-3 westwards to 10-13.</p> <p>Theoretical visibility would be reduced by the wooded nature of this part of the dale and lower elevation around the River Nith.</p> <p>A review of the area concluded that the addition of the Proposed Development to the north would not alter the key characteristics of the Nithsdale unit of the LCT and would be similar to the type of view experienced of operational wind farms to the northwest.</p>	
165 Upper Dale – Dumfries & Galloway. ¹³	<p>This LCT covers an area of farmed upper dale between Sanquhar in the northwest, and Thornhill in the southeast forming the upper reaches of Nithsdale approximately 4.9 km from the Proposed Development.</p> <p>Theoretical visibility of the Proposed Development is predicted to be widespread with a greater number of turbines being visible on the western side of the dale, in particular on east facing slopes between 5.0 and 15 km and reduced somewhat at lower elevations due to intervening trees and woodland.</p> <p>It is not judged that the addition of the Proposed Development in an upland area to the east beyond the LCT would alter the key characteristics and would be similar to views of operational wind farms located in adjacent upland areas experienced at present, in particular, to the west.</p>	Scoped out
166 – Upland Glens – Dumfries & Galloway. ¹⁴	<p>This LCT is characteristic of nine separate glens located within Dumfries and Galloway, four of which are situated within the 15 km Study Area. These cover an area extending northwards from Moffat to the east of the Site, the Dalveen and Mennock Passes to the west, and the Scour Water to the southwest which a very small part of the southern extent is located within the 15 km Study Area.</p> <p>Theoretical visibility is predicted to be limited in all four units. Within the Moffat unit, this would occur on the mid to lower slopes of Greygill Head 474 m AOD at approximately 12.0 km with the proposed turbines appearing to extend southwards from Clyde Wind Farm, infilling a gap between Clyde and Harestanes Wind Farms but further back from the foreground ridge.</p> <p>From the Dalveen Pass, theoretical visibility is predicted on the upper slopes of Black Hill (531 m AOD), and the east facing slopes on the western side of the Pass between 2.8 – 5.3 km from the nearest of the proposed turbines.</p>	Scoped out

Table TA4.2.2: Overview of Potential Effects on LCTs within the 15 km Study Area

Landscape Character Type	Potential Effect	Included in the Assessment
	<p>Within the Mennock Pass, this would be limited to the northern side of Auchensow Hill (495 m AOD) between 7.3 – 10.5 km.</p> <p>As mentioned, only a very small area of the Scour Pass unit of this LCT is located within the south western part of the 15 km Study Area. Theoretical visibility is predicted west of Grennan at approximately 14.9 km.</p> <p>The steep sides and glen floor form the main constituents of this LCT, with visibility of the Proposed Development being limited to upper slopes. Therefore, it is not considered that the addition of the Proposed Development in an adjacent LCT would alter the key characteristics which define it.</p>	
172 Upland Fringe – Dumfries & Galloway. ¹⁵	<p>This LCT forms a transitional landscape between the forested foothills to the east, and Nithsdale to the west.</p> <p>Theoretical visibility is predicted to be limited to a reduced number of turbines mainly occurring between 7.5 – 15 km due to intervening topography, gradually becoming more visible with distance as the landscape opens up away from the Southern Uplands. This would be reduced somewhat by forestry both within the LCT and in the intervening area.</p> <p>It is not considered that the addition of the Proposed Development would alter the key characteristics of this LCT.</p>	Scoped out
175 Foothills – Dumfries & Galloway. ¹⁶	<p>This LCT is located in two locations covering the southeast and southwest of the 15 km Study Area forming the western side of both Annadale and Nithsdale.</p> <p>From Annadale, theoretical visibility would occur in the most elevated locations with the number of turbines visible increasing eastwards where intervening landform forming the Southern Uplands would have less influence on screening the proposed turbines approximately 9.4 km to the southeast.</p> <p>The greatest theoretical visibility predicted would occur within the Nithsdale unit to the southwest where all thirteen turbines would be visible at approximately 8.9 km. Where the proposed turbines are visible, they would be perceived beyond Harestanes and Minnygap Wind Farms which are to the west and extend into the LCT.</p> <p>Theoretical visibility would be reduced within each unit by a combination of woodland and forestry within the LCT and in the intervening area.</p> <p>It is not considered that the addition of the Proposed Development would alter the key characteristics of the LCT, but would be viewed as further turbines to the northeast and northwest, and in the case of the Annadale unit be barely perceptible beyond Harestanes and Minnygap Wind Farms.</p>	Scoped out

¹³ NatureScot (2019) SNH National Landscape Character Assessment, Landscape Character Type 165 Upper Dale – Dumfries & Galloway. Available at: <https://www.nature.scot/sites/default/files/LCA/LCT%20165%20-%20Upper%20Dale%20-%20Dumfries%20&%20Galloway%20-%20Final%20pdf.pdf>

¹⁴ NatureScot (2019) SNH National Landscape Character Assessment, Landscape Character Type 166 – Upland Glens – Dumfries & Galloway. Available at: <https://www.nature.scot/sites/default/files/LCA/LCT%20166%20-%20Upland%20Glens%20-%20Dumfries%20&%20Galloway%20-%20Final%20pdf.pdf>

¹⁵ NatureScot (2019) SNH National Landscape Character Assessment, Landscape Character Type 172 Upland Fringe – Dumfries & Galloway. Available at: <https://www.nature.scot/sites/default/files/LCA/LCT%20172%20-%20Upland%20Fringe%20-%20Dumfries%20&%20Galloway%20-%20Final%20pdf.pdf>

¹⁶ NatureScot (2019) SNH National Landscape Character Assessment, Landscape Character Type 175 Foothills – Dumfries & Galloway. Available online from: <https://www.nature.scot/sites/default/files/LCA/LCT%20175%20-%20Foothills%20-%20Dumfries%20&%20Galloway%20-%20Final%20pdf.pdf>

Landscape Character Type	Potential Effect	Included in the Assessment
176 Foothills with Forest – Dumfries & Galloway. ¹⁷	This LCT covers a considerable part of the 15 km Study Area to the east extending around to the southeast of the Site at approximately 5.1 km at its closest point. Theoretical visibility is predicted to occur on elevated parts of the LCT, most of which are forested at Rivox to the east of the Site, west of Harestanes Wind Farm, and within the Forest of Ae. This would be experienced in conjunction with Harestanes and Minnygap Wind Farms which are situated partially within the LCT, and also Clyde Wind Farm which lies close to the northern part of the LCT. The addition of the Proposed Development to this baseline would limit landscape effects to visibility beyond the LCT and would be experienced in combination with the forested nature of the LCT and would not alter the key characteristics.	Scoped out
177 Southern Uplands – Dumfries & Galloway. ¹⁸	This LCT is located east, south and west of the Proposed Development approximately 2.6 km at its closest point. Owing to its elevated nature, in which a large proportion is moorland and grassland, extensive visibility of the surrounding landscape can be obtained. Theoretical visibility of the Proposed Development is predicted mainly to the southeast of the Site including the popular summit of Queensberry (697 m AOD), and rounded hills to the northeast and southwest where all thirteen turbines are predicted to be visible. Further theoretical visibility is predicted to the southwest and west of the Site including Glenleith Fell (612 m AOD), Garroch Fell 606 m AOD, Black Hill (531 m AOD), and Penbane (514 m AOD) where all thirteen turbines would be visible, see Figures 4.34.1-5 (EIAR Volume 3b) . This would be viewed within the context of other operational wind farms and forestry. Therefore, it is not considered that the key characteristics would be altered by the addition of the Proposed Development.	Scoped out
207 Upland River Valley – Glasgow & Clyde Valley. ¹⁹	This LCT covers the Duneaton Water approximately 12.5 km to the northwest of the proposed turbines. Theoretical visibility is predicted to be very limited on high ground above the Shar Water, and in forestry at Mill Scar (427 m AOD). Therefore, it is not considered that the addition of the Proposed Development would alter the key characteristics of this LCT.	Scoped out
209 Upland Glen – Glasgow & Clyde Valley. ²⁰	This LCT covers the tributaries Potrail Water and Daer Water before entering the River Clyde flowing northwards. Short sections of the proposed Eastern and Western Access tracks would be located within this LCT which is also predicted to receive close theoretical visibility of the proposed turbines from its valley setting, see Figures 4.24.1-6, Figures 4.25.1-7, and Figures 4.30.1-10, (EIAR Volume 3b) .	Scoped in

Landscape Character Type	Potential Effect	Included in the Assessment
217 Southern Uplands – Glasgow & Clyde Valley. ²¹	The majority of the Proposed Development would be located within this LCT which also receives widespread theoretical visibility beyond the Site and has the potential to alter the key characteristics of the LCT, see Figures 4.28.1-5, Figures 4.29.1-5, Figures 4.31.1-6, and Figures 4.32.1-8 (EIAR Volume 3b) .	Scoped in

4.2.4.6 Two LCTs have been taken forward for detailed assessment as follows:

- 209 Upland Glen – Glasgow & Clyde Valley; and
- 217 Southern Uplands – Glasgow & Clyde Valley.

4.2.5 Future Baseline within 15 km

4.2.5.1 Within the detailed 15 km Study Area, the development of renewable energy would continue without the Proposed Development due to a combination of the Scottish Government’s onshore targets to achieve net-zero by 2045, and the high wind speeds. This could also potentially include sites which are currently within the planning system shown on **Figure 4.12 (EIAR Volume 3a)** and new renewable energy proposals yet to be developed.

4.2.5.2 Climate change would bring subtle changes to the landscape from higher temperatures, increased rainfall, stronger winds including storms, and higher sea levels including storm surges. This may result in changes to soils and vegetation and different approaches to agriculture including grazing and crops, and increasing wind speeds, some of these changes vary in duration for example strong winds may result in damage or felling of trees which would be instantly visible, to a more gradual change in vegetation through plant diseases and changes in habitat.

4.2.6 Assessment of Landscape Effects

4.2.6.1 Using a precautionary approach, unless otherwise stated, all likely effects identified are considered to be negative or adverse, short-term in duration for the construction and decommissioning phases, and long-term for operation and maintenance phases. Landscape effects would be reversible following reinstatement after the decommissioning phase.

Effects on the Site and Landscape Fabric

Site Baseline

4.2.6.2 The Proposed Development site is located on high ground to the west of Daer Reservoir entirely within SLC. The Site forms part of a larger upland area extending between the M74/A74 (M) Motorway in the east, and the A702 road in the west and forms part of the Southern Uplands.

4.2.6.3 There are several operational wind farms within the surrounding landscape including Clyde and Clyde Extension to the northeast, and Harestanes and Minnygap to the southeast. All these sites have been

¹⁷ NatureScot (2019) SNH National Landscape Character Assessment, Landscape Character Type 176 Foothills with Forest – Dumfries & Galloway. Available at: <https://www.nature.scot/sites/default/files/LCA/LCT%20176%20-%20Foothills%20with%20Forest%20-%20Dumfries%20&%20Galloway%20-%20Final%20pdf.pdf>

¹⁸ NatureScot (2019) SNH National Landscape Character Assessment, Landscape Character Type 177 Southern Uplands – Dumfries & Galloway. Available at: <https://www.nature.scot/sites/default/files/LCA/LCT%20177%20-%20Southern%20Uplands%20-%20Dumfries%20&%20Galloway%20-%20Final%20pdf.pdf>

¹⁹ NatureScot (2019) SNH National Landscape Character Assessment, Landscape Character Type 207 Upland River Valley – Glasgow & Clyde Valley. Available at: <https://www.nature.scot/sites/default/files/LCA/LCT%20207%20-%20Upland%20River%20Valley%20-%20Glasgow%20&%20Clyde%20Valley%20-%20Final%20pdf.pdf>

²⁰ NatureScot (2019) SNH National Landscape Character Assessment, Landscape Character Type 209 Upland Glen – Glasgow & Clyde Valley. Available at: <https://www.nature.scot/sites/default/files/LCA/LCT%20209%20-%20Upland%20Glen%20-%20Glasgow%20&%20Clyde%20Valley%20-%20Final%20pdf.pdf>

²¹ NatureScot (2019) LCT 217 Southern Uplands – Glasgow & Clyde Valley. Available at: <https://www.nature.scot/sites/default/files/LCA/LCT%20217%20-%20Southern%20Uplands%20-%20Glasgow%20&%20Clyde%20Valley%20-%20Final%20pdf.pdf>

located further back from the surrounding valleys with turbines being located on the gentler undulating upper slopes.

4.2.6.4 Clyde Wind Farm and Extension are more reflective of the Site being situated in a similar type of topography of large, rounded hills where wind turbines follow ridgelines with limited visibility of connecting access tracks in views from lower elevations within the surrounding valleys.

4.2.6.5 The general topography of the Site is one of undulating rounded hills and is characteristic of the Southern Uplands. The Site covers a range of elevations rising from the floodplain of the Daer Water in the north, to the pronounced hills to the south including Comb Law 645 m AOD, Hirstane Rig 622 m AOD, Watchman’s Brae 594 m AOD and Rodger Law 688 m AOD. This group of hills are separated internally by steep clefts containing Kirkhope Cleuch, Carshope Burn and a series of minor watercourses.

4.2.6.6 The northern part of the Site is located within the LCT 209 Upland Glen – Glasgow and Clyde Valley around 290 m AOD, gradually rising southwards through a transitional area comprising farmland and forestry. To the south, the landscape is more elevated and open which is characteristic of LCT 217 Southern Uplands - Glasgow and Clyde Valley LCT forming part of the wider landscape.

Future Site Landscape Baseline

4.2.6.7 The Site is expected to stay similar to the landscape baseline described previously and predominantly managed for moorland and rough grazing, with tree crops on lower slopes gradually being restructured.

Landscape Sensitivity

4.2.6.8 The Site is designated at a local level as the Leadhills and Lowther Hills Special Landscape Area (SLA). Other higher landscape features of sensitivity include the Southern Upland Way (SUW) which crosses part of the Site, cultural heritage remains and wooded areas. Site landscape value is **Medium**.

4.2.6.9 The Site comprises rounded upland hills of moorland with the lower levels modified for forestry plantations. This includes drainage over time to allow the establishment of tree crops, some restructuring of forestry, rough grazing on higher slopes with some post and wire fencing and access tracks. Landscape pattern varies in scale from large-scale with limited features in the most elevated parts to the north, to a smaller scale at lower elevations.

4.2.6.10 These elements combine to lower the susceptibility of the Site to wind farm development to Low, resulting in an overall **Medium** to **Low** sensitivity for the Site.

Landscape Magnitude of Change

4.2.6.11 The Site forms a transitional landscape between LCT 209 Upland Glen - Glasgow & Clyde Valley, and LCT 217 Southern Uplands Glasgow & Clyde Valley, and therefore includes characteristics of both LCTs. **Table 4.2.3** provides details of which components of the Proposed Development are located in each LCT.

Landscape Character Type	Elements of the Proposed Development Present
LCT 209 Upland Glen – Glasgow & Clyde Valley	<ul style="list-style-type: none"> ▪ Two site accesses for use during construction and operation; the Western Access from the A702 and the Eastern Access from the Daer Water road, with both access points designed to accommodate abnormal indivisible loads required for turbine component delivery; ▪ 1.5 km upgraded track; ▪ 0.4 km new access track; and ▪ Habitat management and enhancement areas.

Landscape Character Type	Elements of the Proposed Development Present
LCT 217 Southern Uplands - Glasgow & Clyde Valley	<ul style="list-style-type: none"> ▪ Up to 13 wind turbines with a maximum tip height of 240 m and with a combined generation capacity of >50 MW; ▪ Permanent foundations supporting each wind turbine, and associated crane hardstanding at each wind turbine base; ▪ A series of new and upgraded on-site access tracks with associated watercourse crossings and turning heads; ▪ underground power cables, generally laid in trenches alongside access tracks connecting the turbines to the onsite substation; ▪ An onsite substation and control building; ▪ A Battery Energy Storage System (BESS) with an approximate 50 MW capacity, based on current technology; ▪ Temporary construction compound and laydown areas; ▪ Extraction of rock from borrow pits - two borrow pits have been located within the turbine area; ▪ Temporary on-site concrete batching plant – located within the construction compound areas; ▪ Temporary anemometer masts for three to six months during the construction period for calibration purposes; ▪ Habitat management and enhancement areas; and ▪ A permanent diversion to a short section (approximately 880 m) of the SUW at the point where the western access route enters the main site area.

4.2.6.12 During construction, the Site would become active with the presence of vehicles and construction activities within the footprint of the Proposed Development. Activities would be associated with site clearance, the extraction of stone for the access roads and platforms from two borrow pits, the construction of tracks, a temporary construction compound, laydown areas, import of materials, crane works associated with erecting turbines, establishment of the met mast, control building, substation and BESS. This would be followed by reinstatement works at the end of the construction phase. There would be lights on the Site in the construction phase during periods of low light in winter, months and on moving vehicles including flashing beacons.

4.2.6.13 The construction works would be of short-term duration and reversible in that construction activities would cease, and operational effects would take over. The extent of physical effects of the works within the Site would involve a relatively small geographical proportion of the Site as a whole comprising 1.38% of 1,089 hectares (ha), the larger part of which would be physically unaffected by either construction works or operation and would continue to be managed for moorland and forestry. The scale of the components such as wind turbines and supporting infrastructure would change the moorland and forested characteristics of the Site.

4.2.6.14 The magnitude of change during the construction phase would be **High**, temporary and reversible. Following the end of the operational phase discussed below, the Site would be decommissioned, and the landscape reinstated. This phase would be similar to the activities discussed during construction but be undertaken over a shorter timeframe and involve less disturbance of the ground.

4.2.6.15 During operation, activity on Site would be less than during the construction phase and would be related to the operation and maintenance of the turbines, substation and BESS. The magnitude associated with the change from moorland, forestry and woodland to a renewable energy generating site with supporting ground level infrastructure would be **High**, long-term, and reversible. The management of forestry would continue during the operational and maintenance phase.

Landscape Significance of Effect

- 4.2.6.16 Overall, the predicted effect on the Site is judged to be **significant (Major)** for the duration of the construction, operational and maintenance, and decommissioning phases.

4.2.7 Operational Effects on LCTs

- 4.2.7.1 The following provides an assessment of the LCTs taken forward for detailed assessment within the 15 km Study Area. It should be noted that the sensitivity of LCTs assessed below is the sensitivity to development outside the Site rather than within it. The sensitivity of the Site is addressed separately in **Section 4.2.6**.

LCT 209 Upland Glen – Glasgow & Clyde Valley

- 4.2.7.2 This LCT occupies the Daer Water and River Clyde which lies to the north of the Site comprising farmland interspersed by woodland and forestry.
- 4.2.7.3 NatureScot identifies the key characteristics of Upland Glen – Glasgow & Clyde Valley LCT as follows:
- “Glacially enlarged, smoothly contoured, U-shaped valleys cutting into the upland mass of the Southern Upland.
 - Transition from moorland vegetation on upper slopes, through rough grassland and pastures on valley floor.
 - Topography creates distinctive scenic vistas.
 - Limited amounts of broadleaf woodland which tends to be concentrated along the course of rivers, on steeper sheltered slopes and in gullies and side glens.
 - Important corridors for communication and settlement.
 - Scattering of the remains of later prehistoric settlement and pre-improvement agriculture along the valley sides.
 - Significant cumulative impacts of transport infrastructure in the glen of the River Clyde, with large scale wind farm development on the surrounding Southern Upland hills.
 - Small scale, domesticated character of glen floors, despite dominant transport infrastructure, which contrasts with the enclosing uplands.” (NatureScot, 2019).
- 4.2.7.4 The following viewpoints are representative of the views obtained from this LCT:
- Viewpoint 4: A702 Road (see **Figures 4.24.1-6, EIAR Volume 3b**);
 - Viewpoint 5: Watermeetings (see **Figures 4.25.1-7, EIAR Volume 3b**); and
 - Viewpoint 10: Wintercleugh (see **Figures 4.30.1-10, (EIAR Volume 3b)**).

Landscape Sensitivity

- 4.2.7.5 The tributaries of the River Clyde, including Daer Water, are located within the Leadhills and Lowther Hills SLA. The LCT also includes some cultural heritage artefacts and woodland resulting in a Medium value. Landscape susceptibility for the LCT is assessed as High due to the small-scale features and low elevation and susceptibility is High.
- 4.2.7.6 Landscape sensitivity is **High to Medium** for the River Clyde unit of the LCT, although it is acknowledged that there are areas of higher sensitivity in the tributaries.

Magnitude of Change

- 4.2.7.7 The proposed turbines would be viewed beyond the LCT, and theoretical visibility is predicted to be widespread to approximately 10 km to the north around where the A702 road bends towards Elvanfoot. From this location the proposed turbines would be viewed in conjunction with the nearby turbines of Clyde Wind Farm, which often appear closer to the LCT when viewed from the north. For much of the LCT, there would be a natural separation between the developments in the form of the Daer Water floodplain. Thereafter, the valley changes direction and although theoretical visibility is predicted this is from a reduced area within the A74 (M) road and south facing slopes on the eastern side of the road. From here, the Clyde Wind Farm is the main focal point with the Proposed Development much further away to the south.
- 4.2.7.8 For the majority of the LCT, theoretical visibility is predicted from the same locations as where Clyde Wind Farm is visible and is a feature within the surrounding uplands and alters the perception of this LCT to a landscape with wind farms. The addition of the Proposed Development would result in turbines being located further west with a similar pattern to Clyde Wind Farm, resulting in a slight intensification of turbines. However, the key characteristics of the glen would still be readable. Magnitude of change is judged as **Medium** up to approximately 7.5 km to the north, then thereafter, reducing to **Low** levels where theoretical visibility of the proposed turbines occurs, and **Negligible** for the northern half of the LCT due to no theoretical visibility

Landscape Significance of Effect

- 4.2.7.9 Overall, the effect on the character of the landscape is judged as localised **significant (Major)** to **(Moderate)** within 7.5 km to the north of the Site, thereafter, reducing to **not significant (Minor)** and **(Negligible)** levels

LCT 217 Southern Uplands – Glasgow & Clyde Valley

- 4.2.7.10 This LCT is located to the south of the Southern Upland Fault Line and encompasses the Lowther Hills. The majority of the Site is partially located within this LCT and direct effects on the Site are assessed under **Section 4.2.6**.
- 4.2.7.11 NatureScot identifies the key characteristics of Southern Uplands – Glasgow & Clyde Valley LCT as follows:
- “Extensive, large-scale upland landscape with strong but smooth relief.
 - Glacial carved and smoothed landforms, including u-shaped valleys, hanging valleys and corries.
 - Extensive mosaics of heath, with a transition to rough grazing on lower tops or slopes.
 - Prominent isolated conifer forests and old stands of Scots pine.
 - Largely undeveloped, except for occasional upland farms, shielings and Clyde wind farm.
 - Important travel and transmission lines pass through the area are the A74, west coast mainline railway and Scotland-England interconnector pylon line
 - Significant archaeological sites, particularly from the Bronze and Iron Age periods.
 - Prominent hill ranges in views from many areas.
 - Wide ranging panoramic views from the hill summits.” (NatureScot, 2019)
- 4.2.7.12 The following viewpoints are representative of the views obtained from this LCT:
- Viewpoint 8: Lowther Hill (see **Figures 4.28.1-5, EIAR Volume 3b**);
 - Viewpoint 9: Comb Head (see **Figures 4.29.1-5, EIAR Volume 3b**);

- Viewpoint 11: Hods Hill – Southern Upland Way (see **Figures 4.31.1-6, EIAR Volume 3b**); and
- Viewpoint 12: Daer Reservoir – Southern Upland Way (see **Figures 4.32.1-8, EIAR Volume 3b**).

Landscape Sensitivity

- 4.2.7.13 This LCT is designated as the Leadhills and Lowther Hills SLA which also includes a section of the SUW, and several cultural heritage features. Landscape value is Medium overall with parts of the periphery of the LCT displaying higher value.
- 4.2.7.14 This LCT is large in scale, open and includes a variety of man-made features including Middle Muir Wind Farm, Kennoxhead Phase 2 and Clyde Wind Farm which lowers landscape susceptibility to wind turbine development to Low. Overall, sensitivity to change is assessed as a **Medium** Magnitude of Change
- 4.2.7.15 The ZTV indicates widespread theoretical visibility of the Proposed Development for the portion of the LCT within approximately 5.1 km from open ground to the northeast, and approximately 7.5 km to the northwest along the Lowther Hills escarpment. Thereafter, covering forestry between Tomont Hill 504 m AOD, and Crookedstane Rig 406 m AOD and the south facing slopes above the A74 (M) road, where Clyde Wind Farm is located, reduces the effect, but it is acknowledged that some of these areas would be clear-felled during the lifespan of the Proposed Development.
- 4.2.7.16 To the northwest, theoretical visibility is predicted to reduce to the summits and upper slopes of Harryburn Brae 499 m AOD, Ravengill Dod 638 m AOD, and Wellgrain Dodd 555 m AOD between approximately 9 – 12 km.
- 4.2.7.17 Potential effects on character would mainly be associated with views of the proposed turbines which would have greatest visibility within the LCT whilst the other areas of infrastructure would be less visible due to a combination of screening by landform and forestry. The size and scale of the change would be medium on account of the large-scale and openness of the landscape and presence of other operational wind farms both within the LCT (Clyde + Extension) and in neighbouring LCTs. Changes occurring would be limited in comparison to the overall size of the LCT and therefore localised, magnitude of change is judged as **Medium** within approximately 5.1 km to the northeast and 7.5 km to the northwest. Thereafter, **Low** and **Negligible** due to distance and the limited extent of theoretical visibility predicted.

Landscape Significance of Effect

- 4.2.7.18 Overall, the effect on the character of the landscape is judged as localised **significant (Moderate)** for an area of the LCT approximately within 5.1 km to the northeast, and 7.5 km to the northwest of the proposed turbines, thereafter, levels of effect would reduce to **not significant (Minor)** and **(Negligible)** overall for the LCT.

4.2.8 Summary of Landscape Effects

- 4.2.8.1 The findings of the above assessments of landscape effect are set out in **Table TA4.2.4**.

TA4.2.4: Summary of Landscape Effects	
Site and Landscape Character Type	Potential Effect
Construction and Decommissioning Phases	
Site	Significant (Major)
Operation and Maintenance Phase	
Site	Significant (Major)
209 Upland Glen – Glasgow & Clyde Valley	Significant (Major) to (Moderate) within 7.5 km to the north, thereafter, not significant (Minor) and (Negligible) elsewhere.
217 Southern Uplands – Glasgow & Clyde Valley	Significant (Moderate) approximately 5.1 km to the northeast, and 7.5 km to the northwest, thereafter, not significant (Minor) and (Negligible) elsewhere.

4.2.9 References

NatureScot (2019) SNH National Landscape Character Assessment, Landscape Character Type 95 Southern Uplands – Borders. Available online from: <https://www.nature.scot/sites/default/files/LCA/LCT%20095%20-%20Southern%20Uplands%20-%20Borders%20-%20Final%20pdf.pdf>

NatureScot (2019) SNH National Landscape Character Assessment, Landscape Character Type 163 Middle Dale – Dumfries & Galloway. Available online from: <https://www.nature.scot/sites/default/files/LCA/LCT%20163%20-%20Middle%20Dale%20-%20Dumfries%20&%20Galloway%20-%20Final%20pdf.pdf>

NatureScot (2019) SNH National Landscape Character Assessment, Landscape Character Type 165 Upper Dale – Dumfries & Galloway. Available online from: <https://www.nature.scot/sites/default/files/LCA/LCT%20165%20-%20Upper%20Dale%20-%20Dumfries%20&%20Galloway%20-%20Final%20pdf.pdf>

NatureScot (2019) SNH National Landscape Character Assessment, Landscape Character Type 166 – Upland Glens – Dumfries & Galloway. Available online from: <https://www.nature.scot/sites/default/files/LCA/LCT%20166%20-%20Upland%20Glens%20-%20Dumfries%20&%20Galloway%20-%20final%20pdf.pdf>

NatureScot (2019) SNH National Landscape Character Assessment, Landscape Character Type 172 Upland Fringe – Dumfries & Galloway. Available online from: <https://www.nature.scot/sites/default/files/LCA/LCT%20172%20-%20Upland%20Fringe%20-%20Dumfries%20&%20Galloway%20-%20Final%20pdf.pdf>

NatureScot (2019) SNH National Landscape Character Assessment, Landscape Character Type 175 Foothills – Dumfries & Galloway. Available online from: <https://www.nature.scot/sites/default/files/LCA/LCT%20175%20-%20Foothills%20-%20Dumfries%20&%20Galloway%20-%20Final%20pdf.pdf>

NatureScot (2019) SNH National Landscape Character Assessment, Landscape Character Type 176 Foothills with Forest – Dumfries & Galloway. Available online from: <https://www.nature.scot/sites/default/files/LCA/LCT%20176%20-%20Foothills%20with%20Forest%20-%20Dumfries%20&%20Galloway%20-%20Final%20pdf.pdf>

NatureScot (2019) SNH National Landscape Character Assessment, Landscape Character Type 177 Southern Uplands – Dumfries & Galloway. Available online from:

<https://www.nature.scot/sites/default/files/LCA/LCT%20177%20-%20Southern%20Uplands%20-%20Dumfries%20&%20Galloway%20-%20Final%20pdf.pdf>

NatureScot (2019) SNH National Landscape Character Assessment, Landscape Character Type 207 Upland River Valley – Glasgow & Clyde Valley. Available online from: <https://www.nature.scot/sites/default/files/LCA/LCT%20207%20-%20Upland%20River%20Valley%20-%20Glasgow%20&%20Clyde%20Valley%20-%20Final%20pdf.pdf>

NatureScot (2019) SNH National Landscape Character Assessment, Landscape Character Type 209 Upland Glen – Glasgow & Clyde Valley. Available online from: <https://www.nature.scot/sites/default/files/LCA/LCT%20209%20-%20Upland%20Glen%20-%20Glasgow%20&%20Clyde%20Valley%20-%20Final%20pdf.pdf>

NatureScot (2019) LCT 217 Southern Uplands – Glasgow & Clyde Valley. Available online from: <https://www.nature.scot/sites/default/files/LCA/LCT%20217%20-%20Southern%20Uplands%20-%20Glasgow%20&%20Clyde%20Valley%20-%20Final%20pdf.pdf>

Scottish Natural Heritage. (2017) Visual Representation of Wind Farms, Guidance. Available online from: <https://www.nature.scot/sites/default/files/2019-09/Guidance%20-%20Visual%20representation%20of%20wind%20farms%20-%20Feb%202017.pdf>

Technical Appendix 4.3: Visual Assessment

Technical Appendix 4.3: Visual Assessment

4.3.1 Introduction

- 4.3.1.1 This Technical Appendix identifies and assesses the effects on visual amenity of the Study Area, as a result of the Proposed Development described in **Chapter 2: Description of Proposed Development (EIAR Volume 2)**.
- 4.3.1.2 The visual assessment has been undertaken in accordance with the principles set out in **Technical Appendix 4.1: LVIA Methodology (EIAR Volume 4)** and is based on professional judgement.
- 4.3.1.3 This Technical Appendix should also be read in conjunction with the following:
- **Volume 2 - Environmental Impact Assessment (EIA) Report:**
 - **Chapter 4: Landscape and Visual;**
 - **Volume 3a - Figures;**
 - **Volume 3b - Visualisations;**
 - **Volume 4 – Technical Appendices:**
 - **Technical Appendix 4.1: LVIA Methodology;**
 - **Technical Appendix 4.2: Landscape Assessment;**
 - **Technical Appendix 4.4: Cumulative Assessment;**
 - **Technical Appendix 4.5: Aviation Lighting Assessment;**
 - **Technical Appendix 4.6: Implications on Designated Landscapes;** and
 - **Technical Appendix 4.7: Residential Visual Amenity Assessment.**

4.3.2 Scope of Assessment

- 4.3.2.1 The extent of the Study Area for the visual assessment was initially set in the Scoping Report at 45 kilometres (km) in accordance with good practice¹ due to the turbines proposed being 240 metres (m) to tip height.
- 4.3.2.2 Following a review of landform, Zone of Theoretical Visibility (ZTV) mapping, and site visits, it was concluded that potential significant effects on visual amenity would be as follows:
- Settlements – 10 km;
 - Routes and hill tops – 25 km; and
 - Local paths – 5 km.
- 4.3.2.3 The potential effect on views from residential properties within 2.5 km from the nearest turbine is set out separately in **Technical Appendix 4.7 (EIAR Volume 4)**.

4.3.3 Analysis of the Zone of Theoretical Visibility

- 4.3.3.1 ZTV is a tool which can be used to calculate and illustrate theoretical visibility of the Proposed Development. It is important to note that the ZTV is a 'bare earth' model and as such represents a worst-case scenario. The actual visibility is usually considerably less due to screening afforded by buildings and vegetation/woodland. Views from along roads and in rural areas are often filtered by roadside vegetation and can be seasonal when trees are deciduous. In addition, information about the proportion of each turbine is not proved by the ZTV, such that at the edges of the zone, it may

well be only a few blade tips just over a horizon. Bare earth ZTVs at tip and hub height are provided on **Figures 4.2.1 to 4.4 (EIAR Volume 3a)**. Details on how ZTVs are produced are set out in **Technical Appendix 4.1 (EIAR Volume 4)**.

- 4.3.3.2 Field surveys were undertaken to verify potential views on the ground and to appraise the overall actual visibility of the Proposed Development between September 2023 and October 2025.
- 4.3.3.3 The ZTVs illustrate that there would be widespread theoretical visibility of the Proposed Development within 5 km from the proposed turbines, the exception being where screening from landform occurs such as the north facing slopes of Faugh 583 m Above Ordnance Datum (AOD) to the northwest, to the southwest extending between Caplaw Rig to Earncraig Hill 611 m AOD, and south facing hillsides in the southern part of 5 km.
- 4.3.3.4 Beyond 5 km, theoretical visibility is predicted to extend along the floodplain of the River Clyde northwards towards the A74 (M) road covering slopes to the east and west of the A702 road, the south facing slopes to the north and east of the A74 (M) road between Elvanfoot and Beattock, and a ridgeline extending along the eastern side of Annadale between Craigmaid 553 m AOD in the north, to Lockerbie in the south.
- 4.3.3.5 Theoretical visibility is also predicted from an area extending between the northeast and northwest of the Site beyond 15 km and would be scattered occurring on hill tops and the upper south facing slopes.
- 4.3.3.6 The greatest amount of theoretical visibility is predicted to occur in the southern half of the 45 km Study Area being funnelled southwards along the A74 (M) corridor towards Lockerbie, and separately Nithsdale southwards towards the Solway Coast. Elsewhere, theoretical visibility would be scattered on the east facing slopes of the Southern Uplands to the west, and summits within the southern portion.

4.3.4 Visual Receptors

- 4.3.4.1 Visual receptors are people, who would be affected by the changes in views and visual amenity within the Study Area. This includes local residents, tourists, walkers and recreational route users, road users etc.
- 4.3.4.2 The assessment of visual effects considers the changes that people would see in views from various locations around the Study Area, using representative viewpoints, as well as considering views from settlements and from along routes. The methodology for the identification of sensitivity of visual receptors is set out in **Technical Appendix 4.1 (EIAR Volume 4)**.

Viewpoints

- 4.3.4.3 A series of viewpoints suggested in the Scoping Report (September 2024) and agreed by South Lanarkshire Council in their Scoping Opinion (March 2025) were included to represent the view of the Proposed Development from a range of visual receptors.
- 4.3.4.4 These were initially identified through a desk-based exercise of the potential landscape and visual receptors likely to be affected and included a review of ZTV mapping and verification on site. A list is provided in **Table TA4.3.1** and shown on **Figure 4.9 (EIAR Volume 3a)**.

¹ Scottish Natural Heritage. (2017) Visual Representation of Wind Farms, Guidance. Available online from: <https://www.nature.scot/sites/default/files/2019-09/Guidance%20-%20Visual%20representation%20of%20wind%20farms%20-%20Feb%202017.pdf>

4.3.4.5 Visualisations have been produced to NatureScot guidance in **EIAR Volume 3b** and numbered below.

Table TA4.3.1: Viewpoints included in the assessment				
Viewpoints	Grid References		Distance and direction to nearest turbine (km)	Representative
1. Tinto (Figures 4.21.1-5, EIAR Volume 3b)	295317	634331	25.9, south	Walkers
2. Broad Law (Figures 4.22.1-4, EIAR Volume 3b)	314629	623556	24.9, southwest	Walkers
3. Culter Fell (Figures 4.23.1-5, EIAR Volume 3b)	305286	629077	23.3, southwest	Walkers
4. A702 Road (Figures 4.24.1-6, EIAR Volume 3b)	295868	615651	7.4, south	Road users
5. Watermeetings (Figures 4.25.1-7, EIAR Volume 3b)	295064	613260	4.9, south	Residents
6. Annanhead Hill - Annandale Way (Figures 4.26.1-5, EIAR Volume 3b)	305822	613244	11.8, southwest	Walkers
7. Hart Fell (Figures 4.27.1-5, EIAR Volume 3b)	311291	613625	17.0, southwest	Walkers
8. Lowther Hill (Figures 4.28.1-5 EIAR Volume 3b)	289057	610696	5.4, southeast	Walkers
9. Comb Head (Figures 4.29.1-5, EIAR Volume 3b)	290505	609196	3.5, east	Walkers
10. Wintercleugh (Figures 4.30.1-10, EIAR Volume 3b)	296627	609983	2.4, southwest	Residents
11. Hods Hill - Southern Upland Way (Figures 4.31.1-6, EIAR Volume 3b)	300090	609758	5.2, west	Walkers
12. Southern Upland Way - Daer Reservoir (Figures 4.32.1-8, EIAR Volume 3b)	297645	608870	2.6, west	Walkers
13. Southern Upland Way, Roman and Reivers Route south-east of Moffat (Figures 4.33.1-4, EIAR Volume 3b)	311110	603962	15.3, northwest	Walkers
14. Queensberry (Figures 4.34.1-5, EIAR Volume 3b)	298911	599747	6.7, northwest	Walkers
15. Drumlanrig Castle (Figures 4.35.1-4, EIAR Volume 3b)	285194	599316	10.6, northeast	Visitors

4.3.4.6 Where weather conditions prevented photography from being taken, and to provide consistency with the Applicant's other sites within the Study Area, previous photography was used as follows:

- Viewpoint 1: Tinto – 31/01/2024;
- Viewpoint 3: Culter Fell – 15/08/2024;
- Viewpoint 7: Hart Fell – 06/09/2023; and
- Viewpoint 8: Lowther Hill – 20/08/2024.

4.3.4.7 Photography for the following viewpoints was not captured due to weather conditions:

- Viewpoint 2: Broad Law;
- Viewpoint 9: Comb Head; and
- Viewpoint 14: Queensberry.

Settlements

4.3.4.8 A review of large and small settlements detailed in the South Lanarkshire Local Development Plan 2² was undertaken. Settlement within 10 km of the Proposed Development is limited with the nearest being Elvanfoot approximately 8.4 km to the north of the closest turbine which is predicted to receive no visibility of the Proposed Development due to screening by landform. No further settlements were identified within the 10 km Settlement Study Area as receiving theoretical visibility of the Proposed Development.

4.3.5 Sequential Views from Routes

4.3.5.1 Main routes through the Study Area tend to follow the edges and floors of the glens, valleys and dales and are shown on **Figures 4.10 and 4.11 (EIAR Volume 3a)** and listed below:

- Roads
 - M74 Motorway / A74 (M) road/National Cycle Route (NCR) 74;
 - A76 road;
 - A701 road; and
 - A702 road.
- Long Distance Footpaths
 - Southern Upland Way (SUW);
 - Roman Revier Route; and
 - Annandale Way.
- Scottish Hill Tracks (SHT)
 - 15/15a/15b: Moffat to Ettrick or Eskdale;
 - 16/ 16a/ 16b: Tweedsmuir to Ericstane;
 - 55: Lamington to Broughton;
 - 56: Coulter to Crawford;
 - 57: Roberton to Douglas;
 - 58: Douglas to Wanlockhead;
 - 59: Muirkirk to Wanlockhead;
 - 60: Muirkirk to Kirkconnel;
 - 61/61a: Wanlockhead to Sanquhar;
 - 62: Wanlockhead to Enterkinfoot by the Enterkin Pass;
 - 63/63a/63b: Daer Reservoir to Durisdeer/64/64a/64b: Daer Reservoir to Thornhill;

² Available at: <https://www.southlanarkshire.gov.uk/developmentplan2>

- 65/65a: Ae Village to Beattock by the Forest of Ae; and
- 83: St John's Town of Dalry to Sanquhar.
- Core Paths
 - CL/3558/1 Southern Upland Way, Potrail Water-Coom Rig;
 - CL/5692/1 Watermeetings - Coom Rig; and
 - ROYS/444/1 Sweetshaw Brae.
- Hill tops
 - Hill tops to the north;
 - Hill tops to the east;
 - Hills to the south; and
 - Hills to the west.
- Visitor Attractions
 - Drumlanrig Castle Garden and Designed Landscape (GDL).

4.3.5.2 Other routes may also have views of the Proposed Development but are considered to be less likely to have significant effects or can be represented by the selection of routes above. Routes within the Study Area that have very limited, or no visibility of the Proposed Development have not been included.

Roads

M74 Motorway / A74 (M) road / National Cycle Route 74

VISUAL BASELINE

4.3.5.3 This route is one of the main roads between Scotland and England, passing through the 45 km Study Area generally in a northwest to southeast direction. The NCR 74 broadly follows the M74/A74 (M) roads on an adjacent lower speed limit road. The road and NCR 74 enter the 25 km Study Area south of Happendon in north, and exit around Templand in the south, and is known as the M74 motorway north of Abington, and the A74(M) to the south.

4.3.5.4 Views from both routes are more open with some sections enclosed by roadside embankments. In the north, the landscape is a mixture of farmland, large-scale settlements and infrastructure. Gradually, the landscape changes to farmland interspersed with smaller settlements offering greater visibility. To the south of Cairn Lodge Services, the road rises, and moorland becomes the predominant landcover, some of which has been semi-improved for grazing backdropped by the Southern Upland hills to the south. On passing Abington, the landscape surrounding the road becomes much more enclosed by the landform of the Southern Uplands and forestry before opening south of Beattock onto farmland.

4.3.5.5 Wind turbines are common feature in views from both routes, these include smaller scale turbines alongside the road to larger developments within the open plateau and hills to the east and west including a large cluster around Hagshaw Hill, Douglas West and Galawhistle, and separately Middle Muir Wind Farm. Within the Southern Uplands, Clyde Wind Farm is partially visible and prominent on the northern hills with turbines being seen at different elevations.

VISUAL SENSITIVITY TO CHANGE

4.3.5.6 This route passes through the Douglas Valley Special Landscape Area (SLA) and a short section of the Moffat Hills Regional Scenic Area (RSA) resulting in areas of higher value but generally is judged to be of Low value. Overall, the route is not covered by any national or local landscape designation and value is Low. The M74 motorway/road is a relatively fast road comprising three lanes of traffic-oriented northwest to southeast and is a major transport route between Scotland and England.

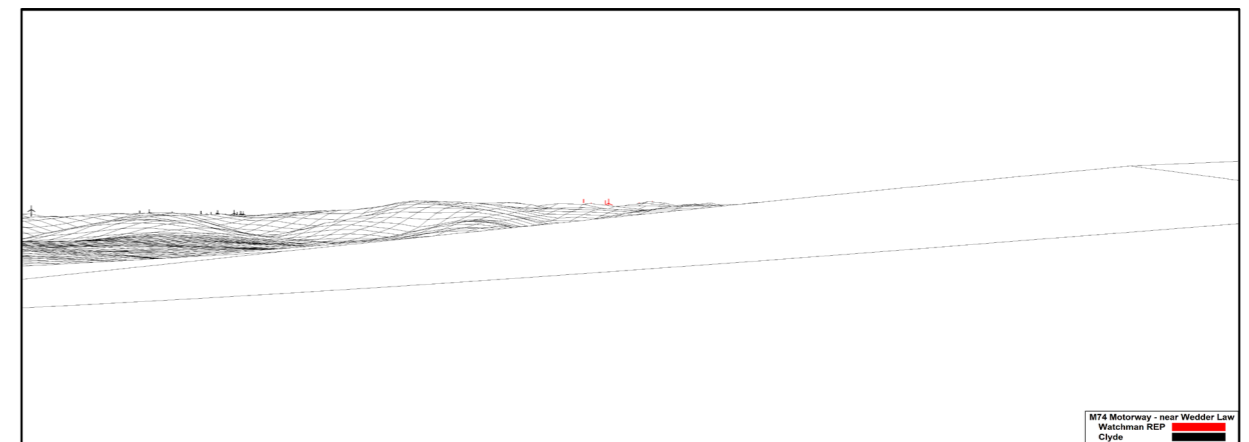
Passengers travelling in vehicles are likely to have some appreciation of views but would experience these at high-speed resulting in a Low susceptibility. Overall visual sensitivity is judged as **Low**.

4.3.5.7 The NCR 74 is a cycle way located on slower national speed limit roads with sections separated and value is considered High. Susceptibility is considered High as cyclists using the route consider views of the surrounding landscape as important to the experience. Visual sensitivity of change is judged as **High**.

VISUAL MAGNITUDE OF CHANGE

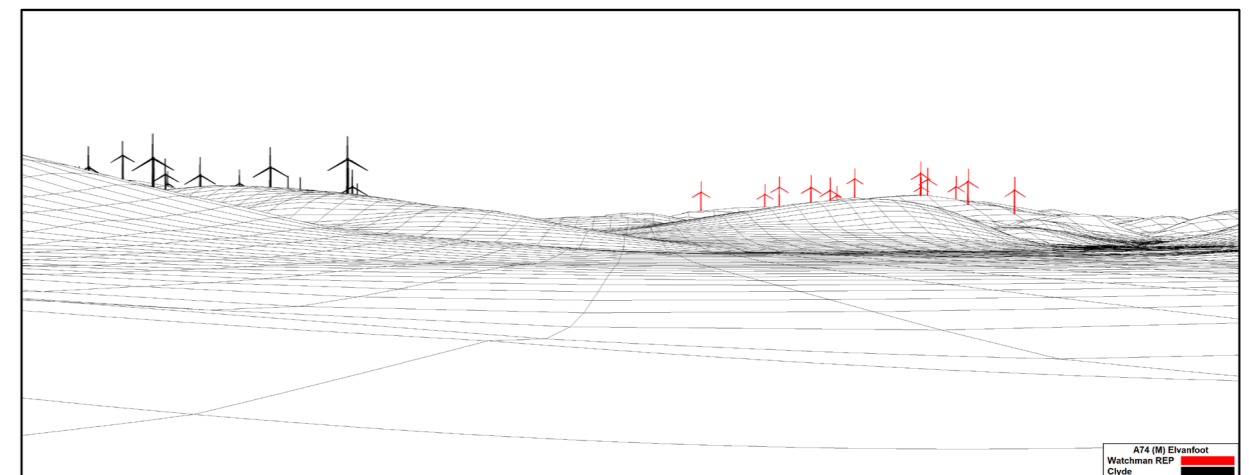
4.3.5.8 Theoretical visibility of the Proposed Development is predicted to be limited from both routes. To the north, approximately 20.3 km from the nearest turbine, a 1.5 km section of the road is predicted to receive theoretical visibility of 1-9 turbines and include views of some turbines breaking the horizon, similar to the view of Clyde Wind Farm shown on **Wireline 4.3.1** below. Visual magnitude of change is predicted to be **Minor**.

Wireline 4.3.1: M74 Motorway near Wedder Law



4.3.5.9 Between the south of Crawford and Elvanfoot, a 4.4 km section of both routes is predicted to have visibility at approximately 8.3 km to the northeast of the nearest turbine. This section includes a bend close to the River Clyde valley which affords views along the floodplain between hillsides to the southwest. From here the turbines would be viewed within the context of nearby Clyde Wind Farm but further along the valley and appear as separate development on the hillside and be briefly visible when travelling north and south, see **Wireline 4.3.2** below. Visual magnitude of change is predicted to be **Medium**.

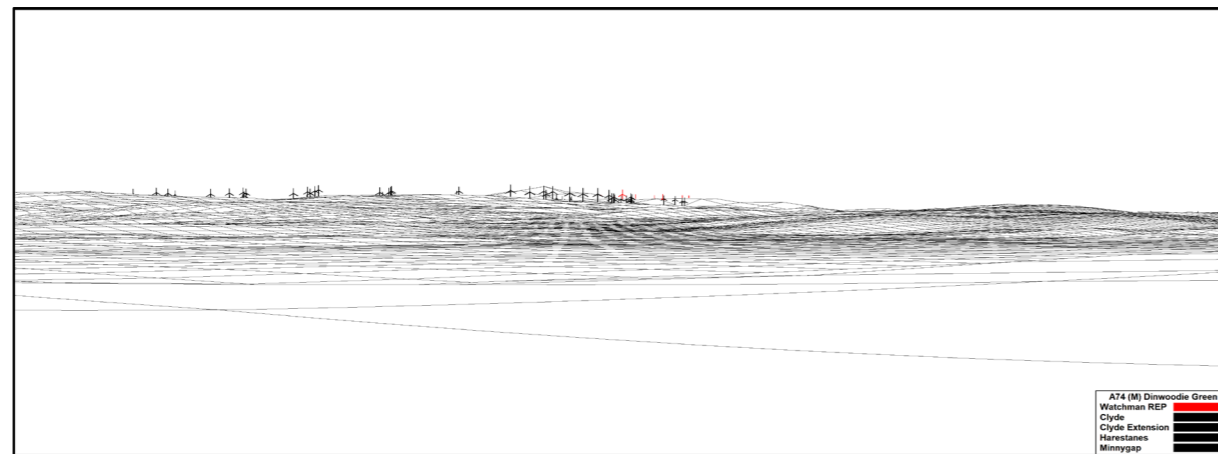
Wireline 4.3.2: A74 (M) road near Elvanfoot



4.3.5.10 Theoretical visibility is predicted for an approximate 1.0 km section as the routes pass through the narrow point of the valley between Williement Hass 399 m AOD, and Simon’s Know and at Longbedholm with 1-3 turbines predicted to be visible. In reality, this would be screened by forestry located on the western slopes in the intervening area and visual magnitude of change would be **Negligible**.

4.3.5.11 To the south of Beattock a 2 km section, and at Dinwoodie, a 4.5 km section, of both routes is also predicted to receive theoretical visibility of the Proposed Development which would form distant features between approximately 16.5 and 25 km. Views of the proposed turbines would mainly occur when travelling northwards and include 1-9 turbines. From here the proposed turbines would be viewed behind Harestanes and Minnygap Wind Farms and be barely perceptible when travelling at the national speed limit, combined with screening by intervening woodland and forestry, see **Wireline 4.3.3** below. Visual magnitude of change is judged as **Negligible**.

Wireline 4.3.3: A74 (M) road near Dinwoodie Green



VISUAL SIGNIFICANCE OF EFFECT

4.3.5.12 A **significant (Moderate)** effect is predicted for a 4.4 km section of the A74 (M) road and NCR 74 as they pass the River Clyde valley south of Abington near Elvanfoot, thereafter, **not significant (Negligible)** effects are predicted due to screening by landform and forestry.

A76 road

VISUAL BASELINE

4.3.5.13 The A76 road is a trunk road extending between Kilmarnock and Dumfries and is generally orientated northwest to southeast. Entering the 25 km Study Area to the west of the Site at Nether Cairn, and from the south at Holywood, the route generally follows the floodplain of the River Nith, passing through the settlements of Kirkconnel, Sanquhar, Carronbridge, and Thornhill. Views from the road tend to be onto the adjacent farmland and can be distant in places, especially in the direction of travel. On both sides of the road, the land gradually rises into upland hills which provides some containment. Visibility is also periodically filtered and screened by roadside vegetation and trees, as well as intervening landform, woodland and forestry.

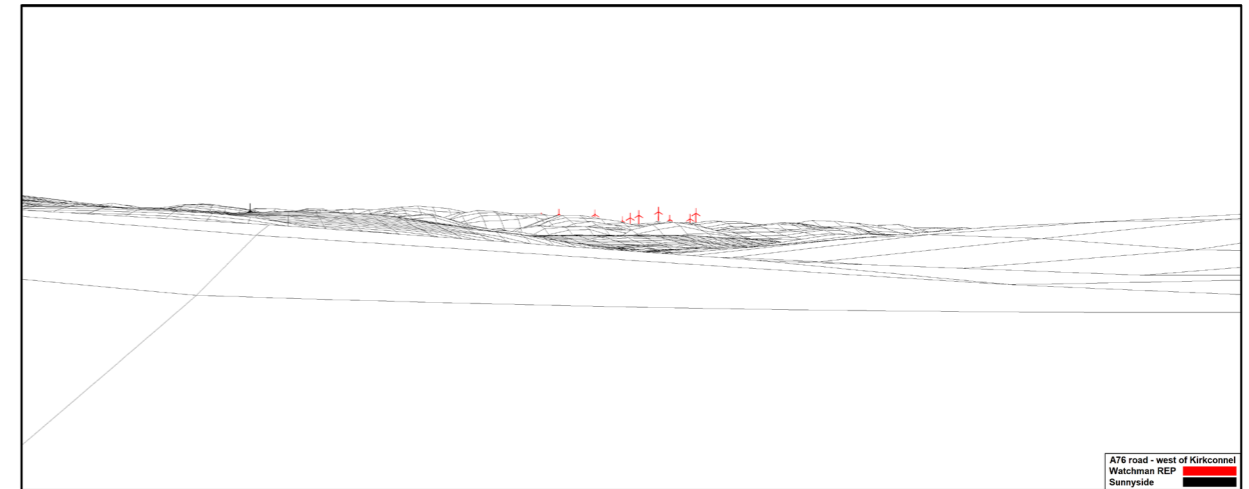
VISUAL SENSITIVITY TO CHANGE

4.3.5.14 Part of this road passes through the Thornhill Uplands SLA between Sanquhar and Auldgirth and is a popular road for visitors travelling between Ayrshire and Dumfries and Galloway, therefore, value is judged as Medium. Susceptibility is also considered to be Medium as travellers along this road are expected to have some appreciation of the view of the surrounding landscape. Overall visual sensitivity to change is judged as **Medium**.

VISUAL MAGNITUDE OF EFFECT

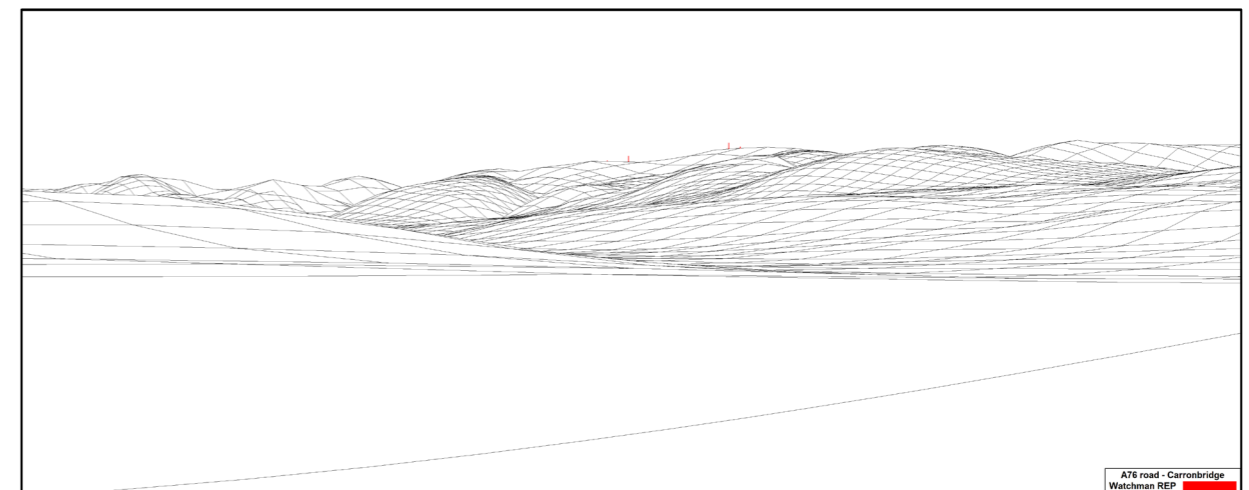
4.3.5.15 A 4.7 km stretch between Nether Cairn and Kirkconnel is predicted to receive theoretical visibility of all 13 turbines. This would typically be at a distance of 19.9 km to 25 km where the proposed turbines would form distant features on top of the hillside viewed successively with several operational developments on the western side of the road, see **Wireline 4.3.4** below. Visual magnitude of change is predicted to be **Low** on account of the distance on a 60 mph road.

Wireline 4.3.4: A76 road near Kirkconnel

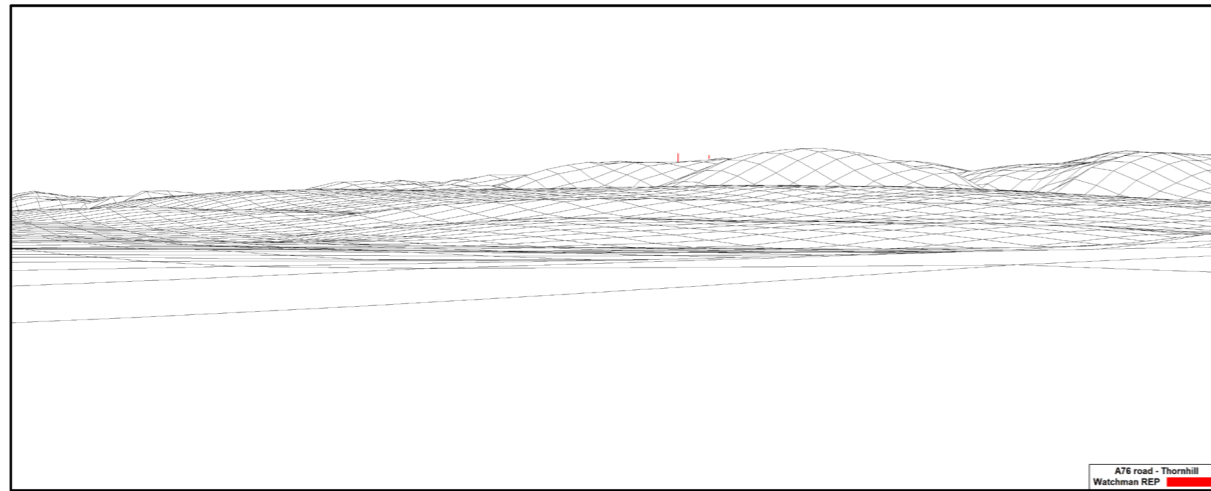


4.3.5.16 Thereafter, theoretical visibility is predicted to be intermittent from the road ranging between 1-3 and, 4-6 turbines north of Carronbridge and Barburgh for approximately 12 km, at Auldgirth, and between Fartinghall and Holywood for approximately 3.2 km. From here the proposed turbines would form distant features in views where visible on account of screening by intervening landform and woodland with turbines blades breaking the horizon, see **Wirelines 4.3.5** and **4.3.6** below. Therefore, visual magnitude of change is judged as **Negligible**.

Wireline 4.3.5: A76 road at Carronbridge



Wireline 4.3.6: A76 road at Thornhill



VISUAL SIGNIFICANCE OF EFFECT

4.3.5.17 **Not significant (Minor) and (Negligible)** effects are judged to occur to views from the A76 road due to the speed that receptors would be travelling at, combined with screening by intervening landform, woodland and forestry.

A701 road

VISUAL BASELINE

4.3.5.18 The A701 road is a trunk road between Edinburgh and Dumfries generally orientated in a northeast to southwest direction. The road enters the 25 km Study Area at Polmood in the northeast, and Locharbriggs in the south. This road follows the River Tweed through the Southern Uplands between Polmood and Moffat with views being generally constrained by rising landform on either side, opening up from the Devils Beef Tub when descending towards Moffat. From Moffat, the road passes through farmland down Annandale with visibility being much more open and periodic screening occurring from roadside trees and intervening woodland and forestry in the surrounding landscape.

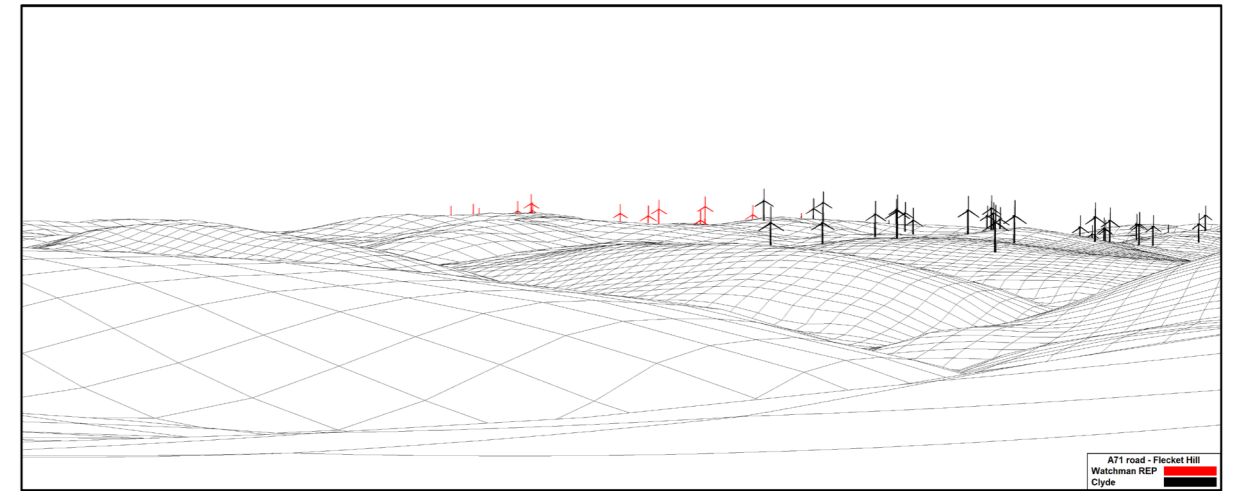
VISUAL SENSITIVITY TO CHANGE

4.3.5.19 This route passes through the Tweedsmuir Uplands SLA and the Moffat Hills RSA, and a small section of the Torthowald Ridge on entering Dumfries and is a popular road for visitors travelling between the north and Dumfries and Galloway resulting in a Medium value. Susceptibility is also considered to be Medium as travellers along this road are expected to have some appreciation of the view of the surrounding landscape. Overall visual sensitivity to change is judged as **Medium**.

VISUAL MAGNITUDE OF CHANGE

4.3.5.20 No view of the Proposed Development is predicted in the north of the 25 km Study Area until approaching the Devils Beef Tub where a bend in the road is predicted to receive views of all 13 turbines from a 2.7 km section, approximately 10.8 km from the nearest turbine. From this section, the Proposed Development would extend turbines further west from Clyde Wind Farm and there would be no perceptible difference in the size of turbines within the view due to the proposed turbines being located further away, see **Wireline 4.3.7** below. It should be noted that there is intervening forestry within this view with some clear fell occurring. Visual magnitude of change is judged as **Low**.

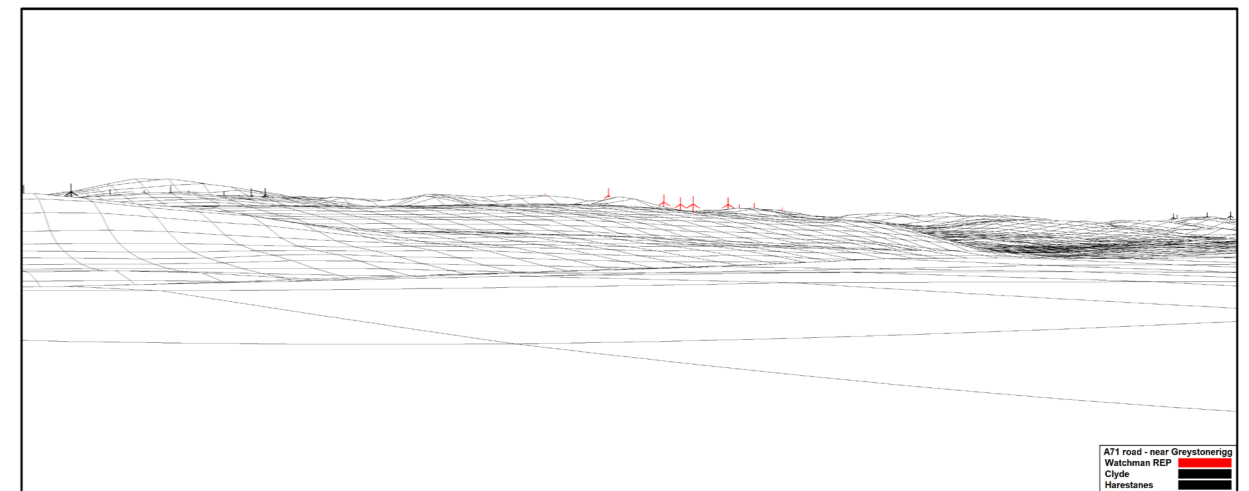
Wireline 4.3.7: A701 near Flecket Hill



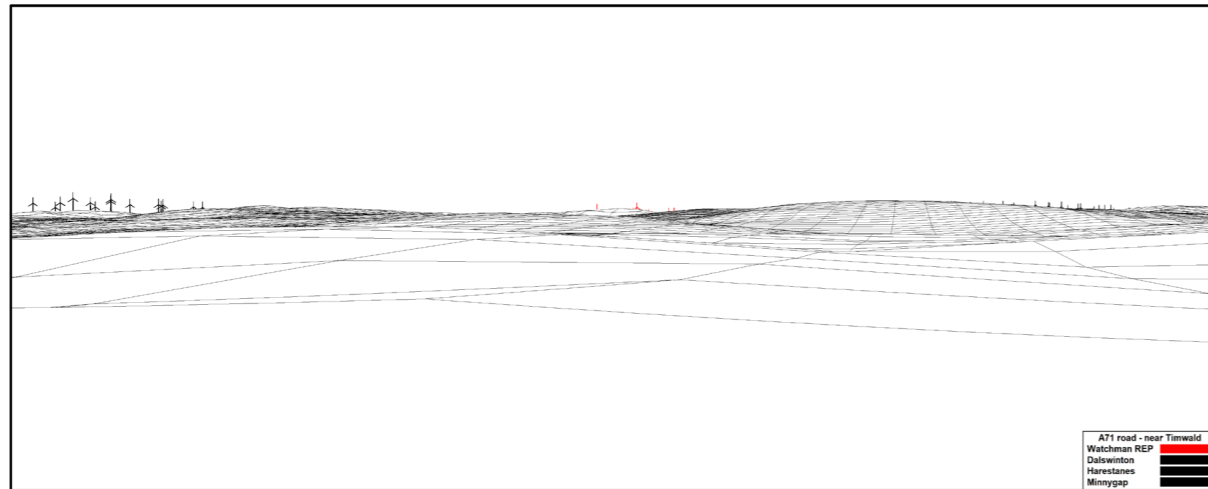
4.3.5.21 Theoretical visibility is predicted southwest of Moffat close to Junction 15 of the A74 (M) for approximately 390 m. Views from this section would mainly be from travelling in a westerly direction where the focus is on the junction. The proposed turbines would mainly be screened by landform and intervening forestry with the tips of 1-6 turbines predicted to be visible over the ridgeline. Visual magnitude of change is judged as **Negligible**.

4.3.5.22 The road would then receive intermittent theoretical visibility to the south of Beattock and Dumfries but would be subject to screening by roadside trees, woodland and forestry. From here the proposed turbines would be seen breaking the ridgeline to the northwest but would be barely perceptible when driving the road, see **Wirelines 4.3.8** and **4.3.9** below. Visual magnitude of change is judged as **Negligible**.

Wireline 4.3.8: A701 road near Greystonerigg



Wireline 4.3.9: A701 near Timwald



VISUAL SIGNIFICANCE OF EFFECT

4.3.5.23 **Not significant (Minor) and (Negligible)** effects are judged to occur to views from the A701 road due to the speed that receptors would be travelling at, combined with screening by intervening landform, woodland and forestry.

A702 road

VISUAL BASELINE

4.3.5.24 The A702 extends between Edinburgh and St Johns Town of Dalry for approximately 134.4 km, generally in a northeast to southwest orientation. The road enters the 25 km Study Area between Coulter and Lamington in the northeast and follows the floodplain of the River Clyde to Abington for approximately 11.5 km. Views from this section of the road are onto the adjacent floodplain which comprises farmland contained by the steep rising landform of the Southern Uplands on either side, with longer distance views along the valley in the direction of travel. Occasionally, roadside trees filter to fully screen visibility and Clyde Wind Farm can be partially seen to the south breaking the horizon of the southern side of the valley.

4.3.5.25 From Abington, the road continues alongside and east of the A74 (M) for approximately 8.5 km before heading westwards to the south of Crawford. From here, visibility is limited as a result of the narrowing and winding nature of the valley between the surrounding hills. The road then follows the western side of the River Clyde through Elvanfoot and away from the A74 (M) road for approximately 2.0 km. From this section, views from the road are onto the adjacent floodplain farmland and A74 (M) road with Clyde Wind Farm prominent in views to the east and south in both directions of travel. From Elvanfoot, the road travels around a bend before straightening out for approximately 7.9 km. Between the bend and Daer Water Road, views are open across moorland clad hills and include intermittent areas of farmland within the Clyde River valley and Clyde Wind Farm on slopes to the east. Forestry also covers a large area between Watermeetings and Meikle Shag 501 m Above Ordnance Datum (AOD). The road then heads downhill towards the Dalveen Pass where visibility is onto the immediate hill sides owing to the narrowing of the pass and winding nature before emerging into wooded farmland near Durisdeer and continuing onto Carronbridge. The road then picks up again from Thornhill passing through lower hills where views are generally more open and onto adjacent farmland and surrounding hills with some partial screening by landform, woodland, drystone walls and the settlements of Penpoint, Kirkland and Moniaive.

VISUAL SENSITIVITY TO CHANGE

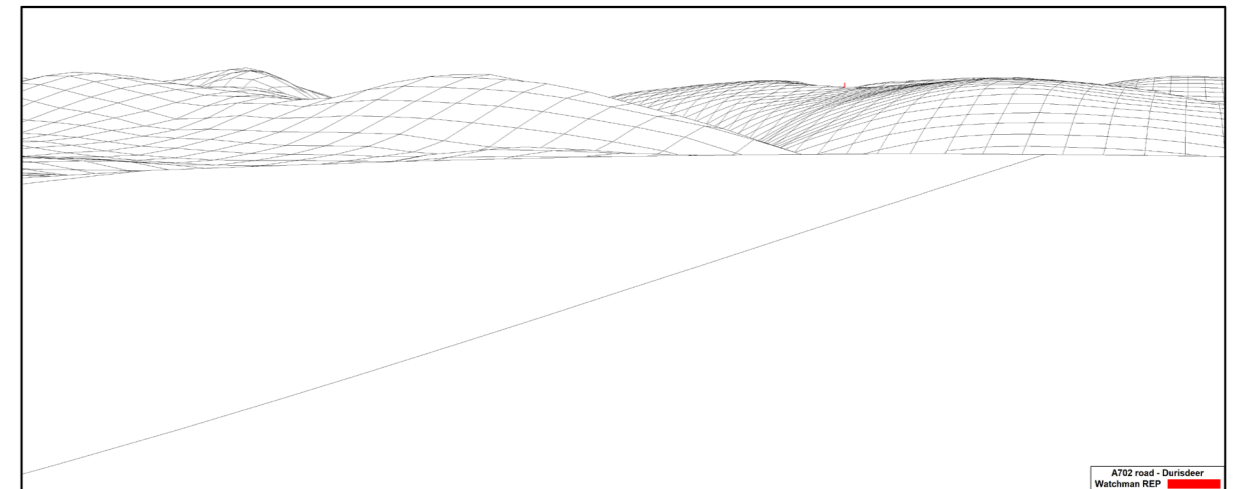
4.3.5.26 This route passes through the Leadhills and the Lowther Hills SLA and Thornhill Uplands RSA and is a popular road for visitors travelling to Drumlanrig Castle. The route links South Lanarkshire and Dumfries and Galloway and value is judged as High. Susceptibility is also considered to be High as travellers along this road are expected to appreciate the views of the Southern Uplands and Dalveen Pass. Overall sensitivity to change is judged as **High**.

VISUAL MAGNITUDE OF CHANGE

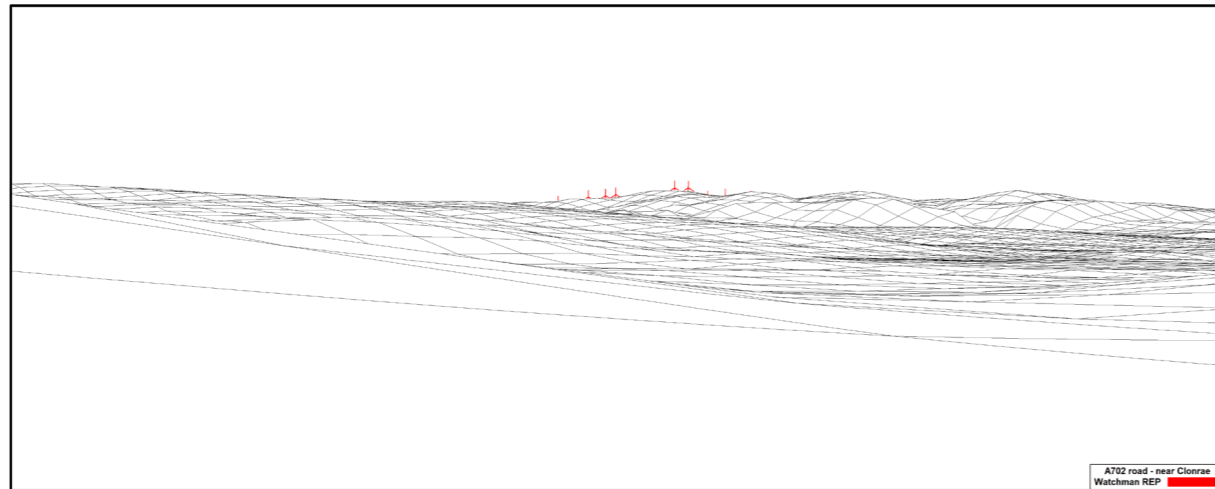
4.3.5.27 The ZTV indicates that theoretical visibility would occur as the road rounds the corner southeast of Elvanfoot shown in Viewpoint 4 (see **Figures 4.24.1-6 - Viewpoint 4: A702 Road, EIAR Volume 3b**) and would be viewed to the south extending turbines westwards from Clyde Wind Farm which is also prominent within the view. This would be experienced when travelling to the west of the Site between distances of 1.3 – 7.5 km from the nearest turbine, for approximately 10.3 km section to the top of the Dalveen Pass, before landform would screen potential views. This section of the road would experience close views of the proposed turbines depending on direction of travel. Magnitude of change would be **High** for this section due to the turbines close proximity and would be viewed within the context of Clyde Wind Farm and other infrastructure which becomes more prevalent as the road gets closer to the A74 (M) road.

4.3.5.28 Between Durisdeer and Carronbridge for an approximate section 5 km at distances of 5.7 – 10.0 km, 1-3 turbines are predicted to be visible above the ridgeline but would be barely visible (see **Wireline 4.3.10** below) and visual magnitude of change at this location is predicted as **Negligible**.

Wireline 4.3.10: A702 near Durisdeer



4.3.5.29 Between Thornhill and the back road to Tynron, and near Glenrosh Farm for an approximate 8.5 km section at distances of 11.3 – 25 km, theoretical visibility is predicted to be intermittent and include 1-13 turbines, with the proposed turbines being more visible westwards as there is less influence of screening by the Southern Uplands. The proposed turbines would be visible breaking the horizon to the northeast and form new features in this direction, see **Wireline 4.3.11** below. Visual Magnitude of change for this section of the road is judged as **Low**.

Wireline 4.3.11: A702 near Clonrae

VISUAL SIGNIFICANCE OF EFFECT

- 4.3.5.30 **Significant (Major)** effects are judged to occur to views from the A702 road between the bend southeast of Elvanfoot to above the Dalveen Pass for approximately 10.3 km. Thereafter, a **not significant (Minor)** and **(Negligible)** effect is predicted due to screening by a combination of landform and woodland, as well as distance

Footpaths*Visual Sensitivity to Change*

- 4.3.5.31 Footpaths assessed are all promoted in literature resulting in a High landscape value. Susceptibility of viewers is also considered to be High as walkers' attention would be focussed on the surrounding view. Overall, sensitivity is judged as **High**.

Southern Upland Way

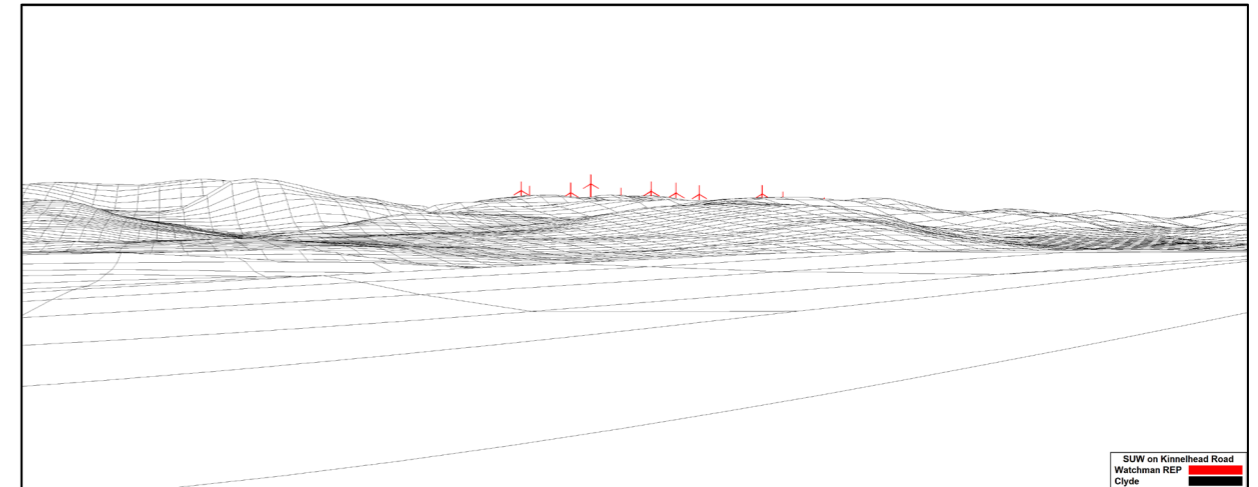
- 4.3.5.32 Stage 6 Wanlockhead to Beattock of the SUW passes through the Site for approximately 2 km. Views are mixed and often extensive and elevated across the Southern Uplands (see Viewpoints 9: Comb Head (**Figure 4.29.1-5**), Viewpoint 11: Hods Hill (**Figure 4.31.1-6**) and Viewpoint 13: Southern Upland Way, Roman Revier's Route (**Figure 4.33.1-4**), **EIAR Volume 3b**), to more enclosed views when crossing glens (see Viewpoint 12 - Daer Reservoir, Southern Upland Way (**Figure 4.32.1-8**, **EIAR Volume 3b**)). In addition, a large section of the SUW passes through forestry such as the Rivox Land Parcel constraining views beyond.
- 4.3.5.33 Within the 25 km Study Area, the SUW crosses generally in an east to west orientation between Broadgairhill in the east, and Forthpenny in the west. An approximate 2 km section of the SUW passes through the northern part of the Site between Old Town Burn in the east, and Coom Rig in the west of the Site. From Broadgairhill, to the southwestern slopes of Gateshaw Rig, no theoretical visibility of the Proposed Development is predicted due to screening by landform.

VISUAL MAGNITUDE OF CHANGE

- 4.3.5.34 Between the lower slopes of Gateshaw Rig and Craig Fell, theoretical visibility is predicted. However, the route at this point passes through forestry and views would be limited beyond. Visual magnitude of change is predicted to be **Negligible**.
- 4.3.5.35 On leaving the forestry plantation, the path descends west towards the A74 (M) road for approximately 4.7 km. From here, all 13 turbines are predicted to be visible at approximately 12.9 – 15.7 km, see **Figures 4.33.1-4: Viewpoint 13: Southern Upland Way, Roman Reivers Route**

(EIAR Volume 3b). From here the proposed turbines would be viewed to the northwest on the top of hillsides infilling a gap between the tips of Clyde Wind Farm further to the north, and Harestanes and Minnygap Wind Farms to the west. Visual magnitude of change is judged as **Low**.

- 4.3.5.36 On the western side of the A74 (M) road, theoretical visibility is predicted on the Kinnelhead Road for approximately 830 m before entering forestry. **Wireline 4.3.12** below shows that the proposed turbines would be viewed above the foreground hill to the northwest. This would occupy an area between Clyde Wind Farm to the north, and Harestanes and Minnygap Wind Farms to the southwest. Foreground forestry on Cairn Hill 344 m AOD would reduce visibility to blade tips above tree tops. Visual magnitude of change is judged as **Low**.

Wireline 4.3.12: SUW at near west side of A74 (M) road

- 4.3.5.37 On entering forestry at Beattock Hill, the route passes through an extensive area of forest plantation of which the Proposed Development would be screened by landform, and where predicted to be visible from high points, this would be screened by adjacent forestry. Visual magnitude of change is judged as **Negligible**.

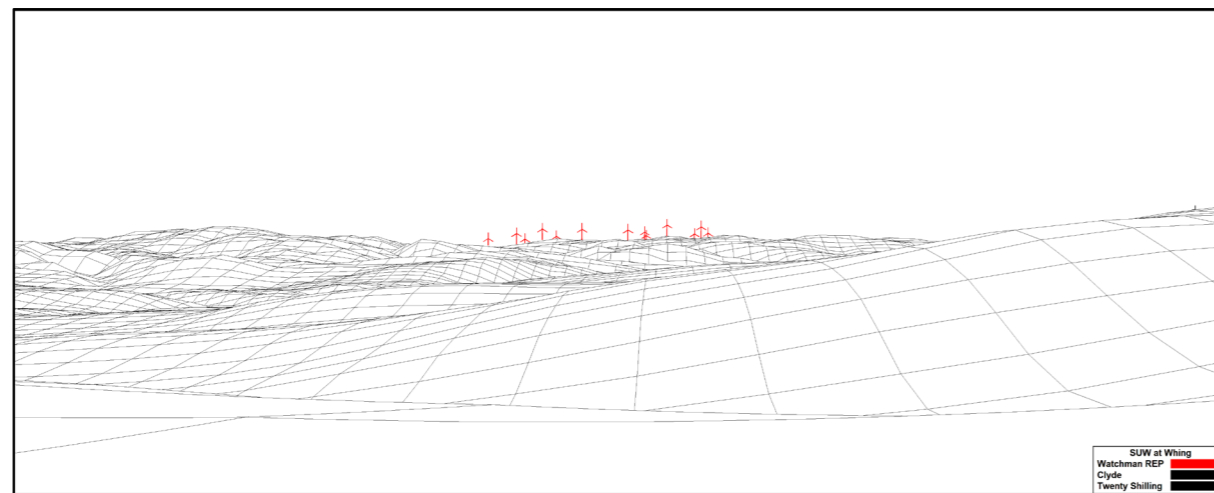
- 4.3.5.38 The SUW leaves the forestry plantation on Beld Knowe and follows the forested edge to Hods Hill. **Figures 4.31.1-6 - Viewpoint 11: Hods Hill (EIAR Volume 3b)** illustrates that the Proposed Development would be viewed to the west above Daer Reservoir on the opposite hillsides. Clyde Wind Farm is partially visible to the north, with Harestanes and Minnygap Wind Farms more distant features to the south. The Proposed Development would appear as separate owing to the gap between the other three wind farms. Visual magnitude of change is predicted to be **High**.

- 4.3.5.39 From Hods Hill, the SUW descends towards Daer Waterworks, and the path bypasses the north of the works or continues over the Daer Reservoir dam. **Figures 4.32.1-8 - Viewpoint 12: Daer Reservoir, Southern Upland Way (EIAR Volume 3b)** illustrates the type of view obtained of the Proposed Development from lower elevations. From here, the Proposed Development would be viewed above on the opposite hillsides and although there is some screening by forestry around Daer Waterworks and Hitteril Hill 491 m AOD, close views of all 13 turbines would be experienced. Visual magnitude of change is judged as **High**.

- 4.3.5.40 From Hitteril Hill the SUW passes between a series of hills with woodland and forestry to the north and there would be a slight decrease in the number of turbines (1 – 9 turbines) viewed to the south due to screening by landform, however, close views of the substation and BESS which are located adjacent to the SUW would be experienced from a section of the SUW between Meikle Shag and Hitteril Hill. This section of the SUW would also include a permanent diversion to approximately 880 m at the point where the Western Access track enters the main site area and would include temporary construction works as the new section of path is created.

- 4.3.5.41 On reaching the A702 road, the SUW follows the road for approximately 760 m before ascending towards Lowther Hill 725 m AOD, passing over the slopes of Laght Hill 507 m AOD, and Comb Head and Cold Moss 628 m AOD. **Figures 4.29.1-5: Viewpoint 9: Comb Head (EIAR Volume 3b)** and Lowther Hill **Figures 4.28.1-5: Viewpoint 8 (EIAR Volume 3b)** show close views of the Proposed Development to the east in its entirety. Visual magnitude of change for this section is judged as **High**.
- 4.3.5.42 Thereafter, from Lowther Hill to the northeastern edges of Sanquhar, the Proposed Development is screened by landform and visual magnitude of change is judged as **Negligible**.
- 4.3.5.43 To the northeast and southwest of Sanquhar, none of the proposed turbines are predicted to be visible but would be viewed breaking the skyline forming distant features on the approaches to Sanquhar. As the SUW ascends from Sanquhar it crosses an upland area with open extensive visibility. However, intervening landform would limited theoretical visibility to high points at Whing and Cloud Hill 451 m AOD, see **Wireline 4.3.13** below. Visual magnitude of change is predicted to be **Low**.

Wireline 4.3.13: SUW at Whing



VISUAL SIGNIFICANCE OF EFFECT

- 4.3.5.44 **Significant (Major)** effects are judged to occur to views from Beld Knowe to Lowther Hill for approximately 16.6 km. Thereafter, a **not significant (Minor)** and **(Negligible)** effect is predicted due to screening by a combination of landform and woodland, as well as distance from the proposed turbines.

Roman Revier Route

- 4.3.5.45 The Roman Revers Route is located within the 25 km Study Area between Kiddamhill in the Eskdalemuir Forest, to Killyminshaw Hill in the southeast. Predominantly passing through forestry, views are contained, the exception being east and west of the A74 (M) road where the route is also part of the SUW.

VISUAL MAGNITUDE OF CHANGE

- 4.3.5.46 **Figures 4.33.1-4 - Viewpoint 13: Southern Upland Way Roman and Reivers Route southeast of Moffat (EIAR Volume 3b)** southeast of Moffat is representative of views from the route. Visual magnitude of change is predicted to be **Low** from the same area assessed for the SUW to the east and west of the A74 (M) road.
- 4.3.5.47 At Wester Earshaig, the path heads to the southwest, and a combination of landform and forestry would screen views of the Proposed Development. Visual magnitude of change would be **Negligible**.

VISUAL SIGNIFICANCE OF EFFECT

- 4.3.5.48 **Not significant effects (Minor)** and **(Negligible)** are predicted as a result of screening by landform and forestry.

Annandale Way

- 4.3.5.49 This route extends for 90 km between the Moffat Hills and Annan on the Solway Coast and passes to the east of the Proposed Development in a north to south orientation. This location offers extensive views from sections within the Moffat Hills such as Annanhead. Views can be extensive southwards down Annandale towards Moffat but limited in other directions due to landform and forestry. Clyde Wind Farm is visible to the northwest and Harestanes and Minnygap Wind Farms to the southwest further down Annandale forming prominent features.

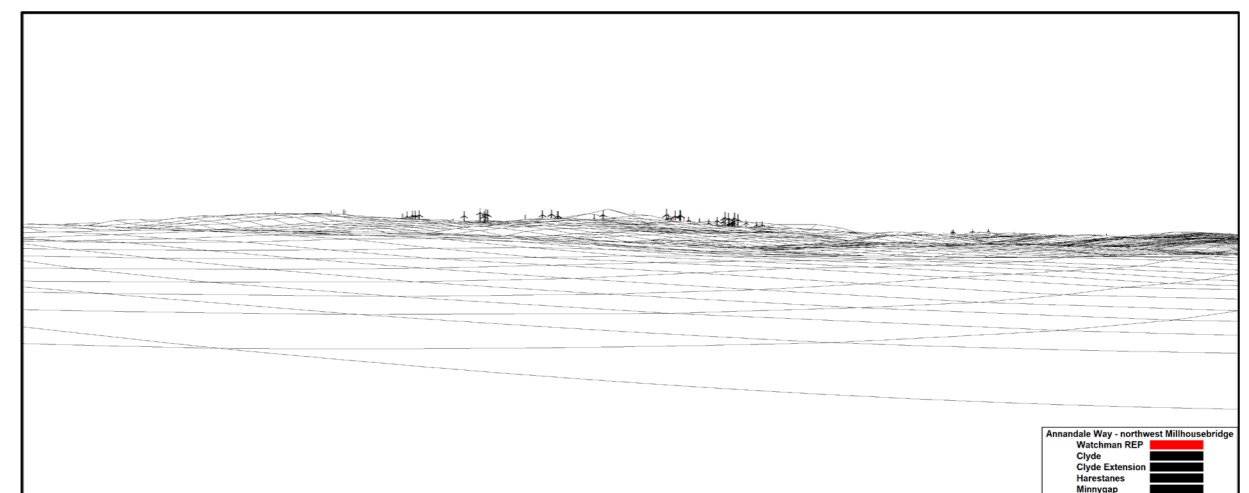
VISUAL MAGNITUDE OF CHANGE

- 4.3.5.50 **Figures 4.26.1-5 - Viewpoint 6: Annanhead Hill, Annandale Way (EIAR Volume 3b)** illustrates the view from this route in its most elevated point. Theoretical visibility of the Proposed Development would be intermittent, mainly from elevated locations such as Chalk Rig Edge 500 m AOD in the north, descending to the A701 road. From here, the proposed turbines would be viewed as extending turbines from Clyde Wind Farm southwest. The greatest visibility would occur from elevated points where open views above the foreground forestry can be experienced. Visual magnitude of change is judged as **Low**.
- 4.3.5.51 Thereafter, theoretical visibility would be limited to southwest of the Devil's Beef Tub although this area is forested. A 1.3 km section southwest of Beattock and a 13 km section between Boreland and Gotterbie are predicted to receive views of the proposed turbines, see **Wireline 4.3.14** below. However, this would be behind Harestanes and Minnygap Wind Farm and the proposed turbines would be barely perceptible. Visual magnitude of change is judged as **Low to Negligible** due to intervening screening by landform and forestry.

VISUAL SIGNIFICANCE OF EFFECTS

- 4.3.5.52 **Not significant effects (Minor)** and **(Negligible)** are predicted as a result of screening by landform and forestry.

Wireline 4.3.14: Annandale Way – northwest Millhousebridge



Scottish Hill Tracks

- 4.3.5.53 A total of 13 SHT were identified within 25 km Study Area as shown on **Figure 4.10 (EIAR Volume 3a)** and assessed in **Table TA4.3.2:**

- 15/15a/15b: Moffat to Ettrick or Eskadale;
- 16/16a/16b: Tweedsmuir to Ericstane;
- 55: Lamington to Broughton;
- 56: Coulter to Crawford;
- 57: Robertson to Douglas;
- 58: Douglas to Wanlockhead;
- 59: Muirkirk to Wanlockhead;
- 60: Muirkirk to Kirkconnel;
- 61/61a: Wanlockhead to Sanquhar;
- 62: Wanlockhead to Enterkinfoot by the Enterkin Pass;
- 63/63a/63b: Daer Reservoir to Durisdeer/64/64a/64b: Daer Reservoir to Thornhill;
- 65/65a: Ae Village to Beattock by the Forest of Ae; and
- 83: St John’s Town of Dalry to Sanquhar.

Table TA4.3.2: Scottish Hill Tracks		
Scottish Hill Track	Baseline	Assessment
Section 2: Central and Southwest Borders 15/15a/15b: Moffat to Ettrick or Eskadale	This hill track broadly follows the SUW with a deviation to the north near Croft Head and Cornal Burn. Visibility is mixed between enclosed views due to the surrounding landform and forestry, to open and extensive views when passing over Croft Head 637 m AOD and Gateshaw Rig 567 m AOD.	Between Croft Head and Gateshaw Rig, the proposed turbines would be visible to the northwest where open elevated views from Croft Head can be experienced. As the path descends to Gateshaw Rig, intervening forestry would influence views towards the Proposed Development. From here, the proposed turbines would occupy an area between Clyde Wind Farm and Harestanes and Minnygap Wind Farms at a distance of approximately 19.4 km. Visual magnitude of change is judged as Low due to the limited amount of visibility and distance. From Craig Fell to the A74 (M) road, the magnitude of change, as described in paragraph 5.35.1 for the SUW, and is judged as Low . The visual significance of effect is judged as not significant (Minor) and (Negligible) due to distance and screening by landform and forestry.
Section 2: Central and Southwest Borders 16/ 16a/ 16b: Tweedsmuir to Ericstane	This hill track extends between the A701 road at Tweedsmuir in the north, to Moffat in the south for approximately 16 km. Ascending from the A701 road, the footpath follows the Fruid Water and Reservoir before crossing the northern side of Ballaman Hill 542 m AOD, to Chalk Rig Edge, thereafter, following the Annandale Way. Views range from being enclosed in the Fruid Water, to extensive views across the surrounding uplands and southwards along Annandale from Chalk Rig Edge.	Theoretical visibility is predicted to be limited to a section of approximately 9.8 km in total when crossing between Ballaman Hill and Falla Moss across the Crown of Scotland 538 m AOD, to Chalk Rig Edge and Annanhead Hill including the split in the path southwards along the western side of Cocklaw Knowe. From here, the proposed turbines would be seen beyond Clyde Wind Farm extending turbines further to the west. Visual magnitude of change is judged as Low . Thereafter, visibility would be similar to that described in paragraph 5.51.1 of the Annandale Way where the visual magnitude of change is judged as Low and Negligible . The visual significance of effect is judged as not significant (Minor) and (Negligible) are predicted as a result of screening by landform and forestry.

Table TA4.3.2: Scottish Hill Tracks		
Scottish Hill Track	Baseline	Assessment
Section 5: Clydesdale and Lowther Hills 55: Lamington to Broughton	This hill track extends between the A701 road beyond the 25 km Study Area, and the A702 road at Lamington and is just located within the 25 km Study Area and crosses a series of small hills with an open outlook.	No theoretical visibility of the Proposed Development is predicted from this route.
Section 5: Clydesdale and Lowther Hills 56: Coulter to Crawford	This hill track extends between Coulter in the north, and Crawford in the south for approximately 20 km in a northeast to southwest orientation. Crossing over an upland area, extensive visibility can be experienced, and the footpath crosses through Clyde Wind Farm and extension. At Coulter and Crawford, the path descends where views are more enclosed by the valley sides.	Theoretical visibility is predicted to occur in elevated sections of the footpath such as Windgate Bank within Clyde Wind Farm and when descending towards Crawford at distances of 12.9-19.7 km from the Proposed Development. From here the proposed turbines would extend further west from Clyde Wind Farm which is the prominent feature within views. Visual magnitude of change would be Negligible resulting in a not significant (Negligible) effect.
Section 5: Clydesdale and Lowther Hills 57: Robertson to Douglas	This hill track extends between the A73 in the southeast, and the A70 northeast Douglas in the north. Crossing farmland and upland landscape, views from the footpath are open over the surrounding landscape.	Theoretical visibility of the proposed turbines is predicted from a section approximately 3.3 km across Bodinglee Law of 1-9 turbines and small sections at Fallside and between Muirhead and Nap Bridge at distances of between 21 to 22 km. From here the proposed turbines would form distant features and be seen within the existing context of wind farms in the intervening area and Clyde Wind Farm. Visual magnitude of change would be Negligible resulting in a not significant (Negligible) effect.
Section 5: Clydesdale and Lowther Hills 58: Douglas to Wanlockhead	This hill track extends between Douglas and Wanlockhead for approximately 23 km in a north to south orientation. Passing over two areas of high ground views are extensive and the hill track passes the eastern side of Middle Muir Wind Farm, becoming more enclosed in the vicinity of Douglas, Crawfordjohn, Leadhills and Wanlockhead.	Theoretical visibility of the proposed turbines is predicted from elevated sections of the landscape at Pagie Hill 388 m AOD, Auchensaugh Hill 392 m AOD in the north between Douglas and Crawfordjohn at approximately 19 – 22.6 km. From here, the Proposed Development would form distant features and be seen within the existing context of nearby wind farms and Clyde Wind Farm to the south. Visual magnitude of change would be Negligible resulting in a not significant (Negligible) effect.
Section 5: Clydesdale and Lowther Hills 59: Muirkirk to Wanlockhead	This hill track extends between Wanlockhead and Penbreck Rig 403 m AOD to the northwest of the Proposed Development. From Wanlockhead, the footpath threads its way between a series of hills and forestry.	Theoretical visibility of the Proposed Development is predicted to be limited due to screening by landform to Lamb Knowe 4-6 turbines and Black Law 1-3 turbines before entering forestry to the west screening views. From these locations the proposed turbines would be partially visible to the southeast breaking the horizon at distances of 16.5 and 24 km. Visual magnitude of change would be Negligible resulting in a not significant (Negligible) effect.
Section 5: Clydesdale and Lowther Hills 60: Muirkirk to Kirkconnel	This hill track is orientated northeast to southwest between Finland and Kirkconnel across an upland landscape resulting in extensive views before descending to Kirkconnel in the south.	Theoretical visibility is predicted to be limited to the downslope north of Kirkconnel where 1-13 turbines are predicted at a distance of 22.5 km. Blades would be viewed to the northeast forming distant features. Visual magnitude of change would be Negligible resulting in a not significant (Negligible) effect.

Table TA4.3.2: Scottish Hill Tracks		
Scottish Hill Track	Baseline	Assessment
Section 5: Clydesdale and Lowther Hills 61/61a: Wanlockhead to Sanquhar	This hill track extends between Wanlockhead and Sanquhar in the west for approximately 21 km crossing rounded upland hills before descending into Sanquhar. Visibility is extensive when crossing the uplands and more enclosed in proximity of Wanlockhead and Sanquhar due to surrounding landform.	From this footpath, theoretical visibility is predicted along the ridgeline to the west of Wanlockhead for approximately 3.6 km of 1-6 turbines, and a 2.6 km section east of Sanquhar of mainly 1-3 turbines and a short section of 1-9 turbines at distances of 8.4 – 15.3 km. From here the proposed turbine blades would be visible to the east breaking the ridgeline but generally screened by landform. Visual magnitude of change would be Low resulting in a not significant (Minor) effect.
Section 5: Clydesdale and Lowther Hills 62: Wanlockhead to Enterkinfoot by the Enterkin Pass	This hill track is located to the west of the Proposed Development and is approximately 11 km long between Wanlockhead and Enterkinfoot. Crossing the Southern Uplands, visibility is extensive over the surrounding hill tops.	Theoretical visibility is predicted from the top of the ridgeline between Threehope Height 551 m AOD, and Holbrae for approximately 2.4 km, 7.1 km from the proposed turbines. These would be viewed breaking the ridgeline to the east with some screening of the bottom of the towers but introducing wind turbines closer to the hill track in open views. Visual magnitude of change would be Low resulting in a significant (Moderate) effect to views from 2.4 km stretch, reducing to not significant (Minor) and (Negligible) elsewhere due to screening by intervening landform.
Section 5: Clydesdale and Lowther Hills 63/63a/63b: Daer Reservoir to Durisdeer 64/64a/64b: Daer Reservoir to Thornhill	This hill track is formed by a series of different paths that start at the junction with the A702 road in the north and follow the Daer Water Road and access road to Crookburn to the north and east of the Site. Views from this section are at lower elevation with open and extensive views onto the surrounding hills side predominantly of farmland with woodland, forestry, Clyde Wind Farm and Daer Waterworks and Reservoir being notable features seen. On reaching Kirkhope Cleuch, the footpath rises up over the Site before descending to Durisdeer in the southwest between hillsides. The footpath also heads south from Crookburn towards Thornhill passing over some of the remotes hills and includes extensive visibility over the uplands.	Theoretical visibility is predicted for much of the footpath in the north extending from the A702 road to approximately the border with Dumfries and Galloway. From this section of the path, the proposed turbines would be prominent features and whilst there would be some screening by forestry, the turbines would be visible for much of the route. This would also include the footpath across the Site as far as Durisdeer Hill. Visual magnitude of change is predicted to be High resulting in a significant (Major) effect. Short sections of the path are predicted to receive theoretical visibility of 1-3 turbines crossing Cample Cleuch where blades would be seen breaking the horizon to the northeast, and from a section east of Thornhill where 1-6 turbines are predicted to be visible but likely to be screened by woodland. Visual magnitude of change is Negligible resulting in a not significant (Negligible) effect.
Section 5: Clydesdale and Lowther Hills 65/65a: Ae Village to Beattock by the Forest of Ae	This hill track extends between Beattock and Ae Village generally following the direction of the Roman Revier's Route with some parts of the path branching off using forest access roads. Views are generally restricted by adjacent forestry with some open views between the A74 (M) road and Beattock Hill.	The proposed turbines are predicted to be visible between Beattock Hill and forestry for a section of the track shared with the SUW and Roman Reivers Way detailed in paragraph 5.35.1 Thereafter, the footpath passes through forestry and would be screened by a combination of landform and forestry. Visual magnitude of change would be Negligible resulting in a not significant (Negligible) effect.
Section 6 Galloway and South Ayrshire	This hill track heads southwest from Sanquhar crossing a series of uplands to beyond the 25 km	This footpath is shared with the SUW and has been assessed as Low visual magnitude of change resulting in a not significant .

Table TA4.3.2: Scottish Hill Tracks		
Scottish Hill Track	Baseline	Assessment
83: St John's Town of Dalry to Sanquhar	Study Area and shares the route of the SUW.	(Minor) effect due to distance from the Proposed Development.

Core Paths

4.3.5.54 Within 5 km Study Area, three Core Paths have been identified shown on **Figure 4.11 (EIAR Volume 3a)** as follows:

Table TA4.3.4: Core Paths		
Core Path	Baseline	Assessment
CL/3558/1 Southern Upland Way, Potrail Water-Coom Rig	This Core Path joins the CL/5692/1 with the SUW for a short section and includes restricted views on account of the forestry to the north and east and the steep slopes of Stowgill Dod to the west.	This route is predicted to receive theoretical visibility of all 13 turbines comprising a 900 m section. Visual magnitude of change is predicted to be High for 900 m resulting in a significant (Major) effect. Thereafter, not significant (Negligible) due to screening by forestry.
CL/5692/1 Watermeetings – Coom Rig	This Core Path follows a route south of Watermeetings through Watermeetings Forest until reaching the Site and ending adjacent to Pin Stripe. Views from the path are predominantly limited due to forestry but are open between Watermeetings and Watermeetings Forest allowing open views of the River Clyde valley, surrounding hills and Clyde Wind Farm.	This route is predicted to receive theoretical visibility of all 13 turbines with a 920 m section north of Watermeetings Forest affected due to forestry screening. Visual magnitude of change is predicted to be High for 920 m resulting in significant (Major) effect. Thereafter, not significant (Negligible) due to screening by forestry.
ROYS/444/1 Sweetshaw Brae	Located to the north of the Daer Waterworks, this Core Path is also signposted as the SUW.	Assessed under the SUW, visual magnitude of change was judged as High resulting in a significant (Major) effect.

4.3.6 Hills and Mountains

4.3.6.1 The Study Area is predominantly an upland landscape that is popular as a hill walking area. Although many of the summits are not classified as Munros and Corbetts, they are promoted for walking and from summits extensive views across the Southern Uplands, including summits in the Scottish Borders, South Lanarkshire, East Ayrshire and Dumfries and Galloway, can be experienced. There are too many to assess individually however for the purposes of this assessment, have been grouped together and represented by photomontages, and wirelines. The following groups have been identified:

- Hill tops to the north;
- Hill tops to the east;
- Hills to the south; and
- Hills to the west.

Visual Sensitivity to Change

4.3.6.2 Hills and Mountains assessed are all considered to be of High landscape value due to being located in several local landscape designations. Susceptibility of viewers is also considered to be High as walkers' attention would be focussed on the surrounding view. Overall, sensitivity is judged as **High**.

Hill tops to the north

- 4.3.6.3 To the north, the hills are lower in elevation and are not known for hill walking, the exception being the Tinto group of hills which is partially inside the 25 km Study Area. From this group of hills which includes Scout Hill 586 m AOD, Lochyloch Hill 529 m AOD and Dumgavel Hill 510 m AOD, extensive views to the south can be obtained of the Southern Uplands which occupies a large part of the view in this direction.

VISUAL MAGNITUDE OF CHANGE

- 4.3.6.4 **Figures 4.21.1-5 - Viewpoint 1: Tinto (EIAR Volume 3b)** represents the type of view that would be obtained from this series of hills. This shows that the Proposed Development would be viewed to the south alongside Clyde Wind Farm and several others in the intervening area. From this distance the proposed turbines would be viewed on hill tops but not dissimilar to the views currently experienced on other wind farms. Visual magnitude of change is judged to be Low due to distance and presence of other wind farms.

VISUAL SIGNIFICANCE OF EFFECT

- 4.3.6.5 **Not significant (Minor)** effects are predicted as a result of distance and presence of other wind farms.

Hill tops to the east

- 4.3.6.6 To the northeast lies the Tweedsmuir Uplands SLA which includes a large area of the Southern Uplands popular with walkers. From the upper slopes and summits extensive visibility of the surrounding hills can be obtained with several wind farms being located to the southwest. A series of viewpoints (refer to **EIAR Volume 3b**) represent the type of view obtained from this grouping of hills:

- **Figures 4.22.1-4 - Viewpoint 2: Broad Law;**
- **Figures 4.23.1-5 - Viewpoint 3: Culter Fell;**
- **Figures 4.26.1-5 - Viewpoint 6: Annanhead Hill, Annandale Way; and**
- **Figures 4.27.1-5 - Viewpoint 7: Hart Fell.**

VISUAL MAGNITUDE OF CHANGE

- 4.3.6.7 From this grouping, the Proposed Development would be viewed to the southwest at distances of approximately 8.6 to 25 km and the proposed turbines would be viewed behind Clyde Wind Farm, bolstering the cluster of turbines and appearing as the same development. In the south of the grouping, the proposed turbines would be viewed extending wind turbine development further west and southwest of Clyde Wind Farm, but due to perception, the turbines would not be perceived at different heights. Visual magnitude of change is judged as **Low**.

VISUAL SIGNIFICANCE OF EFFECT

- 4.3.6.8 **Not significant (Minor)** effect are predicted as a result of being beyond existing wind farms.

Hill tops to the south

- 4.3.6.9 To the south of the Site are a series of hills which are largely remote and afford extensive visibility from the upper slopes and summits over the surrounding upland landscape. Queensberry Hill 697 m AOD is the most notable summit accessed by walkers. **Figures 4.34.1-5 Viewpoint 14: Queensberry, (EIAR Volume 3b)** show the extensive views that can be obtained from this summit which also includes Annadale and the Solway coastline to the south.

MAGNITUDE OF VISUAL CHANGE

- 4.3.6.10 Theoretical visibility for this grouping is predicted to be limited to several summits to the south within 5 km, extending south-eastwards to the border with Dumfries and Galloway. This would include the summits of Ballencleuch Law 689 m AOD, Shiel Dod 668 m AOD, Earncraig Hill 611 m AOD, Ganna Hill 668 m AOD, and Queensberry Hill (697 m AOD). From the summits and upper slopes of these hills, the proposed turbines would be viewed to the northwest and be more visible than Clyde Wind Farm to the north, and Harestanes and Minnygap Wind Farms that lie to the southeast of Queensberry Hill. Due to proximity, the proposed turbines would be prominent and backclothed by the Lowther Hill escarpment beyond. Visual magnitude of change is judged as **High**.

VISUAL SIGNIFICANCE OF EFFECT

- 4.3.6.11 **Significant (Major)** effects are predicted as a result of the hill grouping proximity to the Site.

Hills to the west

- 4.3.6.12 To the west of the Site, a ridgeline of steep hills that extends from Lousie Wood Law 618 m AOD in the north, to Penbane 514 m AOD in the south enclosing the western side of the 25 km Study Area. Notable summits include Dun Law 677 m AOD, Green Lowther 732 m AOD which includes a radar station, and Lowther Hill 725 m. Views eastwards are extensive and overlook Daer Reservoir which is partially visible and the hills of the Southern Uplands beyond. Other notable features include Clyde and Harestanes Wind Farms which are partially visible. **Figures 4.28.1-5 - Viewpoint 8: Lowther Hill** and **Figures 4.29.1-5 - Viewpoint 9: Comb Head (EIAR Volume 3b)** provides a representation of views to the east.

VISUAL MAGNITUDE OF CHANGE

- 4.3.6.13 The ZTV shows extensive theoretical visibility of the Proposed Development covering the high to lowest facing slopes and summits at distances of approximately 1.4 to 6.8 km. The proposed turbines would be visible in close views to the east. Visual magnitude of change is judged as **High**.

VISUAL SIGNIFICANCE OF CHANGE

- 4.3.6.14 **Significant (Major)** effects are predicted as a result of the hill grouping proximity to the Site.

4.3.7 Visitor Attractions*Drumlanrig Castle and Gardens*

- 4.3.7.1 Drumlanrig Castle and Gardens is a category A listed building and surrounding gardens located on the Queensberry Estate approximately 7.2 km to the southwest of the nearest turbine. Open as a visitor attraction, the castle is popular for visits, and the gardens are used as cycling and walking routes. Views vary from within the grounds and are mainly restricted by the surrounding woodland with specific views along the drive to the north of the castle. The following figures are representative of views:

- **Figures 4.35.1-4 - Viewpoint 15: Drumlanrig Castle, (EIAR Volume 3b);**
- **Figures 5.5.1-5 - Drumlanrig Castle, (EIAR Volume 3b); and**
- **Figure 5.6.1-6 - Drumlanrig Castle Gardens (EIAR Volume 3b).**

- 4.3.7.2 **Figures 5.5.1-5 and 5.6.1-6** are related to the Cultural Heritage assessment as provided in **Chapter 5: Cultural Heritage (EIAR Volume 2)**.

VISUAL SENSITIVITY TO CHANGE

4.3.7.3 The GDL is promoted for its heritage and landscape qualities resulting in a High landscape value. Susceptibility of viewers is also considered to be High as visitors attention would be focussed on the surrounding view. Overall, sensitivity is judged as **High**.

VISUAL MAGNITUDE OF CHANGE

4.3.7.4 The ZTV indicates that theoretical visibility would be widespread within the policies on either side of the A76 road where 1-13 turbines would potentially be visible. However, due to the wooded nature of the GDL, the visual envelope of the Proposed Development would be severely restricted to a few locations such as from the castle looking northwards along the drive, and from Castle View within the grounds. From here, a few of the turbines would be visible above the distant ridgeline but it is not considered to alter the majority of the views within the grounds. Visual magnitude of change is predicted to be **Low**.

VISUAL SIGNIFICANCE OF CHANGE

4.3.7.5 **Not significant (Minor)** effects are predicted from the GDL as a result of distance and screening by surrounding woodland.

4.3.8 Summary of Visual Effects

Table TA4.3.5: Visual Effects	
Visual Receptor	Significance of Effect
Roads	
M74 Motorway/A74 (M) road/ National Cycle Route (NCR) 74	A significant (Moderate) effect is predicted for a 4.4 km section of the A74 (M) road and NCR 74 as they pass the River Clyde valley south of Abington near Elvanfoot, thereafter, not significant (Negligible) effects are predicted due to screening by landform and forestry.
A76 road	Not significant (Minor) and (Negligible) effects are judged to occur to views from the A76 road due to the speed that receptors would be travelling at, combined with screening by intervening landform, woodland and forestry.
A701 road	Not significant (Minor) and (Negligible) effects are judged to occur to views from the A701 road due to the speed that receptors would be travelling at, combined with screening by intervening landform, woodland and forestry.
A702 road	Significant (Major) effects are judged to occur to views from the A702 road between the bend southeast of Elvanfoot to above the Dalveen Pass for approximately 10.3 km. Thereafter, a not significant (Minor) and (Negligible) effect is predicted due to screening by a combination of landform and woodland, as well as distance
Long Distance Footpaths	
Southern Upland Way (SUW)	Significant (Major) effects are judged to occur to views from Beld Knowe to Lowther Hill for approximately 16.6 km. Thereafter, a not significant (Minor) and (Negligible) effect is predicted due to screening by a combination of landform and woodland, as well as distance from the proposed turbines.
Roman Revier Route	Not significant effects (Minor) and (Negligible) are predicted as a result of screening by landform and forestry.
Annandale Way	Not significant effects (Minor) and (Negligible) are predicted as a result of screening by landform and forestry.
Scottish Hill Tracks	
15/15a/15b: Moffat to Ettrick or Eskdale	The visual significance of effect is judged as not significant (Minor) and (Negligible) due to distance and screening by landform and forestry.

Table TA4.3.5: Visual Effects	
Visual Receptor	Significance of Effect
16/ 16a/ 16b: Tweedsmuir to Ericstane	The visual significance of effect is judged as not significant (Minor) and (Negligible) are predicted as a result of screening by landform and forestry.
55: Lamington to Broughton	No theoretical visibility of the Proposed Development is predicted from this route.
56: Coulter to Crawford	Visual significance of effect would be not significant (Negligible) effect due to distance from the Proposed Development which would be viewed alongside the operational Clyde Wind Farm.
57: Robertson to Douglas	Visual significance of effect would be not significant (Negligible) effect due to distance from the Proposed Development which would be viewed alongside the operational Clyde Wind Farm.
58: Douglas to Wanlockhead	Visual significance of effect would be not significant (Negligible) effect due to distance from the Proposed Development which would be viewed alongside the operational Clyde Wind Farm.
59: Muirkirk to Wanlockhead	Visual significance of effect would be not significant (Negligible) effect due to distance from the Proposed Development and limited visibility due to landform and forestry screening.
60: Muirkirk to Kirkconnel	Visual significance of effect would be not significant (Negligible) effect due to distance from the Proposed Development which would be viewed alongside the operational Clyde Wind Farm.
61/61a: Wanlockhead to Sanquhar	Visual significance of effect would be not significant (Minor) effect due to distance from the Proposed Development and screening from landform.
62: Wanlockhead to Enterkinfoot by the Enterkin Pass	Visual significance of effect would be significant (Moderate) effect to views from a 2.4 km stretch of the footpath, reducing to not significant (Minor) and (Negligible) elsewhere due to screening by intervening landform.
63/63a/63b: Daer Reservoir to Durisdeer/64/64a/64b: Daer Reservoir to Thornhill	Visual significance of effect would be significant (Major) effect from much of the footpath in the north extending from the A702 road to approximately the border with Dumfries and Galloway where the proposed turbines would be prominent features. This would also include the footpath across the Site as far as Durisdeer Hill. Short sections of the path are predicted to receive a not significant (Negligible) effect due to the limited number of turbines predicted to be visible and screening by both landform and woodland.
65/65a: Ae Village to Beattock by the Forest of Ae	Visual significance of effect would be not significant (Negligible) effect.
83: St John's Town of Dalry to Sanquhar	Visual significance of effect would be not significant (Minor) effect due to distance from the Proposed Development.
Core Paths	
CL/3558/1 Southern Upland Way, Portrail Water-Coom Rig	Visual significance of effect would be significant (Major) effect for approximately 900 m. Not significant (Negligible) thereafter due to screening by forestry.
CL/5692/1 Watermeetings - Coom Rig	Visual significance of effect would be significant (Major) effect for approximately 920 m. Not significant (Negligible) thereafter due to screening by forestry.
ROYS/444/1 Sweetshaw Brae	Assessed under the SUW, visual magnitude of change was judged as High resulting in a significant (Major) effect.
Hill tops	
Hill tops to the north	Not significant (Minor) effects predicted as a result of distance and presence of other wind farms.
Hill tops to the east	Not significant (Minor) effects predicted as a result of being beyond existing wind farms

Table TA4.3.5: Visual Effects	
Visual Receptor	Significance of Effect
Hills to the south	Significant (Major) effects predicted as a result of the hill groupings proximity to the Site.
Hills to the west	Significant (Major) effects predicted as a result of the hill groupings proximity to the Site
Visitor Attractions	
Drumlanrig Castle GDL	Not significant (Minor) effects are predicted from the GDL as a result of distance and screening by surrounding woodland.

4.3.9 References

- Landscape Institute., Institute of Environmental Management and Assessment. (2013) Guidelines for Landscape and Visual Impact Assessment, Third Edition. London. Routledge.
- NatureScot. (2025) SiteLink. Available online from: <https://sitelink.nature.scot/home>
- Scottish Natural Heritage. (2017) Visual Representation of Wind Farms, Guidance. Available online at: <https://www.nature.scot/sites/default/files/2019-09/Guidance%20-%20Visual%20representation%20of%20wind%20farms%20-%20Feb%202017.pdf>
- Scottish Rights of Way and Access Society (2011) Scottish Hill Tracks. Edinburgh. Scottish Mountaineering Trust.

Technical Appendix 4.4: Cumulative Assessment

Technical Appendix 4.4: Cumulative Assessment

4.4.1 Introduction

4.4.1.1 This Technical Appendix identifies and assesses cumulative effects on landscape character and visual amenity from the Proposed Development described in **Chapter 2: Description of Proposed Development (EIAR Volume 2)** within a 25 km Study Area from the Site.

4.4.1.2 This Technical Appendix should be read in conjunction with the following:

- **Chapter 4: landscape and Visual Amenity (EIAR Volume 2);**
- **Volume 3a: Figures;**
- **Volume 3b: Visualisations;**
- **Volume 4: Technical Appendices:**
 - **Technical Appendix 4.1: Landscape and Visual Impact Assessment Methodology;**
 - **Technical Appendix 4.2: Landscape Character Assessment;**
 - **Technical Appendix 4.3: Visual Assessment;**
 - **Technical Appendix 4.5: Implications for Designated Landscapes;**
 - **Technical Appendix 4.6: Aviation Lighting Assessment;** and
 - **Technical Appendix 4.7: Residential Visual Amenity Assessment.**

4.4.2 Scope of the Cumulative Assessment

4.4.2.1 Cumulative effects are assessed following the methodology set out in **Technical Appendix 4.1 (EIAR Volume 4)**. It should be noted that:

- Taking a precautionary approach, the sensitivity of receptors used for the cumulative assessment is taken to be the same as that identified in the Landscape and Visual Impact Assessment (LVIA);
- Judgements regarding the magnitude of change include consideration of all the information considered in the LVIA plus consideration of changes to the relationship between wind farms in the cumulative baseline;
- The LVIA considered existing wind farms and those under construction in the baseline and therefore represents the 'Existing Scenario';
- The cumulative assessment considers different cumulative scenarios:
 - **Consented scenario:** the addition of the Proposed Development in the context of operational, under construction and consented wind farms, i.e., a likely future scenario;
 - **In-Planning scenario:** the addition of the Proposed 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.
- The cumulative assessment in this Technical Appendix considers additional effects as a result of the Proposed Development. In-combination effects of the Proposed Development are set out in **Chapter 4: Landscape and Visual Amenity (EIAR Volume 2)**.

4.4.2.2 The list of existing wind farms (operational and under construction) has been set out in **Table 4.2 of Chapter 4 (EIAR Volume 2)** and shown on **Figure 4.12 (EIAR Volume 3a)**.

4.4.2.3 The Consented and In-Planning stage wind farms considered in the cumulative baselines that are within approximately 25 km of the Site are also shown on **Figure 4.12 (EIAR Volume 3a)** and listed

in **Table TA4.4.1**. A cumulative cut-off date of the 18th of December 2025 has been applied to allow sufficient time to undertake the assessment and produce supporting figures and visualisations.

Table TA4.4.1: Cumulative Wind Farms			
Wind Farm	Number of Turbines	Blade Tip Height (m)	Approximate Distance (between nearest turbines km)
Consented¹			
20. Cloud Hill	10	180	19.4
21. Crookedstane	4	126.5	5.6
22. Glenkerie Extension	6	100	22.7
23. Glenmuckloch	8	149.9	23.4
24. Kennoxhead Phase 2	14	180	22.9
25. Kennoxhead Phase 2 (Penbreck redesign)	8	220	22.9
26. Lethans Extension	10	251	22.7
27. Lethans	22	200	24.9
28. Lion Hill	4	126.5	3.4
29. Sandy Knowe Extension	6	125 / 149.9	23.6
In-Planning			
30. Appin	9	200	22.9
31. Bodinglee	35	250	21.0
32. Daer	17	180	2.2
33. Eucharhead	21	230	24.4
34. Grayside	15	200	18.8
35. Harestanes South	8	200	13.5
36. Harestanes West	12	220	11.6
37. Herds Hill	3	149	20.8
38. Lorg	10	200	25.5
39. M74 West	22	200	17.1
40. Rivox	29	230	4.1
41. Rowancraig	6	180	19.8
42. Oliver Forest	7	200	20.0
43. Scoop Hill	60	250	18.5

4.4.2.4 A review of the cumulative developments shown on **Figure 4.12 (EIAR Volume 3b)** showed that the Proposed Development was likely to have cumulative relationships with the following wind farms:

- Crookedstane (21) – Consented;
- Lion Hill (28) – Consented;
- Daer (32) – In-Planning; and

¹ Numbering of projects relates to the labelling on **Figure 4.12 (EIAR Volume 3a)**

- Rivox (40) – In-Planning.

4.4.2.5 The remaining cumulative developments were not considered due to separation by both distance and landform from the Proposed Development.

4.4.2.6 The cumulative assessment has been supported by the following figures all within **EIAR Volume 3a**:

- **Figure 4.12: Cumulative Baseline to 25 km;**
- **Figure 4.13: Cumulative Zone of Theoretical Visibility with Operational, Under Construction and Selected Consented Wind Farms to 25 km;**
- **Figure 4.14.1: Cumulative Zone of Theoretical Visibility with Crookedstane to 25 km;**
- **Figure 4.14.2: Cumulative Zone of Theoretical Visibility with Lion Hill to 25 km;**
- **Figure 4.15: Cumulative Zone of Theoretical Visibility with Operational, Under Construction and Selected Application Wind Farms to 25 km;**
- **Figure 4.16.1: Cumulative Zone of Theoretical Visibility with Daer to 25 km;** and
- **Figure 4.16.2: Cumulative Zone of Theoretical Visibility with Rivox to 25 km.**

4.4.3 Development Patterns and Scope of Assessment

Existing Scenario

4.4.3.1 **Figure 4.6 (EIAR Volume 3a)** identifies existing wind farms and wind farms currently under-construction within 25 km of the Site.

4.4.3.2 The pattern of existing wind farm development in the 25 km Study Area is one of clusters to the east and west of the M74/A74 (M) motorway and includes a total of 16 operational developments and three developments currently under construction.

4.4.3.3 Existing wind farms range in turbine height to tip, with the lowest being Sunnyside at 62 m and the others ranging between 115 to 180 m of varying wind turbine models, and the three developments currently under construction between 133.5 and 200 m.

4.4.3.4 Clyde Wind Farm (2) and Clyde Extension (3) Wind Farms cover the largest geographical area within the Southern Uplands situated at various elevations on rounded hill tops and visible from the lower lying area northwards to Glasgow. Due to the rounded nature of the landform, these developments are not viewed within their entirety from lower elevations and tend to follow ridgelines allowing partial visibility. To the east and west of Clyde Wind Farm Extension, Whitelaw Brae (19) and Priestgill (17) are currently under construction forming separate developments on the edge of the overall Clyde development.

4.4.3.5 Harestanes (8) and Minnygap (11) Wind Farms are located on the western side of the A74 (M) road southwest of Beattock. Both of these wind farms are located on the southeastern side of Queensberry and generally follow a grid like layout based on the topography of the hillside.

4.4.3.6 Elsewhere, wind farms are smaller in number of turbines, forming cluster developments. Such clusters are present northeast of the Clyde Wind Farm Extension (3) at Glenkerie (5) and to the west of Clyde Wind Farm formed of Andershaw (1), Middlemuir (10) and Kennoxhead Phase 1 (9). In the west of the 25 km Study Area, there are several wind farms forming clusters but appearing as one wind farm overall, Sandy Knowe (12), Sanquhar (13), and Whiteside (16) and one standalone development Twenty Shilling Hill (15). To the south, Dalwinston (4) is a standalone development southwest of Harestanes and Minnygap Wind Farms. This results in the 25 km Study Area being a landscape 'with turbines' rather than a 'wind farm landscape'.

Cumulative Scenarios

4.4.3.7 **Figure 4.12 (EIAR Volume 3a)** identifies existing, under-construction, consented, and in-planning wind farms within 25 km of the Site.

Consented Scenario

4.4.3.8 In the Consented scenario, i.e., with both existing/under construction and consented wind farms included in the baseline, there would be a further concentration of turbines around existing wind farm sites discussed previously. The exception to this would be Glenmuckloch (23), Lethans Extension (26) and Lethans (27) which occupy an area to the west between Kennoxhead (9, 24 and 25) and Sandy Knowe (12) and contribute to an emerging larger concentration of turbines to the west than currently experienced. The closest consented developments would be Crookedstane (21) and Lion Hill (28) Wind Farms, which would be located west and south of Clyde Wind Farm (2) and appear as part of the same development.

In-Planning Scenario

4.4.3.9 The In-Planning Scenario, i.e., with existing/under construction, consented and in-planning sites in the baseline, would lead to a further concentration of turbines along the M74 Motorway corridor to the north of the 25 km Study Area, and further turbines around Clyde Extension (3), Harestanes (8) and Minnygap (11), and to the already developed west. In addition, the two in-planning sites of Daer (32) and Rivox (40) Wind Farms would be located to the east of the Site and occupy an area between Clyde Wind Farm (2) and Harestanes (8), but still retain a gap notably as separate developments.

4.4.3.10 Turbine heights submitted would be between 149 and 251 m turbine tip heights. Due to this, there would be a noticeable difference in turbine heights between the two scenarios which would evolve over time as existing sites come to the end of their operating lives and are repowered or decommissioned.

Scoping Developments

4.4.3.11 Similar to the In-Planning scenario, wind farms currently at scoping stage are planned adjacent to existing, consented and in-planning clusters in the northwest and west of the 25 km Study Area further reinforcing the number of turbines present, and in most cases potentially leading to the clusters each appearing as one large wind farm with some repowering occurring. The exceptions to this would be the development of Ravengill (52) and Glensalloch (49) to the northwest of the Site, which would be standalone developments. Wind farms currently at scoping stage in the planning process are shown for context on **Figure 4.12 (EIAR Volume 3a)** and visualisations **Figures 4.21.1 to 4.35.4 (EIAR Volume 3b)**. Scoping stage developments are not assessed in this cumulative assessment due to their highly speculative nature and have therefore been scoped out of detailed consideration.

4.4.4 Cumulative Effects

4.4.4.1 The following provides a cumulative assessment of landscape character within 15 km and visual amenity within 25 km based on the landscape and visual receptors assessed in the LVIA.

Cumulative Assessment on Selected Landscape Character Types

LCT 209 Upland Glen – Glasgow & Clyde Valley

4.4.4.2 This LCT occupies the Daer Water and River Clyde which lies to the north of the Site comprising farmland interspersed by woodland and forestry. The tributaries of the River Clyde including Daer Water are located within the Leadhills and Lowther Hills Special Landscape Area (SLA) and the LCT includes small-scale features, is low in elevation and highly susceptible to wind farm development.

4.4.4.3 The assessment of cumulative effects on LCT 209 is supported by the following representative viewpoints:

- **Figures 4.24.1 to 6 Viewpoint 4: A702 Road, (EIAR Volume 3b);**
- **Figures 4.25.1 to 7 Viewpoint 5: Watermeetings, (EIAR Volume 3b);** and
- **Figures 4.30.1 to 10 Viewpoint 10: Wintercleugh, (EIAR Volume 3b).**

CONSENTED SCENARIO

4.4.4.4 No existing or under construction wind farms are located within this LCT although from some parts neighbouring wind farms such as Clyde (2) and Middle Muir (10) are prominent features both within and beyond the 15 km Study Area, and this would be reinforced by the inclusion of the Consented scenario which would include Crookedstane (21) Wind Farm located within the LCT on moorland hills and added on to the edge of Clyde Wind Farm. This would result in additional turbines being visible, but these would most often be viewed as part of Clyde. The addition of the Proposed Development is not judged to change the assessment undertaken in the LVIA of **significant (Major)** to **(Moderate)** within 7.5 km of the north of the Site, thereafter, reducing to **not significant levels (Minor)** and **(Negligible)**.

IN-PLANNING SCENARIO

4.4.4.5 Similarly to the Consented scenario, there would be no change to the **significant (Major)** to **(Moderate)** within 7.5 km of the Site, thereafter, reducing to **not significant levels (Minor)** and **(Negligible)**

LCT 217 Southern Uplands – Glasgow & Clyde Valley

4.4.4.6 This LCT covers the valleys of the Daer Water and River Clyde (including its tributaries) which lie to the north of the Site. Land cover comprises farmland interspersed by woodland, commercial forestry. This LCT is large in scale, open and includes a variety of man-made features including Middle Muir (10), Kennoxhead (9) and Clyde Wind Farms (2 and 3) which lowers landscape susceptibility to wind turbine development.

4.4.4.7 The assessment of cumulative effects on LCT 217 is supported by the following representative viewpoints:

- **Figures 4.28.1 to 5 Viewpoint 8: Lowther Hill, (EIAR Volume 3b);**
- **Figures 4.29.1 to 5 Viewpoint 9: Comb Head, (EIAR Volume 3b);** and
- **Figures 4.32.1 to 8 Viewpoint 12: Daer Reservoir – Southern Upland Way, (EIAR Volume 3b).**

CONSENTED SCENARIO

4.4.4.8 The Lion Hill (28) Wind Farm would be located within LCT 217 extending turbines to the south of Clyde (2) Wind Farm but being read as part of the same development due to proximity and turbine scale. Otherwise, the baseline would be largely unchanged and the effect would remain as **significant (Moderate)** for an area of the LCT approximately within 5 km to the northeast of the proposed turbines, and 7.5 km to the northwest, thereafter, levels of effect would reduce to **not significant levels (Minor)** and **(Negligible)** overall for the LCT.

IN-PLANNING SCENARIO

4.4.4.9 The In-Planning scenario would include Daer (32) Wind Farm located to the east of the Site and located within the LCT, which would also obtain close views of the Rivox (40) Wind Farm which is located further to the east in the neighbouring Southern uplands – Dumfries & Galloway and Foothills with Forest – Dumfries & Galloway LCTs. The addition of the Proposed Development to this baseline would result in turbines extending southwest from the existing Clyde (2), the consented Lion Hill (28) and westward from in-planning wind farms (Daer (32) and Rivox (40)). This would result in the

perception of a ‘wind farm landscape’ and there would be an increase in significance from **significant (Moderate)** to **significant (Major)** for an area of the LCT approximately within 5 km around the proposed Site. Thereafter, levels of effect would reduce to **not significant levels (Minor)** and **(Negligible)** overall for the LCT.

Cumulative Effects on Selected Visual Receptors

Selected Routes/Hill tops/Visitor Attractions

4.4.4.10 The sequential experiences along routes through the Study Area, and views from hill tops that may be affected by cumulative relationships in each scenario are set out in **Table TA4.4.2** and supported by viewpoint visualisations in **EIAR Volume 3b**.

Table TA4.4.2: Cumulative Route Assessment			
Route	LVIA findings (Existing Scenario)	Review of Consented Scenario	Review of In-Planning scenario
Roads			
M74 Motorway/ A74 (M) road/ National Cycle Route (NCR) 74	A significant (Moderate) effect is predicted for a 4.4 km section of the A74 (M) road and NCR 74 as they pass the River Clyde valley south of Abington near Elvanfoot, thereafter, not significant (Negligible) effects are predicted due to screening by landform and forestry.	Both Crookedstane (21) and Lion Hill (28) Wind Farms would be partially visible alongside the Proposed Development from a shorter section of the routes when travelling southwards around the northeast of Elvanfoot. However, this would be behind Clyde (2) Wind Farm, and the level of effect is judged to remain the same as assessed in the LVIA of significant (Moderate) for a 4.4 km section east of Elvanfoot, and not significant (Negligible) thereafter.	The In-Planning scenario would result in sequential views of the M74 West (39) Wind Farm to the north of Abington, and the Daer (32) and Rivox (40) Wind Farms northwest of Moffat which would increase views of turbines close to the M74/A74 (M) and NCR 74. The addition of the Proposed Development to this baseline would result in further views of turbines, but these would be further to the west from a short section of the route when travelling southbound and beyond Clyde Wind Farm. Therefore, cumulative visual effects are not judged to increase from significant (Moderate) for a 4.4 km section east of Elvanfoot, and not significant (Negligible) thereafter.
A702 road	Significant (Major) effects are judged to occur to views from the A702 road between the bend southeast of Elvanfoot to above the Dalveen Pass for approximately 10.3 km. Thereafter, a not significant (Minor) and (Negligible) effect is predicted due to screening by a combination of landform and woodland, as well as distance. Figures 4.24.1 to 6 Viewpoint 4: A702 Road, (EIAR Volume 3b) is representative of the cumulative views obtained from the road.	The inclusion of the Consented scenario to the baseline would result in Crookedstane (21) extending turbines westwards onto Brown Hill from Clyde Wind Farm and would be prominent from a section of the road to the southwest of Elvanfoot viewed with Clyde Wind Farm directly behind. The addition of the Proposed Development to this baseline would result in a slight change in terms of five more wind turbines being visible but effects on the views from the road would remain as Significant (Major) for a 10.3 km section based on visibility of the proposed turbines, reducing thereafter to not significant (Minor) and (Negligible) effect judged in the LVIA.	No in-planning developments would be near the road and there would be no change to the effects assessed in the LVIA.

Table TA4.4.2: Cumulative Route Assessment			
Route	LVIA findings (Existing Scenario)	Review of Consented Scenario	Review of In-Planning scenario
Long Distance Walking Routes			
Southern Upland Way (SUW)	<p>Significant (Major) effects are judged to occur to views from a section of the SUW between Beld Knowe to Lowther Hill for approximately 16.6 km. Thereafter, a not significant (Minor) and (Negligible) effect is predicted to views from the SUW due to screening by a combination of landform and woodland, as well as distance from the proposed turbines.</p> <p>Figures 4.28.1-5 Viewpoint 8: Lowther Hill, Figures 4.29.1-5 Viewpoint 9: Comb Head, Figures 4.31.1-6 Viewpoint 11: Hods Hill – Southern Upland Way, and Figures 4.33.1-4 Viewpoint 13: Southern Upland Way, Roman and Reivers Route south-east of Moffat of EIAR Volume 3b are representative of cumulative views from the SUW.</p>	<p>The 16.6 km section of the SUW that is predicted to receive potential visual effects of the Proposed Development crosses between eastern and western hillsides crossing a lower lying area at Daer Reservoir which forms a bowl like landscape. The inclusion of the consented schemes to this baseline would result in views of Lion Hill (28) and part of Crookedstane (21) which would be seen in front of and to the side of Clyde (2) Wind Farm and perceived as the same development.</p> <p>This would result in a slight change in terms of slightly more wind turbines being visible, but effects on the views from the footpath would remain as Significant (Major) for a 16.6 km section based on visibility of the proposed turbines, reducing thereafter to not significant (Minor) and (Negligible) effect judged in the LVIA.</p>	<p>The inclusion of the In-Planning scenario would result in close views from the SUW to Daer (32) and Rivox (40) Wind Farms on the section of the SUW between Beld Knowe to Lowther Hill for approximately 15.8 km.</p> <p>The addition of the Proposed Development to this baseline would result in further wind turbines being viewed, with views extending south westward from Clyde (2) and the in-planning wind farms and would form a prominent feature within views from a longer part of the SUW.</p> <p>As a consequence, there would be an increase in effect. However, there is no change to the significance of effects reported through the LVIA as this has judged this section as being significant (Major) reducing beyond to not significant (Minor) and (Negligible) effect.</p>
Roman Reiver Route	<p>Not significant (Minor) and (Negligible) are predicted as a result of screening by landform and forestry.</p> <p>Figures 4.33.1 to 4 Viewpoint 13: Southern Upland Way, Roman and Reivers Route south-east of Moffat, (EIAR Volume 3b) is representative of cumulative views from the route.</p>	<p>The inclusion of the consented schemes would be broadly similar to what is observed from the route in the LVIA due to being located further away, and there would be no change to the effects assessed previously in the LVIA.</p>	<p>The In-Planning scenario would result in Daer (32) and Rivox (40) Wind Farms being observed above the hill tops to the northwest.</p> <p>The addition of the Proposed Development to this scenario would result in visibility of turbines, but with these being less visible owing to the further distance from the footpath and influence of screening by landform. Turbines would also be viewed behind the in-planning scenario.</p> <p>The LVIA has assessed the potential effects as not significant (Minor) and (Negligible) effect and therefore there would be no change to the effect detailed in the LVIA.</p>

Table TA4.4.2: Cumulative Route Assessment			
Route	LVIA findings (Existing Scenario)	Review of Consented Scenario	Review of In-Planning scenario
Annanale Way	<p>Not significant effects (Minor) and (Negligible) are predicted as a result of screening by landform and forestry.</p> <p>Figures 4.26.1-5 Viewpoint 6: Annanhead Hill, Annanale Way, (EIAR Volume 3b) is representative of cumulative views from the route.</p>	<p>The inclusion of the consented schemes would be broadly similar to what is observed from the route in the LVIA due to being located further away, and there would be no change to the effects assessed previously.</p>	<p>The inclusion of the in-planning developments would result in Daer (32) and Rivox (40) Wind Farms being observed above the hill tops to the west and a further concentration of turbines from the Harestanes extensions.</p> <p>The addition of the Proposed Development to this scenario would be less as a result of the proposed turbines being viewed behind landform and the In-Planning scenario developments and would not alter the effects assessed in the LVIA.</p>
Hill tops			
Hill tops to the north	<p>Not significant (Minor) effect are predicted as a result of distance and presence of other wind farms.</p>	<p>The inclusion of the consented developments would have limited change to the existing view with Glenkerie (5) Extension to the southeast, and the remaining sites further to the southwest. Crookedstane (21) and Lion Hill (28) Wind Farms would be viewed next to and as part of Clyde Wind Farm.</p> <p>No changes to the effects predicted in the LVIA are anticipated.</p>	<p>The inclusion of the In-Planning scenario would result in further developments in the foreground such as M74 West (39) and Grayside (34) but would not alter the view obtained on the Proposed Development which would form a distant feature beyond Clyde Wind Farm.</p> <p>No changes to the effect judged in the LVIA are assessed.</p>
Hill tops to the northeast	<p>Not significant (Minor) effect are predicted as a result of being beyond existing wind farms</p>	<p>The inclusion of the consented schemes would include Glenkerie (22) Extension which would be situated on the western side of Glenkerie (5) Wind Farm. The addition of the Proposed Development to this baseline would be similar in effect to that assessed in the LVIA where the proposed turbines would be viewed behind Clyde (2) Wind Farm resulting in no change to the assessment undertaken the LVIA.</p>	<p>Once the In-Planning scenario is included to the baseline there would be further developments around Clyde Wind Farm including Oliver Forest (42) to the east, Daer (32) and Rivox (40) Wind Farms would be seen extending turbines to the south of Clyde (2) Wind Farm infilling a gap between Clyde and Harestanes (8), but with a noticeable gap between development to continue to be read as a different wind farm. The addition of the Proposed Development to this would be viewed within this context with the proposed turbines being seen behind Clyde Wind Farm and the two in-planning sites, leading to a reinforcement of turbines but the effect would be similar to that assessed in the LVIA of not significant (Minor) within 8 km, reducing to not significant (Negligible) thereafter.</p>

Table TA4.4.2: Cumulative Route Assessment			
Route	LVIA findings (Existing Scenario)	Review of Consented Scenario	Review of In-Planning scenario
Hills to the south	Significant (Major) effects are predicted for a limited number of summits as a result of the hill grouping proximity to the Site.	The two consented developments are located further away from this group of hills with Crookedstane (21) being partially screened by landform and Lion Hill (28) being viewed alongside Clyde (2) Wind Farm. It is not judged that this would result in an alteration of the effects assessed in the LVIA.	The inclusion of the in-planning developments would result in a grouping of turbines extending eastwards including Daer (32) and Rivox (40) Wind Farms. The addition of the Proposed Development to the view from these hills would extend turbines further west which would alter the view to a 'wind farm landscape'. There would be a slight increase in effect although the LVIA has assessed the potential effect on views from these summits at the highest level of significant (Major) and there is no change to the assessment undertaken the LVIA.
Hills to the west	Significant (Major) effects are predicted as a result of the hill grouping proximity to the Site.	Once the consented developments are included in the baseline there would be a slight change around Clyde (2) Wind Farm where there would be a further reinforcement of turbines appearing as the same development. Once the Proposed Development is added to this baseline, it is not judged that the effects detailed in the LVIA would be altered.	The In-Planning scenario would result in further wind farms to the east in the form of Daer (32) and Rivox (40). The Proposed Development would result in turbines extending westwards from the in-planning developments and views of turbines would be more prominent. However, as views from these hill tops have been assessed in the LVIA as significant (Major) , no further changes in effect are predicted.

west. In addition, there would be sequential views on the A74 (M) although the Proposed Development has limited visibility from this road, with these views restricted to a short section east of Elvanfoot.

4.4.6 References

- NatureScot (2020) Guidance - Assessing the cumulative landscape and visual impact of onshore wind energy developments Available at: <https://www.nature.scot/doc/guidance-assessing-cumulative-landscape-and-visual-impact-onshore-wind-energy-developments>

4.4.5 Summary of Assessment of Additional Cumulative Effects

- 4.4.5.1 As identified in Table TA4.4.1 and shown on Figure 4.12 (EIAR Volume 3a) there are wind energy proposals that would increase wind farm development in the wider landscape through the enlargement of existing turbine groups and introduction of new turbine groups. Proposals for larger numbers of turbines tend to be along the M74/A74 (M) corridor and to the west of the 25 km Study Area to the east and west of Nithsdale.
- 4.4.5.2 The cumulative assessment considered that the Proposed Development was likely to have cumulative relationships with Crookedstane (21) (consented), Lion Hill (28) (consented), Daer (32) (In planning) and Rivox (40) (In planning) wind farms.
- 4.4.5.3 In the Consented scenario, both Crookedstane (21) and Lion Hill (28) would not alter the pattern of development around Clyde (2). The introduction of the Proposed Development would therefore have similar effects to those identified for the Existing Scenario in the LVIA (i.e., no change in findings of effect).
- 4.4.5.4 In the In-Planning scenario, Daer (32) and Rivox (40) would result in a new cluster of turbines between Clyde (2) and Harestanes (8) Wind Farms occupying the east of the Site. The addition of the Proposed Development to this baseline would result in an intensification of wind turbines in views from the southern and western hills, and SUW where a 'wind farm landscape' would be perceived. Therefore, cumulative effects are most likely to occur in an area between Clyde (2) Wind Farm in the north, Harestanes (8) Wind Farm in the south, the A74 (M) road in the east and Lowther Hills in the

Technical Appendix 4.5: Aviation Lighting Assessment

Technical Appendix 4.5: Aviation Lighting Assessment

4.5.1 Introduction

4.5.1.1 This Technical Appendix sets out an evaluation of the effects of the aviation lights of the Proposed Development on the visual amenity of the local area during times when the turbines are lit. The assessment is supported by:

- **Chapter 4: Landscape and Visual (EIAR Volume 2);**
- **Volume 3a: Figures;**
- **Volume 3b: Visualisations;**
- **Volume 4: Technical Appendices:**
 - **Technical Appendix 4.1: Landscape and Visual Impact Assessment Methodology;**
 - **Technical Appendix 4.2: Landscape Character Assessment;**
 - **Technical Appendix 4.3: Visual Assessment;**
 - **Technical Appendix 4.4: Cumulative Assessment;**
 - **Technical Appendix 4.6: Implications for Designated Landscapes;** and
 - **Technical Appendix 4.7: Residential Visual Amenity Assessment.**

Regulations and Guidance

4.5.1.2 As the proposed turbines would be over 150 m to blade tip, they are above the threshold for Civil Aviation Authority (CAA) regulations for lighting¹. The reduced lighting scheme to be submitted for approval to the CAA includes:

- *“medium intensity steady red (2000 candela) lights on the nacelles of Turbines 1, 2, 7, 8, 9, 11 and 13;*
- *a second 2000 candela light on the nacelles of the above turbines to act as alternates in the event of a failure of the main light (note that both lights should not be lit at the same time);*
- *the lights on these turbines to be capable of being dimmed to 10% of peak intensity when the lowest visibility as measured at suitable points around the wind farm by visibility measuring devices exceeds 5 km;”*
- *infra-red lights to MoD specification installed on the nacelles of all turbines (note that dimming permission is applicable only to visible lights, not infra-red lighting).*
- *Intermediate level 32 candela lights are not required to be fitted on the turbine towers.”*

4.5.1.3 Infrared lighting as required by the Ministry of Defence (MOD) is not visible to the naked eye and is therefore not considered further.

Guidance on Assessment of Lighting Effects

4.5.1.4 The *Guidelines for Landscape and Visual Impact Assessment, Third Edition* (referred to hereafter as GLVIA3) (Landscape Institute, Institute of Environmental Management and Assessment, 2013)² recognises that sometimes there is a need for assessment of lighting effects for development (not solely wind farms) and includes the following guidance: *“For some types of development the visual effects of lighting may be an issue. In these cases, it may be important to carry out night-time ‘darkness’ surveys of the existing conditions in order to assess the potential effects of lighting and these effects need to be taken into account in generating the 3D model of the scheme. Quantitative*

*assessment of illumination levels, and incorporation into models relevant to visual effects assessment, will require input from lighting engineers, but the visual effects assessment will also need to include qualitative assessments of the effects of the predicted light levels on night-time visibility.”*³

4.5.1.5 NatureScot guidance on the preparation of visualisations for wind farms relating to dark photomontages states: *“It is difficult to illustrate turbine lighting well in visualisations, although some recent examples which use photographs taken in low light conditions (just before or after sunrise/sunset) have been more useful.”* And *“Where an illustration of lighting is required, a basic visualisation showing the existing view alongside an approximation of how the wind farm might look at night with aviation lighting may be useful.”*⁴

4.5.1.6 Regarding the selection of viewpoints for illustration of night time lighting, NatureScot state that illustration *“is only likely to be required in particular situations where the wind farm is likely to be regularly viewed at night (e.g., from a settlement, transport route) or where there is a particular sensitivity to lighting (e.g., in or near a Dark Sky Park or Wild Land Area). Not all viewpoints will need to be illustrated in this way.”*

4.5.1.7 Advising on the preparation of images: *“The visualisation should use photographs taken in low light conditions, preferably when other artificial lighting (such as street lights and lights on buildings) are on, to show how the wind farm lighting will look compared to the existing baseline at night. It is only necessary to illustrate visible lighting, not infrared or other alternative lighting requirements. We have found that [photography taken at] approximately 30 minutes after sunset provides a reasonable balance between visibility of the landform and the apparent brightness of artificial lights, as both should be visible in the image. It is important that the photographs represent the levels of darkness as seen by the naked eye at the time and the camera exposure does not make the image appear artificially brighter than it is in reality. It can also be helpful to note the intensity of other lights in the area to enable comparison (e.g., television transmitters) as this can aid the assessment process.”*

4.5.1.8 NatureScot, at a seminar on aviation lighting in November 2019, advised a proportionate and pragmatic approach to lighting assessments. NatureScot’s view is that lengthy and detailed debate about the exact brightness of lights is not very helpful, and it is better to discuss relative brightness, and to focus on where they will be visible, and how they will change the baseline night view. However, it is considered that the perceived brightness of the lights that will be observed from each viewpoint is important to understand, including an understanding of atmospheric dispersal, attenuation by distance, and angle of view relative to the focus of the light, and darkness adaptation, in order to be able to make a meaningful assessment of visual effects.

Examples of Lighting

4.5.1.9 The intensity of light emitted is measured in candela, but the apparent brightness of light received from low intensity lights by the human eye is measured in microlux (microlumens per m²). These units can be difficult to use without translation into examples that may be familiar to viewers. Some examples include:

- Planet Venus: 140 microlux;
- Orion constellation, upper left and lower right stars: 1.5 -2 microlux;
- Orion constellation, ‘belt’ stars: 0.3 microlux;

¹ CAA publications CAP 764 Policy Guidelines on Wind Turbines, and CAP 393 Air Navigation Order 2016.

² Landscape Institute., Institute of Environmental Management and Assessment. (2013) *Guidelines for Landscape and Visual Impact Assessment, Third Edition*. London. Routledge.

³ Landscape Institute and the Institute of Environmental Assessment (2013) *Guidelines for Landscape and Visual Impact Assessment*. Third Edition. Page 103, paragraph 6.12.

⁴ Scottish Natural Heritage (2017) *Visual Representation of Wind Farms*. Version 2.2. Available online from: <https://www.nature.scot/doc/visual-representation-wind-farms-guidance>

- Faintest light visible to a 'typical' person: 0.01 microlux; and
 - Car rear brake lights, although they vary, are in the order of 70 to 80 candela (ca), and at 1 km may appear as 100 microlux.
- 4.5.1.10 NatureScot advise that quantitative analysis is '*less useful*' for the assessment of effects on the night time experience of the lights than qualitative comparisons with existing lights that people may be familiar with. However, it is clear from the science of lighting and as set out in this Technical Appendix that understanding the calculated light intensities and brightness of lights (quantitative) is important to be able to carry out an assessment, even in a relative (qualitative) way. It is important to note that specifications for existing lights in the landscape are not available, such that comparisons cannot be quantitative.
- 4.5.1.11 The apparent brightness of the light (received by the human eye) depends not only on how much light is emitted (intensity), but also on intervening atmospheric conditions (rain, fog, dust, haze, etc.) that cause atmospheric dispersal of light; the lit environment of the viewer (standing in a well-lit area or a dark place); and the distance from the light source. The apparent brightness reduces with distance (attenuation) in clear weather as well as when there are poorer viewing conditions. Brightness reduces with the square of the distance ($x=1/\text{distance}^2$), such that a light observed from a distance of 10 km would have an apparent brightness only 1% of that of the same light observed from a distance of 1 km.
- 4.5.1.12 When lights are designed to give a horizontal beam with reduced upward and downward spill of light, the brightness of the light is decreased for viewers close to the turbines viewing them from below.
- 4.5.1.13 An important factor for perception of light is the different ways that cameras and human eyes perceive light. Cameras are governed by lenses and settings, human eyes adapt to different light environments (for example it can seem very dark when lights are first switched off, until one's eyes become accustomed to the dark). Dark adaptation of the human eye is related to the 'rods' and 'cones', light detecting cells in the back of the eye that have different roles in low light levels, with rods taking over from cones when it is dark. Cones detect colour and are used in the light (being less sensitive in low light levels), while rods are not as good with colour but can pick up faint lights (they switch off in bright light). Dark adaptation is when the rods can fully activate and can make out faint lights in a dark environment, but as soon as a light is switched on, even briefly, cones take over again, and it takes time for the rods to reactivate. Lights clearly visible to dark-adapted eyes may be imperceptible when other lights are first switched off (before dark adaptation can occur), or when in a bright place such as under street lights or from within a dark vehicle when much of the attention is on the pool of light from the headlights. In these environments dark adaptation cannot occur in full as the rods in our eyes cannot fully take over. It is noted that most people would be close to lights after dark, either in lit houses/properties, or in vehicles with headlights on. This makes the perception of other lights more difficult.
- 4.5.1.14 In contrast, cameras do not have any adaptation, but light capture depends on exposure and camera settings (modern cameras may have auto-adjust or 'night mode', but this is not adaptation in the same way as the human eye). This means that images can be very different to what we experience. An issue for photographic capture and rendition of lights is that existing lights shown in photographs can appear larger and more blurred than those seen by the naked eye in the field. The term used in photography to describe this effect is 'bokeh' which has been defined as 'the way the lens renders out of focus points of light'. This is difficult to avoid when taking photographs of lights (particularly moving lights such as vehicle headlights). To best model the lights as if they were existing, this effect has been added to the hub lights in the viewpoint illustrations.
- 4.5.1.15 It is not possible to accurately model the exact brightness of the lights, given variations in not only light specifications and camera settings, but also weather and atmospheric conditions at the time of

photography, as well as the resolution and colour calibration of a computer screen, ambient light when viewing images on screen, and finally printer resolution and paper quality. However, the lights illustrated on the figures have been 'calibrated' as best possible using comparison with images of other lights in the views, and other examples of existing potentially equivalent lighting observed in South Lanarkshire, and other lights on wind farms in other parts of Scotland.

- 4.5.1.16 The duration of effects of the lights depends on when the lights are switched on and off. Sunset occurs when the sun disappears below the horizon, sunrise is the time at which the sun first appears on the horizon in the morning. The exact times of sunset and sunrise vary throughout the year. Although it is not visible, the sun still illuminates the sky with diffused light for a period of time after sunset and before sunrise, known as twilight. There are different stages of twilight:
- Civil twilight, which begins once the sun has disappeared below the horizon and continues until it descends to 6 degrees below the horizon. This translates in duration as from sunset to about half an hour after sunset, or for half an hour before sunrise. As noted in this TA, civil twilight is still bright, such that the aviation lights are unlikely to be visible against the bright sky. Aviation lights would be switched on half an hour after sunset (and off half an hour before sunrise) because of this;
 - Nautical twilight, when the sun is between 6 and 12 degrees below the horizon, which is for approximately half an hour after civil twilight in the evening, or before civil twilight in the morning (landforms are still visible while the stars start to appear and so it is a valuable time for navigators at sea). During this phase the aviation lights would be on, and would become more visible as the daylight diminishes; and
 - Astronomical twilight, when the sun is between 12 and 18 degrees below the horizon. Below 18 degrees below the horizon, the sun no longer illuminates the sky.
- 4.5.1.17 It is noted that it does not necessarily get completely dark, with lingering light on short summer nights, moonlight, or the glow from settlement lights, and light reflected off clouds. In these conditions, the turbines may be partially visible over short distances at different times of night, and the apparent brightness of the lights may be affected by other lights, e.g., when seen against the late sun-lit clouds in views towards the west or seen from well-lit areas. Conversely there would be evenings and mornings that are darker due to weather conditions such as thick cloud cover.

4.5.2 Methodology and Approach

Assessment Methodology

- 4.5.2.1 The methodology and approach to the assessment of significance of lighting effects are based on the methodology of the LVIA, which is based on GLVIA3 as set out in **Technical Appendix 4.1 (EIAR Volume 4)**. Key aspects relevant to the visual assessment of aviation lighting include:
- Identification of baseline lighting at night, including existing lights of local properties and existing wind farms or other structures visible, as well as areas of darkness;
 - Information about likely brightness of lighting seen from viewpoints;
 - Description of lighting relative to the existing lights; and
 - Assessment of effect on the night time view as a result of the introduced lights.
- 4.5.2.2 In considering sensitivity of receptors and magnitude of change to arrive at a judgement of significance of effects, it is noted that:
- Guidance on sensitivity is generally in relation to daytime views, and nighttime sensitivity is very different. At night, viewpoints that of high value and susceptibility may be of low sensitivity at night because people do not go there to see the dark. Locations within Dark Skies Parks are an exception to this as people go to experience the dark and observe the stars, but for most places'

sensitivity is low as people move through or between lit spaces (turning lights on or using headlights as necessary) and usually view darker landscapes from better lit locations. However, consideration of nighttime sensitivity also needs to include how many people would be at that location to see the nighttime view (many on main commuter roads in winter, to none on mountain tops) and who would see the view (residents who may go out of their homes to see the night sky, or road users who would be focussed on the road ahead lit by headlights); and

- The change to night views includes consideration of baseline lighting in the view and the proposed lights, including intensity and position in the view in relation to existing lights, as well as colour, nature (steady or flashing) and duration.

4.5.2.3 Changes to nighttime viewing experiences are considered briefly for all viewpoints, and a review undertaken of potential nighttime effects on landscape and visual receptors.

4.5.2.4 The likely brightness of the lights seen from landscape and visual receptors is a function of emitted light and angle of view (reduced downward light spill from a horizontal beam design), as well as distance attenuation and atmospheric conditions. The assessment below considers potential brightness of the lights in clear conditions.

Fieldwork

4.5.2.5 Field visits undertaken for the LVIA between September and October 2025 included observations made after dark. Fieldwork and photography specific to the nighttime lighting assessment was undertaken in October 2025.

ZTV modelling

4.5.2.6 ZTV mapping has been carried out to identify the theoretical visibility of the hub lights. It is noted that the ZTV uses a bare ground model and does not account for local screening by woodlands or buildings. The ZTV in **Figure 4.17 (EIAR Volume 3a)** is calculated to show visibility of all hubs to 25 km. **Figures 4.18.1 to 4.18.7 (EIAR Volume 3a)** shows the visibility of the aviation lights, calculated to hub height for the lit turbines only, and is coloured to illustrate the downward angle of view (from the light to the viewer) and therefore represents the brightness emitted at that angle. It does not include attenuation by distance, nor does it take account of variations in atmospheric conditions.

Production of visualisations

4.5.2.7 Photography for nighttime photomontages to illustrate potential effects of aviation lighting was carried out in the evening. A set of photographs was taken prior to sunset to ensure that the camera was correctly set up, and to allow cross reference between lights caught on dark photographs and buildings caught on daytime photographs. A series of photograph sets were taken over a period of about an hour and a half from sunset into nautical twilight. This enabled the photographer to take multiple sets as the sky darkened, with varied camera settings. Downloaded sets were then reviewed to select a set that best matched NatureScot advice on having the sky relatively dark and other lights in the landscape on, but the form of the landscape still visible.

4.5.2.8 Photomontages prepared for nighttime views using photography taken during twilight were produced using the same method as for daylight photomontages (methodology as set out in **Technical Appendix 4.1, EIAR Volume 4**), with turbines rendered in black as silhouettes. Images of aviation lights are provided for indicative illustration only and have been modelled on the basis of approximately 200 cd for viewpoints.

Scope of the Assessment

4.5.2.9 The assessment of effects of aviation lighting at night briefly considers each of the viewpoints used in the LVIA briefly, with additional information and illustrative dark photomontages for two viewpoints:

- **Viewpoint 5: Water Meetings (Figure 4.25.7, EIAR Volume 3b)**; and
- **Viewpoint 10: Wintercleugh (Figure 4.30.10, EIAR Volume 3b)**.

4.5.2.10 Settlements are places where people are most likely to be at night but are also where there is abundant lighting. From well-lit areas, faint lights are more difficult to see. With lights nearby, although the lights of the Proposed Development may be visible from settlements, there would be no likelihood of significant effects. Settlements are therefore not considered further. Similarly, roads are of lower susceptibility as the views of people travelling along roads would be influenced by their own vehicle internal and external lights and those of other vehicles travelling in the same or opposite direction and have therefore not been considered in the assessment.

4.5.2.11 During the times when the lights would be on, the perception of the character of the landscape is reduced to nothing in darkness, such that whilst the lighting may be seen in views when the outlines of landforms and horizons would still be visible, the likelihood of significant effects on the perception of landscape character decreases rapidly with the onset of darkness. As such, an assessment of effects of aviation lighting on landscape character has been scoped out.

4.5.3 Baseline Lighting

4.5.3.1 There are no sources of artificial lighting within the Site due to it being an upland area of forest and moorland.

4.5.3.2 Within the wider landscape there are several light sources including the light glow from larger settlements although it is difficult to see the source of the lighting due to screening by the surrounding Southern Uplands. This is also the case for the M74 Motorway and A74 (M) road which includes a light glow along its corridor during hours of darkness from vehicles heading north and south, and where the light glow is visible its source is largely obscured by the landform. This also includes smaller roads such as the A702 road which are regularly crossed by traffic but comprise less numbers of vehicles.

4.5.3.3 In upland areas, the skies are relatively dark with sources of artificial light coming from scattered properties in lower lying areas to transmitter and radar stations such as Green Lowther and masts to the north at Shotts and along the Solway to the south.

4.5.3.4 Lit wind farms tend to be to the north and west of the Site where larger turbines of over 150 m have been constructed or as a result of proximity to flight paths.

4.5.3.5 No ready comparison can be made between the lights that would be installed at the Proposed Development and the lights noted above because their technical specifications are not known. The perceived brightness of a light at any given distance depends fundamentally on this specification. Additionally, the specifications of lights of the type required for wind farms are developing in response to the issues which may arise for visual amenity and may be different by the time any permission is implemented.

4.5.4 Assessment of Visual Effects of Aviation Lighting

4.5.4.1 As stated above, it is assumed that seven of the proposed turbines would be lit (Turbines 1, 2, 7, 8, 9, 11 and 13) with medium intensity 2000/200 cd steady red lights on the top of the hub (a second light on each hub would be installed as backup but would not be lit when the primary light is functional). The lights would come on at half an hour after sunset and would be switched off at half an hour before sunrise (to be on during nautical twilight).

4.5.4.2 Mitigation includes the reduction of intensity of the lights during conditions of clearer visibility, such that the lights would only operate at full intensity of 2000 cd when visibility is less than 5 km. At other times they would be at 10%, i.e., 200 cd. Met Office meteorological data for the local area suggests that the 2000 cd lights would be at 2000 cd for 7 to 10% of the time and at 200 cd for 90 to 93% of the time.

4.5.4.3 Candidate lights are designed to give a horizontal beam with reduced upward and downward spill of light, such that the brightness of the light is decreased for viewers close to the turbines viewing them from below. Below -4° the lights should not be visible, although from nearby locations the reflection of light on the passing blades would be visible. Angles discussed below and shown on **Figures 4.18.1 to 4.18.7 (EIAR Volume 3a)**, are angles emitted from the bulb.

Analysis of ZTV

4.5.4.4 The combined aviation lighting ZTV on **Figure 4.17 (EIAR Volume 3a)** was modelled for Turbines 1, 2, 7, 8, 9, 11 and 13, as per the reduced lighting schedule. The ZTV is calculated to show the minimum vertical viewing angle for the lights visible at each point, i.e., the angle closest to the horizontal for the brightest light - which is not necessarily the closest turbine or the same turbine at each point. Whilst the ZTV does not indicate which turbine would be the brightest, it indicates the least amount of downward reduction in intensity. The ZTV illustrates that there would be greater downward angles of view when closer to the proposed turbines, and lesser downward angles when seen from higher ground to the north, east, south and west. It should be noted that the ZTV in **Figures 4.18.1 to 4.18.7 (EIAR Volume 3a)** does not illustrate the brightness of light that may be received in any one place, which needs to take account of distance attenuation, weather conditions and the technical specifications for a candidate light unit. Calculations for apparent brightness have been provided for the two viewpoint locations considered.

Assessment of Visibility of Lights from Viewpoints

4.5.4.5 Table **TA 4.5.1** below indicates (X) which lights would be seen from each viewpoint.

Viewpoint	Turbines						
	1	2	7	8	9	11	13
1. Tinto	X	X	X	X	X	X	X
2. Broad Law	X	X	X	X	X	X	X
3. Culter Fell	X	X	X	X	X	X	X
4. A702 Road	X	X	X	X	X		X
5. Watermeetings	X	X	X	X	X	X	
6. Annanhead Hill, Annandale Way	X	X	X	X	X	X	X
7. Hart Fell	X	X	X	X	X	X	X
8. Lowther Hill	X	X	X	X	X	X	X
9. Comb Head	X	X	X	X	X	X	X
10. Wintercleugh	X	X		X	X	X	X
11. Hods Hill – Southern Upland Way	X	X	X	X	X	X	X
12. Daer Reservoir – Southern Upland Way	X	X		X	X	X	X

Viewpoint	Turbines						
	1	2	7	8	9	11	13
13. Southern Upland Way, Roman and Reivers Route southeast of Moffat	X	X	X	X	X	X	X
14. Queensberry	X	X	X	X	X	X	X
15. Drumlanrig Castle		X		X	X		

4.5.5 Assessment of Visibility of Lights from Footpaths and Hills

4.5.5.1 Observations relative to footpaths and routes are set out below. It is noted that users of footpaths and hills have **High** nighttime sensitivity and have dark-adapted vision. People are likely to be focussed on the surrounding landscape or on features within the landscape and are assessed as the worst-case scenario, i.e., with no torch or headlight.

4.5.5.2 The ZTVs shown on **Figures 4.17 and Figures 4.18.1 to 4.18.7 (EIAR Volume 3a)** shows that theoretical visibility of aviation lights would be relatively well contained within 5 km extending to approximately 7.5 km to the northeast. Thereafter, visibility of aviation lights would be from the surrounding upper slopes and summits of hills to the northeast, east, south southwest and west within the 25 km Study Area.

4.5.5.3 Within 5 km, the aviation lights would predominantly be viewed from lower elevations to the Site at angles of -3 to -4 degrees which would reduce the intensity of the lights, gradually rising around the periphery of 5 km to -1 to -3 degrees owing to the increase in elevation. Due to the close proximity of receptors to the proposed turbines, people are also likely to experience a reflection of light along the blade when it rotates and passes the top of the hub where the aviation light is fixed. Likely visual receptors likely to be affected include:

- Southern Upland Way (SUW);
- Scottish Hill Track (SHT) 63/63a/63b: Daer Reservoir to Durisdeer/64/64a/64b: Daer Reservoir to Thornhill
- Core Path CL/3558/1 Southern Upland Way, Portrail Water-Coom Rig;
- Core Path CL/5692/1 Watermeetings – Coom Rig;
- Core Path ROYS/444/1 Sweetshaw Brae;
- Hills to the south;
- Hills to the west; and
- Residential properties within 2.5 km.

4.5.5.4 Views of the aviation lights from properties would be influenced by interior lighting and if curtains were drawn. To view the aviation lights in their worst-case scenario from properties, all internal lights would require switching off or the turbines would need to be viewed from the garden without any external lighting.

4.5.5.5 From footpaths where the lit turbines are within 5 km, the aviation lights would be viewed at lower levels and introduce lighting into all areas between the A74 (M) road and Green Lowther Radar Station. This would be viewed in the context of scattered properties and sporadic vehicles using the A702 road and Daer Water road (road to the Daer Reservoir). The aviation lights would extend the

effects of the Proposed Development into the hours of darkness and would often be viewed along with the silhouette of the turbines.

- 4.5.5.6 Beyond the lower lying areas, the aviation lights would be viewed from the surrounding uplands to the northeast, and east, situated in part of the south, southwest and west. From here, the aviation lights would form more distant features and seen at higher levels of elevation resulting in 0 to -1, and in a few cases 1 to 2 degrees. At these elevations, the intensity of the aviation lights would be higher but owing to the intervening distance areas predicted to experience views would be reduced.
- 4.5.5.7 Distance from the aviation lights would also result in a slight flickering of the lights in views due to atmospheric pressure, which would be further influenced from the northeastern and eastern hillsides by Clyde Wind Farm being viewed in front of the Proposed Development.
- 4.5.5.8 From the south, a limited number of summits around Queensberry Hill are predicted to receive visibility of the aviation lights introducing new artificial lighting to an area that is relatively dark and has limited sources to the north (e.g., including Green Lowther Radar Station, and transmitters over 60 km away near Shotts).
- 4.5.5.9 To the west, the main impact would be on summits to the immediate west such as Lowther Hill and Green Lowther where the aviation lights would be close and viewed within the context of scattered properties and the A74 (M) corridor beyond.
- 4.5.5.10 Therefore, magnitude of change is predicted to be **Low** for the receptors mentioned below resulting in a **significant (Moderate)** effect during the hours of darkness.
- Southern Upland Way (SUW);
 - Scottish Hill Track (SHT) 63/63a/63b: Daer Reservoir to Durisdeer/64/64a/64b: Daer Reservoir to Thornhill;
 - Core Path CL/3558/1 Southern Upland Way, Portrail Water-Coom Rig;
 - Core Path CL/5692/1 Watermeetings – Coom Rig;
 - Core Path ROYS/444/1 Sweetshaw Brae;
 - Hills to the south;
 - Hills to the west; and
 - Residential properties within 2.5 km.
- 4.5.5.11 The potential effect on receptors would be an extension of the overall effects into hours of darkness affecting a small number of people.
- 4.5.5.12 The remaining receptors within the 25 km Study Area are not judged to receive significant effects owing to distance from the Proposed Development, screening by landform and forestry, and presence of other artificial light sources in the Study Area which reduce the sensitivity of night-time skies for darkness.

4.5.6 References

NatureScot (2024) Guidance on Aviation Lighting Impact Assessment. Available online from: <https://www.nature.scot/doc/guidance-aviation-lighting-impact-assessment>

Technical Appendix 4.6: Implications for Designated Landscapes

Technical Appendix 4.6: Implications for Designated Landscapes

4.6.1 Introduction

- 4.6.1.1 This Technical Appendix identifies and assesses designated landscapes within a 25 kilometre (km) Study Area from the Site of the Proposed Development. This Technical Appendix sets out how conclusions were drawn with respect to effects on Special Landscape Areas (SLA).
- 4.6.1.2 The assessment of designated landscapes has been undertaken in accordance with the principles and methodology set out in **Technical Appendix 4.1 (EIAR Volume 4)** and is based on professional judgement.
- 4.6.1.3 This Technical Appendix should also be read in conjunction with the following volumes of the Environmental Impact Assessment (EIA) Report (EIAR):
- Volume 2 - Chapter 4: Landscape and Visual Amenity;
 - Volume 3a - Figures;
 - Volume 3b - Visualisations; and
 - Volume 4 – Technical Appendices:
 - **Technical Appendix 4.1: Landscape and Visual Impact Assessment Methodology;**
 - **Technical Appendix 4.2: Landscape Assessment;**
 - **Technical Appendix 4.3: Visual Assessment;**
 - **Technical Appendix 4.4: Cumulative Assessment;**
 - **Technical Appendix 4.5: Aviation Lighting Assessment;** and
 - **Technical Appendix 4.7: Residential Visual Amenity Assessment.**

4.6.2 Policy Context

- 4.6.2.1 The policy context as set out in National Planning Framework¹ (NPF4) in relation to local landscape areas is Policy 4 (Natural places). It sets out the following in relation to local designated areas:
- 'd) Development proposals that affect a site designated as a local nature conservation site or landscape area in the LDP will only be supported where:*
- i. Development will not have significant adverse effects on the integrity of the area or the qualities for which it has been identified; or*
- ii. Any significant adverse effects on the integrity of the area are clearly outweighed by social, environmental or economic benefits of at least local importance.'*
- 4.6.2.2 In order to be able to assess the potential effect of the Proposed Development on designated areas, it is necessary to understand the *'special qualities of the area and the reasons for designation'* and this effectively provides the *'baseline'*. The baseline was informed by the Landscape Character Assessment (see **Technical Appendix 4.2, EIAR Volume 4**) and by the review of local landscape designations as set out in:
- South Lanarkshire Validating Local Landscape Designations (Ironsides Farrar, 2010)².
- 4.6.2.3 Analysis of Zone of Theoretical Visibility (ZTV) mapping (see **Figure 4.5, EIAR Volume 3a**) established which of the designated landscapes within 25 km of the Proposed Development could

potentially be affected, followed by verification on site and an assessment of each designated landscape considered.

- 4.6.2.4 No National Scenic Areas (NSAs) have been identified as receiving theoretical visibility of the Proposed Development.
- 4.6.2.5 Six Garden and Designed Landscapes (GDLs) have been identified within the 25 km Study Area as follows:
- Scot's Mining Company House – 8.2 km to the northwest;
 - Raehills – 15.1 km to the southeast;
 - Dalswinton – 20.1 km to the south;
 - Cowhill Tower – 22.3 km to the south;
 - Maxwelton (Glencairn Castle) – 19.3 km to the southwest; and
 - Drumlanrig Castle – 7.2 km to the southwest.
- 4.6.2.6 No theoretical visibility of the Proposed Development is predicted from the Scot's Mining Company House, Dalswinton and Maxwelton (Glencairn Castle) GDLs due to screening by landform and are scoped out.
- 4.6.2.7 Raehills is predicted to receive theoretical visibility of 1-9 turbines on the eastern side of the designation where the landscape rises. However, a combination of policy woodland and intervening forestry would fully and partially screen potential views of the proposed turbines. Therefore, it is not judged that the addition of the Proposed Development would alter the special qualities that make the GDL distinctive.
- 4.6.2.8 Similarly, Cowhill Tower is predicted to receive theoretical visibility of 1-3 turbines, however, policy woodland to the north and in the intervening landscape would screen views combined with distance, therefore the GDL has been scoped out of the assessment.
- 4.6.2.9 Drumlanrig GDL is predicted to receive widespread theoretical visibility of the proposed turbines. As the grounds are open to the general public this has been assessed as a visitor location, and this assessment is detailed in **Technical Appendix 4.3 (EIAR Volume 4)**.
- 4.6.2.10 The Talla-Hart Fell Wild Land Area (WLA) is located approximately 13.6 km to the northeast of the Site. As the Proposed Development would not be located within a WLA, such that under NPF4 Policy 4g effects of Proposed Development on the Site would not be a 'significant consideration', a wild land assessment is not included in the LVIA. However, consideration of effects on overlapping designated areas is considered.
- 4.6.2.11 The entirety of the Site is located within the Leadhills and Lowther Hills Special Landscape Area (SLA), consideration of which has been included in the LVIA.
- 4.6.2.12 Analysis of the ZTV identified a further five locally designated landscape areas with theoretical intervisibility of the Proposed Development that are briefly considered in the LVIA as follows:
- Upper Clyde Valley and Tinto SLA (South Lanarkshire) – 16.1 km to the north;
 - Douglas Valley SLA (South Lanarkshire) – 20.1 km to the northwest;
 - Tweedsmuir Uplands (Scottish Borders) SLA – 11.3 km to the northeast;

¹ Scottish Government (2023) National Planning Framework 4. Available: <https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2023/02/national-planning-framework-4/documents/national-planning-framework-4-revised-draft/national-planning-framework-4-revised-draft/govscot%3Adocument/national-planning-framework-4.pdf>

² Ironsides Farrar. (2010) South Lanarkshire Validating Local Landscape Designations.

- Thornhill Uplands RSA (Dumfries & Galloway) – 16 km to the south, and 2.0 km to the west; and
- Moffat Hills Regional Scenic Area (RSA) (Dumfries & Galloway) – 9.9 km to the east.

4.6.2.13 Both the Upper Clyde and Tinto and Douglas Valley SLAs in South Lanarkshire have been scoped out of the assessment due to the limited theoretical visibility predicted and distance from the Site.

4.6.2.14 The Tweedsmuir Uplands SLA in the Scottish Borders, and the Moffat Hills and Thornhill Uplands RSAs have been scoped in due to proximity to the Site and theoretical visibility predicted in the surrounding upland landscape of the Proposed Development.

4.6.3 Implications of the Findings of the LVIA

Drumlanrig Castle GDL

4.6.3.1 Drumlanrig Castle is located approximate 7.2 km to the southwest of the Site. Open to the public, the castle and gardens are a popular tourist destination for visitors, cyclists, and walkers. Views from the GDL are considered in **Technical Appendix 4.3 (EIAR Volume 4)**. Visibility varies from within the grounds and are mainly restricted by the surrounding woodland with specific views along the drive to the north of the castle.

4.6.3.2 Considered as Outstanding for its Artistic, Historical, Horticultural, Architectural, Scenic and Nature Conservation Interest, Drumlanrig Castle and Gardens are included in the Inventory of Gardens and Designed Landscapes as it is considered a nationally important site. Landscape sensitivity is therefore considered to be High.

4.6.3.3 The ZTV (bare earth) indicates that theoretical visibility of 1-13 of the proposed turbines would be widespread in the designation, the exception being at lower levels along the River Nith which flows through the grounds and west facing slopes of Drumlanrig Woods. This would be reduced somewhat by the extensive policy woodland within the designation boundary which would reduce actual visibility to elevated areas where the view is less influenced by nearby woodland, and clearings such as to the north of the castle.

4.6.3.4 Views from the Castle are shown on the following visualisations

- **Figures 4.35.1-4 Viewpoint 15: Drumlanrig Castle, (EIAR Volume 3b);**
- **Figures 5.5.1-5: Drumlanrig Castle, (EIAR Volume 3b);** and
- **Figure 5.6.1-6: Drumlanrig Castle Gardens, (EIAR Volume 3b).**

4.6.3.5 This shows that the proposed turbines would be partially seen to the northeast breaking the silhouette of Durisdeer Hill (569 m AOD), Ballencleuch Law (689 m AOD), and Scawd Law (663 m AOD) hills. This would be seen beyond the grounds at distances of above 7.2 km from locations where outward views are available. However, but for the majority of the designation, the proposed turbines would be partially and fully screened by intervening policy woodland and would not affect the Outstanding Interest that the GDL is designated for. Magnitude of change is judged as **Low to Negligible** resulting in a **not significant (Minor)** effect.

Leadhills and Lowther Hills SLA

4.6.3.6 This local level landscape designation is identified by South Lanarkshire Council (SLC), and the Site is located within the south of the designation. The South Lanarkshire Validating Local Landscape Designations (Ironside Farrar, 2010) Report², Figure 6vi, identifies that the significance of the designation arises from its 'special qualities' as follows:

"The significance of the Leadhills/Lowther Hills area arises from:

- an extensive area of high, smooth, rolling, hills and varied upland glens with a sense of emptiness engendered by a lack of extensive forestry or windfarm development;

- cultural features include the mining heritage surrounding Leadhills and remains of settlements on the sides of glens;
- extensive areas of rough grassland and heather moorland vegetation;
- the Southern Upland Way and other walking routes accessible via the M74 and main roads passing through to the west; visitor attractions at Leadhills and fishing on the Daer reservoir."

4.6.3.7 Approximately 1,089 hectares (ha) of the Site is located within this designated area, and this includes predominantly upland moorland intersected by an approximately 2 km section of the Southern Upland Way (SUW). The landscape is typical of the wider location, undulating and includes a series of rounded hills characteristic of the Southern Uplands including Comb Law 645 metres Above Ordnance Datum (AOD), Watchman's Brae 594 m AOD, Rodger Law 688 m AOD and Catlaw Dod 570 m AOD.

The Proposed Development

4.6.3.8 The Proposed Development would comprise up to 13 turbines, and a Battery Energy Storage System (BESS) along with associated infrastructure, arranged as illustrated on **Figure 2.1 (EIAR Volume 3a)** and detailed in **Chapter 2: Description of Proposed Development (EIAR Volume 2)**. The Proposed Development would include the following key components:

- Up to 13 wind turbines with a maximum tip height of 240 m;
- Permanent foundations supporting each wind turbine, and associated crane hardstanding at each wind turbine base;
- Two site accesses for use during construction and operation; the Western access from the A702 road and the Eastern access from the Daer Water Road to enter the Site at Wintercleugh, with both access points designed to accommodate abnormal indivisible loads required for turbine component delivery;
- A series of new and upgraded on-site access tracks with associated watercourse crossings and turning heads;
- Underground power cables, generally laid in trenches alongside access tracks connecting the turbines to the onsite substation;
- An on-site substation and control building;
- A BESS with approximately 50 MW capacity, including ancillary equipment, co-located with the onsite substation; and
- Temporary construction compound and laydown areas.

4.6.3.9 The landscape description of the SLA (page 19) places the area as part of the Lowther Hills range which in itself is part of the Southern Uplands Landscape Character Type (LCT) which extends into Dumfries and Galloway. This is characterised by steep hills with smooth rolling summits in contrast with the lower moors and plateaus to the north and west. Distinctive glacial valleys with steep slopes, crags, screes and waterfalls are largely derived from the underlying geology and glacial erosion. These features are in common with the general character of the Southern Uplands LCT. Due to the introduction of extensive coniferous forestry and of wind farms, parts of the Southern Uplands LCT have been redefined as 'sub' types such as for example Southern Uplands with Forestry. This refinement demonstrates the dynamic and evolving or changing nature of the landscapes.

4.6.3.10 The Site forms a transitional landscape between LCT 209 Upland Glen - Glasgow & Clyde Valley, and LCT 217 Southern Uplands Glasgow & Clyde Valley identified by NatureScot and described in **Technical Appendix 4.2 (EIAR Volume 4)** and therefore includes characteristics of both LCTs.

4.6.3.11 The landscape assessment concluded that overall, the predicted landscape effect on the Site is judged to be **significant (Moderate)** during the operational and maintenance phases. This is due to the extent of physical effects of the works within the Site which would involve a relatively small

- geographical proportion as whole and associated with the change from moorland, forestry and woodland to a renewable energy generating site.
- 4.6.3.12 Within the wider landscape, the SLA is covered predominantly by LCT 217 Southern Uplands – Glasgow Clyde Valley, and a smaller extent by LCT 209 Upland Glen – Glasgow & Clyde Valley.
- 4.6.3.13 Within the SLA beyond the Site, the effect on the character of the landscape is judged as **significant (Major - Moderate)** for LCT 209 and **significant (Moderate)** for LCT 217 within 10 km, thereafter, reducing to **not significant levels (Minor)** and **(Negligible)** levels. This is due to potential effects on character being mainly associated with views of the proposed turbines which would have greatest visibility within the LCT whilst the other areas of infrastructure would be less visible due to a combination of screening by landform and forestry. The size and scale of the change would be medium on account of the large-scale and openness of the landscape and the presence of other wind turbines both within the LCT (Clyde + Extension) and in neighbouring LCTs.
- 4.6.3.14 Several visual receptors were assessed within the SLA and include the following:
- A702 road;
 - Southern Upland Way;
 - Scottish Hill Tack (SHT) 63: SHT 63/b: Daer Reservoir to Durisdeer;
 - SHT 64: SHT 64/a/b: Daer Reservoir to Thornhill;
 - Core Path CL/5692/1 Watermeetings – Coom Rig;
 - Core Path ROYS/444/1 Sweetshaw Brae;
 - Hills to the south; and
 - Hills to the west.
- 4.6.3.15 To support the visual assessment, several viewpoints were considered within the SLA as follows:
- **Viewpoint 4: A702 road (Figures 4.24.1-6, EIAR Volume 3b);**
 - **Viewpoint 5: Watermeetings (Figures 4.25.1-7, EIAR Volume 3b);**
 - **Viewpoint 8: Lowther Hill (Figures 4.28.1-5, EIAR Volume 3b);**
 - **Viewpoint 9: Comb Head (Figures 4.29.1-5, EIAR Volume 3b);**
 - **Viewpoint 10: Wintercleuch (Figures 4.30.1-10, EIAR Volume 3b);**
 - **Viewpoint 11: Hods Hill, Southern Upland Way (Figures 4.31.1-6, EIAR Volume 3b);** and
 - **Viewpoint 12: Daer Reservoir – Southern Upland Way (Figures 4.32.1-8, EIAR Volume 3b).**
- 4.6.3.16 The visual assessment detailed in **Technical Appendix 4.3 (EIAR Volume 4)** assesses the view from the A702 road as **Significant (Major)** effects between the bend southeast of Elvanfoot to above the Dalveen Pass for approximately 10.3 km. Thereafter, a **not significant (Minor)** and **(Negligible)** effect is predicted due to screening by a combination of landform and woodland, as well as distance.
- 4.6.3.17 Views from the SUW are predicted to be significant between Beld Knowe and Lowther Hill. This would be viewed from upland hills to the east and west, and the valley floor of the Daer Water where close views of the proposed turbines would be experienced resulting in a **High** visual magnitude of change and **significant (Major)** effect.
- 4.6.3.18 SHT 63/64, and three Core Paths within 5 km are predicted to also receive a **significant (Major)** effect due to the close proximity of the footpath's to the proposed turbines where largely uninterrupted views would be obtained.
- 4.6.3.19 Aviation lights would extend the significant effects into the hours of darkness for receptors mentioned above but would be experienced by a relatively low number of people.
- 4.6.3.20 Special qualities of this SLA include lack of extensive forestry or wind farm development which engenders a sense of emptiness. The mining heritage associated with the small-scale mining industry readily visible around Leadhills, is one of the special qualities attributed to the SLA.
- 4.6.3.21 Turbines of the Proposed Development are theoretically visible from a relatively large part of the southern half of the designation, thereafter, reducing to the upper slopes and summits on elevated ground in the northern half. As a result of this visibility, the Proposed Development would reduce the 'sense of emptiness' in the southern half of the SLA as identified in the special qualities. However, it should be noted that views of wind farms are already a feature from the SLA and include Middle Muir to the north, and Clyde Wind Farm to the northeast and nearby. The combination of visibility of the Proposed Development with Clyde Wind Farm in particular effectively creates the boundary of the designated area. Neither Clyde nor Middle Muir Wind Farms have given rise to further amendments of the SLA.
- 4.6.3.22 No other special qualities, cultural artefacts, extensive moorland etc are impacted upon and whilst there is some loss of the sense of emptiness in the southern half of the SLA, this does not substantively affect the integrity of the designation. The special qualities are not present in equal measure across all of the designated area.
- 4.6.3.23 If the in-planning sites of Daer and Rivox were to be consented, then this part of the SLA would become a 'wind farm landscape' and the addition of the Proposed Development would further contribute to this.
- Tweedsmuir Uplands SLA**
- 4.6.3.24 The Tweedsmuir Uplands is located approximately 11.3 km to the northeast of the nearest turbine. To support the visual assessment, several viewpoints were considered within the SLA as follows:
- **Viewpoint 2: Broad Law (Figures 4.22.1-4, EIAR Volume 3b);**
 - **Viewpoint 3: Culter Fell (Figures 4.23.1-5, EIAR Volume 3b);** and
 - **Viewpoint 6: Annanhead Hill, Annandale Way (Figures 4.26.1-5, EIAR Volume 3b).**
- 4.6.3.25 The Local Landscape Designations Supplementary Planning Guidance³ described the SLA as follows:
- 'Location and boundaries:**
- This area comprises an extensive block of upland landscape, extending from Minch Moor, above the Tweed and the Yarrow in the east, to the Council boundary in the west. It is bounded by the A708 and the hills beyond St Mary's Loch to the south-east, and by the edges of the Upper Tweeddale NSA and Tweed Valley cSLA to the north-east. It includes the main group of hills around Broad Law and Hart Fell, extending west to Culter Fell and north to Broughton Heights.*
- The boundaries generally follow roads, tracks and paths. To the north-east, a combination of water-courses, ridgelines and forestry edges form the boundary between this cSLA and the Tweed Valley cSLA. Other short sections follow watercourses.'*
- 4.6.3.26 The special qualities are not provided but a designation statement is as follows:

³ Scottish Borders Council. (2012) Scottish Borders Council Supplementary Planning Guidance, Local Landscape Designations. Available online from: <https://www.scotborders.gov.uk/downloads/file/1124/local-landscape-designations>

Designation statement:

This extensive area represents the Southern Uplands within the Borders. It comprises steep rolling landform, with deep valleys and rounded peaks of glacial origin. The area lacks the blanket forest cover that affects other areas, and is predominantly open moorland of rough grass and heather. This is a highly scenic area of dramatic landform, and has a significant degree of wildness. The more rugged, rocky summits in particular have a strong sense of remoteness, with little overt human influence on the landscape. The large reservoirs are the only substantive human incursion, but add variety rather than reducing remoteness. Together with St Mary's Loch they form the only substantial water bodies in the Borders, and the Loch in particular provides scenic variety in combination with the hills. Key summits include Minch Moor overlooking the Tweed, Broad Law, the highest in the Borders, and Culter Fell on the South Lanarkshire boundary. The uplands extend north to Broughton Heights, providing the setting for the NSA.

The uplands are well used for recreation, with the Southern Upland Way among many signposted routes in the area. Notable features include high peaks such as Broad Law, and the reservoirs at Talla and Megget which offer water-based activities, and provide access into the hills. St Mary's Loch is also a popular recreational destination, offering outdoor access and water-based activities. The upper Tweed is an important route through the Borders, as well as providing access into the hills.'

4.6.3.27 The Proposed Development would not be located within this SLA which would receive views from the upper slopes and summits of the Proposed Development. This would be viewed within the existing context of Clyde Wind Farm and Extension which would feature in the foreground. It is not considered that the addition of the Proposed Development to this baseline would alter the qualities in which the landscape has been designated.

4.6.3.28 This is reflected in the landscape assessment where LCT 177 Southern Uplands – Borders as not being considered for detailed assessment due to the presence of Clyde Wind Farm and the visual assessment which assessed views from hills to the northeast as not significant.

Thornhill Uplands RSA

4.6.3.29 The Thornhill Uplands RSA is located approximately 2.0 km to the west and 16.0 km to the south of the nearest turbine. To support the visual assessment, several viewpoints were considered within the SLA as follows:

- **Viewpoint 8 Lowther Hills (Figures 4.28.1-5, EIAR Volume 3b);**
- **Viewpoint 9 Comb Head (Figures 4.29.1-5, EIAR Volume 3b);**
- **Viewpoint 14 Queensberry (Figures 4.34.1-5, EIAR Volume 3b);** and
- **Viewpoint 15 Drumlanrig Castle (Figures 4.35.1-4, EIAR Volume 3b).**

4.6.3.30 No special qualities are provided but the following description discusses the RSA from a Technical Paper issued by Dumfries and Galloway Council⁴:

'The designated area centres around the Middle and Upper Dale of the Nith from Mennock south to Auldgirth, and the series of glaciated Upland Glens of the Mennock, Dalveen, Scar, Shinnel, Dalwhat and Castlefairn which form its tributaries, carving their way southwards through the hills of the Southern Uplands. It is based on the Mid Nithsdale and Lowther Hills ARSS.

The boundaries of the designated area were amended to include the entire valley floor and visual envelope of the Thornhill Middle Dale, south to the pinch point at Auldgirth; the visual envelopes of the Moniaive valley and the Scar, Shinnel and Dalwhat Upland Glens; and those parts of the Southern

Uplands in the north and east where the characteristics of the landscape type are most strongly expressed, including the summits of the uplands to the north of Queensberry.

The area encompasses varied and contrasting upland and valley scenery ranging from the exposed, remote summits of the Lowther Hills, through the wooded gorge of the Nith above Drumlanrig to the pastoral character of the wide, enclosed upper Cairn and Mid Nithsdale valleys. Overall, though there are strong contrasts in relief, the topography is smoother and rounder than the Galloway Uplands to the west and the area is more highly populated and has a more managed feel.

The hills of the Southern Uplands form large, smooth steep sided domes with complex spurs and ridges, dissected by numerous steeply sided clefts and several long, deep, U shaped Upland Glens. The uplands are patterned with a mosaic of rough grassland, bracken and rushes, combined with heather moorland on the higher areas. The lower slopes of the glens are enclosed by stone dykes, and some valley floor pastures have been improved. There is relatively little tree cover though the forestry plantations to the west have encroached on the heads and sides of certain valleys. Roads to the heads of the glens give access to isolated farms. Further south the valleys become wider and less steeply sided and start coalescing to form Intimate Pastoral Valleys with scattered farms, hamlets and villages. The improved pastures of the valley sides are patterned with drystone dykes, and interspersed by farm and streamside woodlands. The intervening Foothills and Upland Fringe form open, sculptural ridges, though conifer plantations on the uplands outwith the designated area sometimes lap over the southern horizons.

The main valley of the Nith has a varied character of strong contrasts. In the north it forms a steep wooded gorge, before opening out to the policy woodlands of Drumlanrig. The broad valley centred around Thornhill has a lush feel near the town with hedgerows rather than dykes, woodland and a little arable land. Further afield the landscape becomes more open, with pastures enclosed by stone dykes, and some plantation forestry, leading upwards to the remote, exposed landscape of the enclosing Southern Uplands.

The main valleys are accessible from Dumfries, and the Middle Dale and Intimate Pastoral Valleys and are subject to pressure for residential development, as well as being popular for informal recreation. The flanks of the valleys see continued demand for forestry, and the flanks and summits have seen interest from windfarm developers.'

4.6.3.31 The proposed turbines would be viewed partially above the ridgeline to the northeast beyond the designation and whilst introducing a new feature in views beyond the RSA, this is not judged to alter the qualities of which the landscape is designated for. There would be close views of the Proposed Development from the Lowther Hills which also experience views of Clyde Wind Farm and part of Harestanes Wind Farm. Overall, however, theoretical visibility of the Proposed Development would be limited beyond the Lowther Hills.

Moffat Hills RSA

4.6.3.32 The Moffat Hills RSA is located approximately 9.9 km to the east of the nearest turbine. To support the visual assessment, several viewpoints were considered within the SLA as follows:

- **Viewpoint 6 Annanhead Hill, Annandale Way (Figures 4.26.1-5, EIAR Volume 3b);**
- **Viewpoint 7 Hart Fell (Figures 4.27.1-5, EIAR Volume 3b);** and
- **Viewpoint 13 Southern Upland Way, Roman and Reivers Route south-east of Moffat (Figures 4.33.1-4, EIAR Volume 3b).**

4.6.3.33 No special qualities are provided but the following description discusses the RSA:

⁴ Dumfries and Galloway Council (2018) Dumfries and Galloway Council, Local Development Plan 2, Regional Scenic Areas, Technical Paper. Available online from: https://www.dumfriesandgalloway.gov.uk/sites/default/files/2024-08/Regional_Scenic_Areas_Technical_Paper.pdf

'This area is based on the juxtaposition of Southern Upland of Hart Fell with the Moffat and upper Annandale Upland Glens south to and including Moffat. It derives from the previous Moffat Hills ARSS.

The designated area was amended to include the visual envelopes of the upper Annan and Moffat glens as far as the ridge lines, and to include the outward facing ends of the ridges which are important to the views into and along the glens, plus the unspoilt borders town of Moffat at the junction of the two glens. To the north the area abuts a Special Landscape Area (locally designated landscape area) within the Scottish Borders.

The area centres on the Southern Uplands of Hart Fell, with their characteristic smooth, high, steep sided rounded hills, dissected by steep clefts and patterned with a mosaic of rough grassland, heather, scree, and montane vegetation on the high summits. Conifer plantations on the lower slopes combine with small scale valley woods to give an intermittently wooded character to the archetype long, straight, U shaped, glaciated Moffat Upland Glen. Plantations are also starting to encroach on the contrasting open character of upper Annandale, and the fine views across the valley from the A701. Both valleys have scattered farms with improved pastures enclosed by stone walls. Major roads run along both glens linking Moffat to the M74 to the east, making the area readily accessible from other parts of the country. Moffat forms an important tourist centre. Pressures for landscape change include forestry, tourism and residential expansion of the town.'

- 4.6.3.34 The Proposed Development would not be located within this RSA which would receive views from the upper slopes and summits of the Proposed Development. This would be viewed within the existing context of Clyde Wind Farm and Extension and Harestanes and Minnygap Wind Farms to the west which would feature in the foreground. It is not considered that the addition of the Proposed Development to this baseline would alter the qualities in which the landscape has been designated.

4.6.4 References

- Dumfries and Galloway Council (2018) Dumfries and Galloway Council, Local Development Plan 2, Regional Scenic Areas, Technical paper. Available online from: https://www.dumfriesandgalloway.gov.uk/sites/default/files/2024-08/Regional_Scenic_Areas_Technical_Paper.pdf
- Ironside Farrar. (2010) South Lanarkshire Validating Local Landscape Designations.
- Scottish Borders Council. (2012) Scottish Borders Council Supplementary Planning Guidance, Local Landscape Designations. Available online from: https://www.scotborders.gov.uk/downloads/file/1124/local_landscape_designations
- Scottish Government (2023) National Planning Framework 4. Available: <https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2023/02/national-planning-framework-4/documents/national-planning-framework-4-revised-draft/national-planning-framework-4-revised-draft/govscot%3Adocument/national-planning-framework-4.pdf>

Technical Appendix 4.7: Residential Visual Amenity Assessment

Technical Appendix 4.7: Residential Visual Amenity Assessment

4.7.1 Introduction

4.7.1.1 The Residential Visual Amenity Assessment (RVAA) is intended to assist the decision maker in a judgement as to the predicted overall impact of the Proposed Development on the visual aspects of 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 (EIAR) which cover those subjects.

4.7.1.2 This Technical Appendix is supported by the following volumes of the EIAR:

- **Volume 2: Main Report;**
- **Volume 3a: Figures;**
- **Volume 3b: Visualisations** (including residential property wirelines);
- **Volume 4: Technical Appendices:**
 - **Technical Appendix 4.1: Landscape and Visual Impact Assessment Methodology;**
 - **Technical Appendix 4.2: Landscape Character Assessment;**
 - **Technical Appendix 4.3: Visual Assessment;**
 - **Technical Appendix 4.4: Cumulative Assessment;**
 - **Technical Appendix 4.5: Implications for Designated Landscapes;** and
 - **Technical Appendix 4.6: Aviation Lighting Assessment.**

4.7.1.3 It is normal to expect significant effects (in the context of the EIA Regulations) on views and visual amenity from residential properties in close proximity to wind farms in any landscape. Therefore, this TA focusses on residential properties within 2.5 km of the Proposed Development which are assessed as experiencing a **High** magnitude of visual change (identified using the methodology set out in **Technical Appendix 4.1, EIAR Volume 4**).

4.7.1.4 Whilst there is no right to a view, there may be circumstances when the effect on views and visual amenity are deemed to be so great, referred to in the RVAA guidance¹ (para 2.1) as the “*Residential Visual Amenity Threshold*”, that the relevant decision maker should consider those effects on the visual component of ‘*Residential Amenity*’ or ‘*Living Conditions*’. It should be understood that Financially Involved (FI) properties would be subject to a higher threshold.

4.7.2 Methodology

4.7.2.1 The Landscape Institute (LI) has published guidance on RVAA¹, upon which this assessment is based. While the guidance has no status advised by planning authorities, it is the only dedicated guidance on RVAA and is regularly used.

4.7.2.2 The LI guidance supports planners and landscape architects in forming their judgements of the effects on visual amenity at residential properties. The LI guidance sets out that the role of the landscape architects should be limited to advising planners as to whether visual aspects of residential amenity should be considered in the planning balance.

4.7.2.3 The LI guidance sets out a four-step process involving:

- Step 1: identifying the scope of the assessment and properties to be considered;

- Step 2: evaluating the baseline visual amenity of the properties;
- Step 3: assessing changes as a result of the introduction of the Proposed Development; and
- Step 4: detailed assessment as to whether the nature and scale of the effect likely to be experienced is potentially so great 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 by the decision maker as part of the planning judgement.

4.7.2.4 The “Residential Amenity Threshold” is defined in the guidance as: “*The threshold at which the visual amenity of a residential property is changed and adversely affected to the extent that it may become a matter of Residential Amenity and which, if such is the case, competent, appropriately experienced planners will weigh this effect in their planning balance*”.

4.7.2.5 This RVAA is set out following the steps of assessment outlined in **paragraph 4.7.2.3**. The methodology used to assess the magnitude of change to views is set out in **Technical Appendix 4.1 (EIAR Volume 4)**. All residential properties are judged to have **High** sensitivity to visual change. For residential properties judged to have a **High** magnitude of change, the LVIA would conclude that the effects on views and visual amenity of these properties is significant. This does not however mean that the ‘*Residential Visual Amenity Threshold*’ is engaged. The latter requires further assessment and judgement by competent landscape architects. It should be noted that Financially Involved (FI) properties would be subject to a higher threshold.

4.7.2.6 Field surveys and assessments were undertaken from publicly accessible locations in September 2025 to identify, as far as possible, 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; access and 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.

4.7.2.7 Visualisations are provided for each residential property in the form of wirelines (see **Figures 4.19, EIAR Volume 3a and Figures 4.20.1 to 4.20.15, EIAR Volume 3b**) set up to be equivalent to the panoramic view of 90° with 53.5° horizontal angle as per NatureScot visualisation guidance².

4.7.3 Step 1: Identification of the Scope of Assessment

4.7.3.1 The RVAA guidance¹ 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 to 2 km radius may be appropriate (as a potential upper limit to the extent of the Study Area).

4.7.3.2 Since the publication of the guidance, the size of turbines proposed for wind farm developments has continued to increase. As such it is deemed appropriate to increase the extent of the Study Area to 2.5 km from the outer turbines.

4.7.3.3 There are several properties within approximately 2.5 km of the proposed turbine locations as shown on **Figure 4.19 (EIAR Volume 3a)**. **Table TA4.7.1** sets out the properties considered in the RVAA and distance of these properties from the nearest turbine.

¹ Landscape Institute. (2019) Residential Visual Amenity Assessment (RVAA) Technical Guidance Note 2/19. Available online from: <https://landscapewpstorage01.blob.core.windows.net/www-landscapeinstitute-org/2019/03/tgn-02-2019-rvaa.pdf>

² Scottish Natural Heritage. (2017) Visual Representation of Wind Farms, Guidance. Available online from: <https://www.nature.scot/sites/default/files/2019-09/Guidance%20-%20Visual%20representation%20of%20wind%20farms%20-%20Feb%202017.pdf>

Property reference	Property name	Distance and Direction to the nearest turbine
1	Troloss Farm	2.5 km, East to southeast
2	Troloss House	2.4 km, Southeast
3	Overfingland Farm	1.7 km East to southeast
4	Troloss Cottage	1.5 km, Southeast
5	Nether Fingland	2.4 km, Southeast
6	Hitteril	1.9 km, Southwest
7	Daerbank	2.3 km, Southwest
8	Daerside Cottage South	2.3 km, Southwest
9	Daerside Cottage North	2.3 km, Southwest
10	Wintercleugh House	2.4 km, Southwest
11	Wintercleugh	2.5 km, Southwest
12	Bracadale	2.5 km, Southwest
13	Kirkhopecleugh Cottage	1.3 km, Southwest
14	Crookburn	0.9 km, Northwest
15	Kirkhope Farm	0.8 km, West

4.7.3.4 It is noted that although the Proposed Development includes a Battery Energy Storage System (BESS) and other ancillary ground level infrastructure elements, it is the turbines that are most likely to potentially affect the visual component of residential amenity.

4.7.4 Assessment of Effects on Residential Visual Amenity

4.7.4.1 This section outlines for each property: the existing visual amenity, the likely changes as a result of the introduction of the Proposed Development, and for those with a High magnitude of change: 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 the 'Residential Visual Amenity Threshold'.

4.7.4.2 Wirelines for each residential property are provided in **Figures 4.20.1 to 4.20.15 (EIAR Volume 3b)**.

OS Grid Reference: 291557, 606167	Figures 4.20.1a and b Property 1: Troloss Farm, (EIAR Volume 3b)
Distance to nearest turbine: 2.5 km (Turbine 2)	Primary outlook: Northeast to southwest with open views available to the east and south
Number of turbines theoretically visible: 9 (7 towers, hubs and blades, and blades of 2)	Direction of view to the nearest turbine: East to southeast
<p>Description of Property, Context and Existing Views: This property comprises a farmhouse and outbuildings located to the south of the A702 road near Cleuch Burn and the border between South Lanarkshire and Dumfries and Galloway. Accessed via a relatively straight track orientated northeast to southwest from the A702 road, the farmhouse is situated at approximately 343 m Above Ordnance Datum (AOD). The surrounding landscape consists of semi-improved fields rising to moorland and rounded hills and is open in nature. The farmhouse is 1.5 storey with mixed orientation with the main house facing the northeast, and rear views to the southwest, and adjoined former outbuildings orientated northwest to southeast. To the north, views from the property are directed by several large broadleaf trees and farm outbuildings, with open visibility in other directions. There is no screening from the access track leading to the farm.</p>	

<p>Changes to Views and Visual Amenity: The proposed turbines would be visible to the east on Comb Law with the remaining turbines further east and those situated on Hirstane Rig being partially screened by intervening landform. The proposed turbines would introduce new features in views in this direction which would largely be experienced from the southeast side of the property, garden and access track from the A702 road. Magnitude of change is judged to be High. After dark, the tower lights on Turbines T1, T2, T7 and T9 would be visible over the dark landscape to the southeast, albeit with greatly reduced brightness due to the angle of view, which would be below -4° at this location, although there may be some light seen and some reflection off the backs of passing blades in certain wind directions.</p>	
<p>Effect on Residential Visual Amenity The turbines would be visible from the approach track, and from the east and southeast of the property. The turbines are regularly spaced and relate to the topography of the ridgeline. The visible turbine height in relation to the height of the ridge signals that they are tall but not disproportionate. The primary view direction from the property would not be affected. Noting also the distance from the property to the nearest turbine (2.5 km) it is judged that the RVAA threshold would not be engaged.</p>	

OS Grid Reference: 291627, 606467	Figure 4.20.2a, b and c Property 2: Troloss House, (EIAR Volume 3b)
Distance to nearest turbine: 2.4 km (Turbine 2)	Primary outlook: South
Number of turbines theoretically visible: 11 (8 towers, hubs and blades, and blade tips of 3)	Direction of view to the nearest turbine: Southeast
<p>Description of Property, Context and Existing Views: This property comprises two-storey house located on the northern edge of the A702 road at approximately 341 m AOD. Oriented north to south, the main view is across the A702 road to the south and is slightly elevated affording views of rough pasture, Troloss Farm, and Well Hill. A small forestry plantation is located to the east of the property, and the land rises to the north which combined with boundary planting, fully to partially screens views in other directions.</p>	
<p>Changes to Views and Visual Amenity: The proposed turbines would be visible in oblique views from the front of the house, garden and access track from the A702 road. From here, the proposed turbines would be seen above Comb Law, Hirstane Rig and Rodger Law with the more eastern turbines partially to fully screened by landform. Magnitude of change is judged to be High. After dark, the tower lights on Turbines T1, T2, T7, T8 and T9 would be visible over the dark landscape to the southeast, albeit with greatly reduced brightness due to the angle of view, which would be below -4° at this location, although there may be some light seen and some reflection off the backs of passing blades in certain wind directions.</p>	
<p>Effect on Residential Visual Amenity The turbines would be visible from the front of the property, garden and drive to the east and southeast of the property and the layout of the proposed turbines is related to the topography. Due to a combination of screening by landform, the proposed turbines not featuring in the main view from the house and the distance (2.4 km) between the nearest turbine and property location it is judged that the RVAA threshold would not be engaged.</p>	

OS Grid Reference: 292719, 609549	Figure 4.20.3a and b Property 3: Overfingland Farm, (EIAR Volume 3b)
Distance to nearest turbine: 1.7 km (Turbine 2)	Primary outlook: East
Number of turbines theoretically visible: 11 (8 towers, hubs and blades, and the blades of 3)	Direction of view to the nearest turbine: East and southeast
<p>Description of Property, Context and Existing Views: Comprises 1 storey house and outbuildings located on the western side of the A702 road at approximately 364 m AOD. Access is from the A702 road and includes a winding track that leads through fields to the property. Situated at an elevated location on the side of the valley, open views across semi-improved farmland and moorland to the east can be obtained as well as Meikle Shag and the forested slopes of Pin Stane and Coom Rig.</p>	

Table TA4.7.4: Property 3: Overfingland Farm	
<p>Changes to Views and Visual Amenity: The proposed turbines would be viewed to the southeast above Meikle Shag and Comb Law and form prominent features of the eastern side of the valley with some partial screening of the eastern turbines from intervening landform.</p> <p>Magnitude of change is judged to be High.</p> <p>After dark, the tower lights on Turbines T1, T2, T7, T8 and T9 would be visible over the dark landscape to the southeast, albeit with greatly reduced brightness due to the angle of view, which would be below -4° at this location, although there may be some light seen and some reflection off the backs of passing blades in certain wind directions.</p>	
<p>Effect on Residential Visual Amenity: The turbines would be openly visible from areas around the property, but outbuildings and vegetation also restricts views. The nearest turbines are at 1.7 km and are clearly sited to be seen behind the end of the ridge at Meikle Shag.</p> <p>Overall, it is judged that the RVAA threshold would not be engaged.</p>	

Table TA4.7.5: Property 4: Troloss Cottage	
OS Grid Reference: 292931, 609473	Figure 4.20.4a and b Property 4: Troloss Cottage, (EIAR Volume 3b)
Distance to nearest turbine: 1.5 km (Turbine 2)	Primary outlook: East
Number of turbines theoretically visible: 8 (7 towers, hubs and blades, and the blades of 1)	Direction of view to the nearest turbine: Southeast
<p>Description of Property, Context and Existing Views: Comprises a 1.5 storey house adjacent to the A702 road situated at approximately 332 m AOD. Obtains open views to the east across the road and above the adjacent outbuildings towards Meikle Shag and the forested slopes of Coom Rig. Visibility is fairly open from this property with some partial screening occurring from trees to the north and southwest and rising slopes to the west.</p>	
<p>Changes to Views and Visual Amenity: The proposed turbines would be viewed behind Meikle Shag and feature in the main view from the property, progressing to the south across Comb Law and Hirstane Rig with some partial screening occurring on account of intervening landform.</p> <p>Magnitude of change is judged to be High.</p> <p>After dark, the tower lights on Turbines T2, T7, T8 and T9 would be visible over the dark landscape to the southeast, albeit with greatly reduced brightness due to the angle of view, which would be below -4° at this location, although there may be some light seen and some reflection off the backs of passing blades in certain wind directions.</p>	
<p>Effect on Residential Visual Amenity: The turbines would be visible from around the property in views to the south. The nearest turbine at 1.5 km sits behind Meikle Shag and would appear large but set back from the front of the ridge. Other views without any part of the wind farm visible are also available and it is concluded that the RVAA threshold would not be engaged.</p>	

Table TA4.7.6: Property 5: Nether Fingland	
OS Grid Reference: 293827, 610780	Figure 4.20.5a and b Property 5: Nether Fingland, (EIAR Volume 3b)
Distance to nearest turbine: 2.4 km (Turbine 2)	Primary outlook: Southeast
Number of turbines theoretically visible: 11 (10 towers, blades and hubs, and 1 hub)	Direction of view to the nearest turbine: Southeast
<p>Description of Property, Context and Existing Views: Comprises 1 storey property set back from the A702 road and surrounded by a dry-stone wall. Situated at approximately 332 m AOD, the main outlook from the house is to the southeast and includes a garden to the front and to the south. The surrounding landscape is open and there is some partial screening by trees in the foreground and the rising landform to the west.</p>	
<p>Changes to Views and Visual Amenity: The proposed turbines would be viewed to the southeast between Coom Rig and Meikle Shag above the foreground forestry. The most westerly turbines would be prominent with some partial screening of the easterly turbines by intervening landform.</p> <p>Magnitude of change is judged to be High.</p>	

Table TA4.7.6: Property 5: Nether Fingland	
<p>After dark, the tower lights on Turbines T1, T2, T7, T8, T9 and T11 would be visible over the dark landscape to the southeast, albeit with greatly reduced brightness due to the angle of view, which would be below -4° at this location, although there may be some light seen and some reflection off the backs of passing blades in certain wind directions.</p>	
<p>Effect on Residential Visual Amenity: The turbines would be openly to partially visible and partly screened from the front of the property, garden and the access track leading from the A702 road. The Proposed Development would appear as two groups comprising 3 turbines to the left and 7 to the right. A single blade is visible between these groups. The horizontal extent of the view within which turbines are visible is limited and noting the distance from the property to the nearest turbine the RVAA threshold would not be engaged.</p>	

Table TA4.7.7: Property 6: Hitteril	
OS Grid Reference: 296164, 609650	Figure 4.20.6a, b and c Property 6: Hitteril, (EIAR Volume 3b)
Distance to nearest turbine: 1.9 km (Turbine 1)	Primary outlook: North to south
Number of turbines theoretically visible: 13 (10 towers, hubs and blades, 1 hub, and the blades of 2)	Direction of view to the nearest turbine: Southwest
<p>Description of Property, Context and Existing Views: Accessed from the Daer Water road, the road to Daer Reservoir to the east, this property is situated at approximately 311 m AOD. Located between two expansive areas of forestry, views from the property are to the north and south and include open views from the garden. To the north, Clyde Wind Farm is partially visible.</p>	
<p>Changes to Views and Visual Amenity: The proposed turbines would be viewed to the south between forestry plantations above Hem Hill and include some partial screening by forestry and intervening landform to the turbines located further south. The proposed turbines would be closer to the property than Clyde Wind Farm resulting in turbines being visible to the north and south.</p> <p>Magnitude of change is judged to be High.</p> <p>After dark, the tower lights on Turbines T1, T2, T9, T11 and T13 would be visible over the dark landscape to the southeast, albeit with greatly reduced brightness due to the angle of view, which would be below -4° at this location, although there may be some light seen and some reflection off the backs of passing blades in certain wind directions.</p>	
<p>RVAA Threshold Conclusion: The turbines would be visible to the southeast, garden and drive leading from the Daer Water road. Some of the lower parts of the turbine towers would be screened by the coniferous plantations. Whilst the visible turbines would be seen as tall, large structures, the coniferous plantations also introduce separation. It is judged that the Residential Visual Amenity threshold would not be engaged.</p>	

Table TA4.7.8: Property 7: Daerbank/Property 8: Daerside Cottage South/Property 9: Daerside Cottage North	
OS Grid Reference: Property 7 - 296569, 609807 Property 8 - 296551, 609832 Property 9 - 296539, 609852	Figure 4.20.7a and b Property 7: Daerbank, (EIAR Volume 3b) Figure 4.20.8a and b Property 8: Daerside Cottage South, (EIAR Volume 3b) Figure 4.20.9a and b Property 9: Daerside Cottage North, (EIAR Volume 3b)
Distance to nearest turbine: 2.3 km (Turbine 1)	Primary outlook: Northeast to southwest
Number of turbines theoretically visible: 13 (9 towers, hubs and blades, and blades of 4)	Direction of view to the nearest turbine: Southwest
<p>Description of Property, Context and Existing Views: This group of properties is located on the western bank of the Daer Water and orientated in a northeast to southwest direction, with the main view to the northeast. Accessed from the east via a road that joins onto the Daer Water road, and ultimately the A702 road to the north, the properties are at elevations of 293 to 295 m AOD.</p> <p>Comprising three 1 story properties, the main view is open across the Daer Water onto fields rising to moorland clad Lion Hill. Views in other directions are limited by woodland, which is situated on the north, west and south of the properties.</p>	

Table TA4.7.8: Property 7: Daerbank/Property 8: Daerside Cottage South/Property 9: Daerside Cottage North	
During hours of darkness, artificial lighting sources are limited to a few properties located in the Daer Water valley and vehicles travelling along the Daer Water road.	
<p>Changes to Views and Visual Amenity: The proposed turbines would be viewed to the southwest and theoretically seen in their entirety above Ham Hill. However, woodland to the rear of the properties would fully to partially screen views during summer months and heavily filter views during winter months when the leaves are off the trees.</p> <p>Magnitude of change is judged as Medium to High.</p> <p>After dark, the tower lights on Turbines T1, T2, T8, and T9 from properties 7, 8 and 9, with the addition of 11 for properties 8 and 9, would be visible over the dark landscape to the southwest, albeit with greatly reduced brightness due to the angle of view, which would be below -4° at this location, although there may be some light seen and some reflection off the backs of passing blades in certain wind directions.</p>	
<p>Effect on Residential Visual Amenity The turbines would be visible from the properties to the southwest, garden and drive leading from the Daer Water road.</p> <p>The primary view direction from the properties would not be affected with turbines occupying rear views forming features on the ridgeline with some partial screening occurring, and for this reason is not considered to engage the Residential Visual Threshold.</p>	

Table TA4.7.9: Property 10: Wintercleugh House	
OS Grid Reference: 296521, 610019	Figure 4.20.10a and b Property 10: Wintercleugh House, (EIAR Volume 3b)
Distance to nearest turbine: 2.4 km (Turbine 1)	Primary outlook: Southwest
Number of turbines theoretically visible: 13 (10 towers, hubs and blades, hubs of 2, and blades of 1)	Direction of view to the nearest turbine: Southwest
<p>Description of Property, Context and Existing Views: This property is located adjacent and on the west side of the Daer Water road, the road leading to the Daer Reservoir. Located approximately at 292 m AOD, the property is 1 to 1.5 stories and accessed by a small track and includes a surrounding garden. Views are generally open onto the Wintercleuch Burn towards Sweetshaw Brae comprising a mixture of farmland, rough pasture and moorland. A forestry plantation is located on the northern boundary restricting views in this direction.</p> <p>During hours of darkness, artificial lighting sources are limited to a few properties located in the Daer Water valley and vehicles travelling along the Daer Water road.</p> <p>Changes to Views and Visual Amenity: The proposed turbines would be viewed to the southwest above Hem Hill and Comb Law and a foreground forestry plantation. The Proposed Development would be viewed in its entirety from both the garden and western side of the house. It would appear as a balanced layout, the result of the design principles utilising ridgelines and gently sloping 'plateau' areas.</p> <p>Magnitude of change is judged as High.</p> <p>After dark, the tower lights on Turbines T1, T2, T8, T9, T11 and T13 would be visible over the dark landscape to the southwest, albeit with greatly reduced brightness due to the angle of view, which would be below -4° at this location, although there may be some light seen and some reflection off the backs of passing blades in certain wind directions.</p>	
<p>Effect on Residential Visual Amenity: The turbines would be visible from the property to the southwest, and drive leading from the Daer Water road.</p> <p>The primary view direction from the property would be affected with turbines occupying front views forming features on the ridgeline with some partial screening occurring by foreground forestry, and for this reason along with distance (2.4 km) from the nearest turbine is not considered to engage the Residential Visual Threshold.</p>	

Table TA4.7.10: Property 11: Wintercleugh/Property 12: Bracadale	
OS Grid Reference: Property 11 – 296495, 610107 Property 12 - 296523, 610139	Figure 4.20.11a and b Property 11: Wintercleugh, (EIAR Volume 3b) Figure 4.20.12a and b Property 12: Bracadale, (EIAR Volume 3b)

Table TA4.7.10: Property 11: Wintercleugh/Property 12: Bracadale	
Distance to nearest turbine: 2.5 km (Turbine 1)	Primary outlook: Northeast to southwest
Number of turbines theoretically visible: 13 (10 towers, hubs and blades, hubs and blades of 2, and blades of 1)	Direction of view to Site: Southwest
<p>Description of Property, Context and Existing Views: Both properties are 1 story situated to the north of Wintercleuch Burn and adjacent to the Daer Water road.</p> <p>Bracadale on the eastern side of the road is surrounded by high fences and vegetation and very limited potential visibility of then Proposed Development. Wintercleugh to the west has a more open outlook with the front of the property facing to the northeast towards Bracadale which provides a small degree of screening. Views in other directions are open onto the surrounding farmland contained by a series of hillsides that are further away.</p> <p>During hours of darkness, artificial lighting sources are limited to a few properties located in the Daer Water valley and vehicles travelling along the Daer Water road.</p> <p>Changes to Views and Visual Amenity: The proposed turbines would be viewed to the southwest above Hem Hill and Comb Law with some partial screening occurring by the small forest plantation situated between Wintercleugh and Wintercleugh House. The Proposed Development would be viewed in its entirety from both the garden, rear of the house and entrance as a balanced group of turbines relating to the topography of the Site.</p> <p>Magnitude of change is judged as High.</p> <p>After dark, the tower lights on Turbines T1, T2, T8, T9, T11 and T13 would be visible over the dark landscape to the southwest, albeit with greatly reduced brightness due to the angle of view, which would be below -4° at this location, although there may be some light seen and some reflection off the backs of passing blades in certain wind directions.</p> <p>Effect on Residential Visual Amenity The turbines would be visible from the properties to the southwest, garden and drive leading from the Daer Water road.</p> <p>The primary view direction from the properties would not be affected with turbines occupying rear views forming features on the ridgeline with some partial screening occurring by foreground forestry, and for this reason is not considered to engage the Residential Visual Threshold.</p>	

Table TA4.7.11: Property 13: Kirkhopecleugh Cottage (Financially involved in Proposed Development)	
OS Grid Reference: 296642, 607224	Figure 4.20.13a, b and c Property 13: Kirkhopecleugh Cottage, (EIAR Volume 3b)
Distance to nearest turbine: 1.3 km (Turbine 11)	Primary outlook: East
Number of turbines theoretically visible: 12 (9 towers, hubs and the blades of 3)	Direction of view to nearest turbine: Southwest
<p>Description of Property, Context and Existing Views: Located on the northeastern lower slopes of Watchman's Brae, this property sits at 350 m AOD above Kirkhope Cleuch Burn and is orientated in an east to west direction with the front of the property facing Daer Reservoir (east). There is one outbuilding to the rear (west) of the property with some limited vegetation situated in the front garden and along the boundary of the driveway of the property to the north. Access to the property is from a minor road which follows the western side of Daer Reservoir and joins the A702 road via the Daer Water road.</p> <p>Generally, this property sits within an open landscape contained around the Daer Reservoir. The principal view from the property is to the east across the foreground Kirkhope Cleuch Burn, Daer Reservoir and beyond to High Knowes and Earlside located on the eastern side of the reservoir. Views from the property in other directions are limited by the rising landform of Watchman's Brae to the southwest, and forested Hitteril Hill to the north. To the northeast, oblique views of the operational Clyde Wind Farm can partially be seen of turbines located on Wintercleuch Fell.</p> <p>During hours of darkness, artificial lighting sources are limited to a few properties located on the western side of the reservoir and from occasional traffic on the road.</p> <p>Changes to Views and Visual Amenity: The proposed turbines would form close features viewed above Kirkhope Cleuch Burn, Watchman Brae and Catlaw Dod and prominent in westerly views with some screening of the lower part of the towers and turbines by intervening landform. This would be seen from rear views from inside the property, when standing outside in the garden, arriving and leaving the property.</p> <p>Magnitude of change is judged as High.</p>	

Table TA4.7.11: Property 13: Kirkhopecleugh Cottage (Financially involved in Proposed Development)	
After dark, the tower lights on Turbines T1, T7, T9 and T11 would be visible over the dark landscape to the west, albeit with greatly reduced brightness due to the angle of view, which would be below -4° at this location, although there may be some light seen and some reflection off the backs of passing blades in certain wind directions.	
Effect on Residential Visual Amenity: The turbines would be visible from the rear of the property to the west, garden and drive leading from the access road but separated from the property by distance (1.3 km) and some partial screening by landform. Overall, it is judged that the RVAA threshold would not be engaged.	

Table TA4.7.12: Property 14: Crookburn (Financially involved in Proposed Development)	
OS Grid Reference: 296598, 605638	Figure 4.20.14a, b and c Property 14: Crookburn, (EIAR Volume 3b)
Distance to nearest turbine: 0.9 m (Turbine 11)	Primary outlook: Northwest to southeast
Number of turbines theoretically visible: 6 (5 towers, hubs and blades, the hub and blades of 1)	Direction of view to the nearest turbine: Northwest
Description of Property, Context and Existing Views: Crookburn is situated on the southwestern edge of Daer Reservoir and comprises 1 storey property with farm outbuildings. Access to the property is from a minor road which follows the western side of Daer Reservoir and joins the A702 road via the Daer Water road. Located on the lower slopes of Nether Law at 350 m AOD, the property is orientated in a northwest to southeast direction. Farm outbuildings are located to the southeast and south of the property. The surrounding landscape is a mixture of moorland and rough pasture, and visibility is open but limited by the rising landform of Nether Law to the east. To the north, the landscape opens up onto the western edge of Daer Reservoir towards Hitteril Hill. To the south, visibility is restricted by farm outbuildings. During hours of darkness, artificial lighting sources are limited to a few properties located on the western side of the reservoir and from occasional traffic on the road.	
Changes to Views and Visual Amenity: Some of the proposed turbines would be viewed above Watchman Brae and Catlaw Dod with Turbines 9, 10, 11, and 12 prominent in westerly views with limited screening of the lower section of towers. Magnitude of change is judged as High . After dark, the tower lights on Turbines T8, T9, T11 and T13 would be visible over the dark landscape to the northwest and west, albeit with greatly reduced brightness due to the angle of view, which would be below -4° at this location, although there may be some light seen and some reflection off the backs of passing blades in certain wind directions.	
Effect on Residential Visual Amenity: In westerly views, the turbines would be visible from oblique angles at the front of the property, the farmyard, and from the access track. The turbines would be large and prominent in some of these views, but not overwhelming. Overall, it is judged that the RVAA threshold would not be engaged.	

Table TA4.7.13: Property 15: Kirkhope Farm (Financially involved in Proposed Development)	
OS Grid Reference: 296321, 605455	Figure 4.20.15a, b and c Property 15: Kirkhope Farm, (EIAR Volume 3b)
Distance to nearest turbine: 0.8 km (Turbine 11)	Primary outlook: East to north
Number of turbines theoretically visible: 5 (5 towers, hubs and blades)	Direction of view to the nearest turbine: West
Description of Property, Context and Existing Views: Comprises 1 storey house and farm outbuildings located at the southern end of Daer Reservoir. Access to the property is from a minor road which follows the western side of Daer Reservoir and joins the A702 road via the Daer Water road.	

Table TA4.7.13: Property 15: Kirkhope Farm (Financially involved in Proposed Development)	
Similar to Property 14, but further west, the house is orientated in a northwest to southeast direction. Farm outbuildings are located to the south and east of the property. The surrounding landscape is a mixture of moorland and rough pasture, and visibility is open but limited by the rising landform of Nether Law to the east. To the north, the landscape opens up onto the western edge of Daer Reservoir towards Hitteril Hill. To the south, visibility is restricted by farm outbuildings. The views from the property are generally open although outbuildings to the south and east, combined with rising landform to the west, limit the extent. To the northeast, open views across Daer Reservoir can be experienced backclothed by the surrounding hillsides and includes a small number of Clyde Wind Farm turbines. During hours of darkness, artificial lighting sources are limited to a few properties located on the western side of the reservoir and from occasional traffic on the road.	
Changes to Views and Visual Amenity: The proposed turbines would form close features viewed above Watchman Brae and Catlaw Dod where Turbines 9, 10, 11, and 12 would be prominent in westerly views with some screening of the lower part of the turbine tower and Turbines 8 and 13 by intervening landform. This would be seen in oblique views, potentially also from inside the property, when standing outside in the yard, arriving and leaving the property. Magnitude of change is judged as High . After dark, the tower lights on Turbines T9, T11, and T13 would be visible over the dark landscape to the west, albeit with greatly reduced brightness due to the angle of view, which would be below -4° at this location, although there may be some light seen and some reflection off the backs of passing blades in certain wind directions.	
Effect on Residential Visual Amenity: The turbines would be visible from the rear of the property to the west, garden and drive leading from the access road. The primary view direction from the property would not be affected. Overall, it is judged that the RVAA threshold would not be engaged.	

4.7.5 Summary of Findings

- 4.7.5.1 There are 15 properties within 2.5 km of the proposed turbine locations which have been considered as part of the RVAA. The majority of these residential properties are located to the east of the Site near Daer Water and adjacent to the Daer Water road, linking the A702 with Daer Reservoir to the north of the Site. A limited number of properties are located to the west of the Site.
- 4.7.5.2 A total of three properties (Property 13: Kirkhopecleugh Cottage, Property 14: Crookburn and Property 15: Kirkhope Farm) are financially involved with the Proposed Development. They would have a higher threshold in relation to the engagement of the Residential Amenity Threshold.
- 4.7.5.3 As has been set out in the RVAA guidance document, assessing the effects of the Proposed Development on the visual amenity of residential properties is aimed at assisting the decision maker in forming a view as to whether or not the change in visual amenity is potentially so great that 'public' interest may come into play. Weighing this public interest in the balance is a planning matter. Whilst there is no right to a view, it is not in the public interest to create conditions where the effect on Residential Visual Amenity is so great that the property becomes an undesirable, but not necessarily uninhabitable place to live.
- 4.7.5.4 Overall, the assessment found that whilst there would be 15 properties judged to have a **High** magnitude of change, to the views experienced, no properties were judged to receive effects on visual aspects of residential amenity such that they would reach what in current guidance is called a '*Residential Visual Amenity Threshold*'. This is due to a combination of elements including distance from the proposed turbines, influence of screening by intervening landform, and orientation of view from the properties involved.