

# Chapter 7: Landscape and Visual

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## 7. Landscape and Visual

### 7.1 Executive Summary

- 7.1.1 The Landscape and Visual Impact Assessment (LVIA) considers potential effects that the Proposed Development would have on the landscape, views and visual amenity of the local environment. A Zone of Theoretical Visibility (ZTV) map was used to identify receptors likely to be affected by views of the Proposed Development, including people at local settlements, on roads around the study area (focussed on approximately 25 km from the site), and those on local paths. Visual effects were identified for a number of selected viewpoints representative of views seen by people in the surrounding area. Effects on landscape character were considered using Landscape Character Types (LCTs) identified by NatureScot as units of landscape with consistency of character.
- 7.1.2 The Proposed Development would consist of seven turbines of up to 200 m to blade tip, located on the ridge to the north of the Upper Tweed Valley north-west of Tweedsmuir, plus ground level structures, a battery energy storage system (BESS) and substation set close to the A701.
- 7.1.3 The topography of the Southern Upland LCT hills around the site would influence visibility of the Proposed Development. It would be visible from the site ridge and from the valleys either side: the Upper Tweed Valley and the Kingledoors Burn Valley. The ridge that runs to the north-west and west of the site, which carries Glenkerie and Clyde group turbines, is higher than the ridge of the site, and would contain most views in that direction, with limited visibility of tips only from high ground beyond. It is noted that views from the west would be through Clyde group turbines. There would be no significant effects beyond that ridge to the north-west, west or south-west, except at Culter Fell from where the Proposed Development may appear to be forming part of a series of wind farms. Hills to the east and south-east would limit visibility to within approximately 11 km. There is therefore a remarkably limited area, effectively the eastern half of an area within approximately 10-11 km of the Proposed Development, that would be influenced by it. Within that area, the Proposed Development would be relatively nearby, and effects would generally be significant. Key view experiences include views along the Upper Tweed Valley such as from the A701 and from Tweedsmuir settlement, and from tributary valleys that have framed views towards the site. From elevated locations within this localised area, the Proposed Development would be seen in the context of Glenkerie and Clyde group and Whitelaw Brae turbines (Whitelaw Brae is currently under construction) and the panoramic views that also include wind energy development further afield.
- 7.1.4 Significant effects are identified for visual receptors within approximately 11 km, and landscape receptors within approximately 6 km. Given the distribution of effects within that area, these are considered to be limited and localised for a development of this scale in this type of landscape.

### 7.2 Introduction

- 7.2.1 This chapter of the Environmental Impact Assessment Report (EIA Report) identifies and assesses the potential effects that the proposed Oliver Forest Wind Farm (hereafter referred to as the 'Proposed Development') would have on the landscape, views and visual amenity of the local environment.
- 7.2.2 Landscape and visual assessments are separate, though related processes. Effects on the landscape as a resource may be caused by changes to the constituent elements of the landscape, its aesthetic or perceptual qualities and character. Visual effects as experienced by people may be caused by changes in the appearance of the landscape (views) resulting from the Proposed Development.
- 7.2.3 This chapter sets out the baseline for the Landscape and Visual Impact Assessment (LVIA) but assesses landscape and visual effects separately. The reporting of assessments focuses on likely significant effects that may arise from the Proposed Development, and those that are informative to the decision maker.
- 7.2.4 This chapter is supported by the following Technical Appendices:
- Technical Appendix 7.1: Methodology for the Landscape and Visual and Cumulative Assessments.
  - Technical Appendix 7.2: Landscape Character Assessment.
  - Technical Appendix 7.3: Visual Impact Assessment.
  - Technical Appendix 7.4: Cumulative Assessment.
  - Technical Appendix 7.5: Aviation Lighting Assessment.
  - Technical Appendix 7.6: Designated Landscapes.
  - Technical Appendix 7.7: Residential Visual Amenity Assessment.

- 7.2.5 This chapter has been prepared by MVGLA, led by Beatrice Dower, Chartered Member of the Landscape Institute (CMLI), Director of MVGLA Ltd, who has over 22 years' experience of LVIA.

### 7.3 Legislation, Policy and Guidelines

- 7.3.1 A summary of the policy and guidance relevant to this chapter is provided in the following sections. Chapter 4 provides an overview of the relevant planning policy position in full.

#### National Policy

- 7.3.2 The National Planning Framework 4 (NPF4) is the national development plan for Scotland. The overarching themes of NPF4 are climate change and the nature crisis. Key policies that are relevant to landscape and visual matters relating to the Proposed Development are Policy 4, Natural Places and Policy 11, Support for all forms of renewable technologies, an overview of which is set out in Chapter 4.

#### Local Policy

- 7.3.3 The Proposed Development would be located within the Scottish Borders Council (SBC) administrative area and the study area for the LVIA (45 km radius) extends westwards into the administrative areas of South Lanarkshire and Dumfries and Galloway Councils.

- 7.3.4 The relevant local policies for the Proposed Development are within the Scottish Borders Council Local Development Plan 2016. Key policies relating to the Proposed Development are listed below.

#### LDP Policy ED9: Renewable Energy Development

- 7.3.5 This policy is generally supportive of renewable energy proposals but refers to the principles set out in the Scottish Planning Policy (2014) which is now replaced by NPF4.

#### LDP Policy HD3 Protection of Residential Amenity

- 7.3.6 This policy notes that:

*“Development that is judged to have an adverse impact on the amenity of existing or proposed residential areas will not be permitted.”*

- 7.3.7 A Residential Visual Amenity Assessment (RVAA) is provided (Technical Appendix 7.7) which addresses potential impacts on residents.

#### LDP Policy EP4 National Scenic Areas

- 7.3.8 This policy, relevant to the Upper Tweeddale NSA (located within 25 km of the Proposed Development site), notes that: *“Development that may affect National Scenic Areas will only be permitted where:*

*The objectives of designation and the overall landscape value of the site and its surrounds will not be compromised, or*

*Any significant adverse effects on the qualities for which the site or its surrounds have been designated are clearly outweighed by social or economic benefits of national importance.”*

#### LDP Policy EP10 Gardens and Designed Landscapes

- 7.3.9 This policy, relevant to the Gardens and Designed Landscapes (GDLs) located within 25 km of the Proposed Development, notes that: *“The Council will support development that safeguards or enhances the Landscape Features, character or setting of:*

- a) *sites listed in the Inventory of Gardens and Designed Landscapes, or*
- b) *sites included in historic gardens and designed landscapes records.”*

#### LDP Policy EP13 Trees, Woodlands and Hedgerows

- 7.3.10 This policy, relevant to changes to the landscape fabric of the Proposed Development site, notes that: *“Any development that may impact on the woodland resource should:*

- a) *aim to minimise adverse impacts on the biodiversity value of the woodland resource, including its environmental quality, ecological status and visibility; and*
- b) *where there is unavoidable loss of woodland resource, ensure appropriate replacement planting, where possible, within the area of the Scottish Borders; and*
- c) *adhere to any planning agreement sought to enhance the woodland resource.”*

Scottish Borders Council Supplementary Guidance, Renewable Energy, 2018

- 7.3.11 This document provided a spatial framework for wind energy development and a “Landscape Capacity Study” prepared in 2016 in line with the policy framework in Scottish Planning Policy 2014 (now superseded) and NatureScot advice at that time. NatureScot now advise that wind energy studies should not be referred to as ‘capacity studies’ as no local or regional targets are available on which to determine the ‘capacity’ for development and that landscape sensitivity assessments should reflect their purpose, which is to provide a strategic assessment of relative landscape and visual sensitivity to certain defined forms of development. The status of this guidance is further addressed in the Planning Statement. It is relevant to note that:
- The Proposed Development site is predominantly within an area with potential for wind farm development (Figure 6: Spatial Framework);
  - Paragraph 1.5 states that *“It is emphasised that this is a strategic level landscape and visual study, providing context for considering the capacity for, and cumulative effects of, existing and potential future wind turbines developments in Scottish Borders. No site specific conclusions should be drawn from it in relation to current, proposed or future wind energy schemes.”*

**Guidance**

- 7.3.12 The methodology for the LVIA follows guidance set out in the Guidelines for Landscape and Visual Impact Assessment (LI and IEMA, 2013, known as GLVIA3). Guidance sources for different aspects of LVIA are set out in the Methodology (Technical Appendix 7.1).

**7.4 Consultation**

- 7.4.1 Details of who has been consulted and what information has been provided is set out in Table 7.1.

**Table 7.1 – Consultation Reponses**

Consultee and Date	Consultation Response	Applicant Response
Scottish Borders Council Scoping Response (via ECU)	<ul style="list-style-type: none"> <li>– Request for comparative ZTV comparing visibility of turbines with 150 m and 250 m tip heights.</li> <li>– The proposed methodology is acceptable.</li> <li>– Photography and visualisation preparation techniques are acceptable.</li> <li>– The wider 45 km study area and detailed 25 km study area are acceptable.</li> <li>– Visual effects assessment for local paths up 10 km radius is required.</li> <li>– The viewpoints proposed are acceptable.</li> <li>– The approach to cumulative assessment is acceptable. Projects at scoping stage within 15-20 km of the proposed wind farm should be included.</li> <li>– RVAA study area of 3km radius requested.</li> <li>– Further 2 night time viewpoints requested in addition to VPs 1,8 and 11), namely: VP3 (A701) and VP9 (Fruid Dam).</li> </ul>	<ul style="list-style-type: none"> <li>– It was discovered that the ZTV submitted as part of the Scoping Report had assumed a tip height of 200 m rather than 250 m. This was subsequently corrected by submission of a revised ZTV calculated to 250 m tip height to ECU in February 2023 (see additional response below from SBC on revised ZTV). Tip heights subsequently reduced to 200 m.</li> <li>– Noted</li> <li>– Noted</li> <li>– Noted</li> <li>– Visual effects have been assessed for local paths within 10 km.</li> <li>– Noted</li> <li>– Noted. Scoping sites are included on Figure 7.9, but detailed assessment of scoping scenario was scoped out (see Technical Appendix 7.4).</li> <li>– RVAA has included properties within a study area of 2.5 km, as considered proportionate and sufficient to catch all properties with a potential to exceed the Residential Visual Amenity Threshold,</li> <li>– VP3 and VP9 are included as dusk montages.</li> </ul>
Scottish Borders Council Feb 2023	<ul style="list-style-type: none"> <li>– Recommend a sequential assessment of A701.</li> </ul>	<ul style="list-style-type: none"> <li>– Sequential assessment of A701 provided through route assessment and series of viewpoints</li> </ul>
Scottish Borders Council March 2023 (following circulation of corrected scoping ZTV)	<ul style="list-style-type: none"> <li>– SBC reviewed the amended ZTV (to 250m tips) and tip height comparisons and are of the view that visual effects</li> </ul>	<ul style="list-style-type: none"> <li>– Noted that SBC consider the effects to be ‘fairly localised’ in consideration of the ZTV calculated to 250 m to blade tip.</li> </ul>

Consultee and Date	Consultation Response	Applicant Response
	<p>are “fairly localised (NPF4) and mainly from elevated locations, with limited visibility from roads and settlements outwith the 10km radius.”</p> <p>– Requested a viewpoint on Pykestone Hill as it is on southern boundary of NSA and there are some Rights of Way crossing the summit. As alternative to Broughton Heights</p>	<p>– Pykestone Hill included as VP20, instead of Broughton Heights</p>
NatureScot Scoping Repsonse (Jan 2023)	<p>– Requested Trahenna Hill instead of Broughton Heights</p> <p>– Assessment of special qualities of NSA requested</p> <p>– Scope of Wild Land Assessment to be discussed</p>	<p>– Trahenna Hill included as VP15</p> <p>– NSA special qualities considered in Technical Appendix 7.6</p> <p>– Following NPF4, given that the site is not within wild land, a wild land assessment is not required.</p>
NatureScot (August 2023)	<p>– Confirmed no requirement for a Wild Land Assessment to be carried out in relation to the Talla - Hart Fell WLA, in line with the requirements of NPF4</p>	<p>– Noted</p>
NatureScot Response to final viewpoint list (July 2023)	<p>– Accepted that points raised at scoping were being addressed</p>	<p>– Noted</p>
Dumfries and Galloway Council Scoping response (Feb 2023)	<p>– Sufficient set back from sensitive DGC receptors to avoid significant effects;</p> <p>– Acknowledgement of the existing pattern of development within in the wind farm would fit;</p> <p>– The three viewpoints selected for scoping within the DGC area are considered sufficient to demonstrate landscape and visual effects; and</p> <p>– Aviation lighting is requested from Hart Fell (WLA) but recognition that this may not be an acceptable location. Lowther Hill suggested as alternative for nighttime visualisation.</p>	<p>– Noted</p> <p>– Noted</p> <p>– The three viewpoints include Hart Fell VP13, Chalk Rig Edge VP14, Lowther Hill VP17.</p> <p>– Dusk photography has not been taken for aviation lighting visualisations for off-road locations due to H&amp;S concerns. Aviation lighting assessment is set out in Technical Appendix 7.5.</p>
Dumfries and Galloway Council Response to final viewpoint list	<p>– Accepted, no further comments</p>	<p>– Noted</p>
South Lanarkshire Council	<p>No response to scoping</p>	<p>– N/A</p>

## 7.5 Assessment Methodology and Significance Criteria

7.5.1 The assessment methodology is set out in Technical Appendix 7.1. It should be noted that:

- The methodology follows guidance set out in the GLVIA3 and other guidance documents listed in the Technical Appendix.
- Effects considered to be significant for the purposes of the EIA Regulations are those classified as being 'major' or 'moderate'.
- Using a precautionary approach, and although people may consider the appearance of wind farms to be positive for a variety of reasons, all likely landscape and visual effects are identified as adverse in this assessment.

### Scope of the Assessment

7.5.2 As stated in Technical Appendix 7.1, the LVIA considers effects during construction and operation, on landscape character and views including effects on dusk views of aviation lighting; cumulative effects (additional and combined) with potential future wind farms, and the implications of these landscape and visual effects on designated landscapes.

7.5.3 Technical Appendix 7.1 also sets out that the assessment considers potential effects across the wider study area, but that reporting is focused on effects that are significant or pertinent to the meaningful discussion of landscape and visual effects of the Proposed Development.

## 7.6 Baseline Conditions

### The Proposed Development Site

- 7.6.1 This site is located within the Southern Upland hills, immediately north of the A701 at Tweedsmuir, approximately 14 km south of Broughton and approximately 19 km north-west of Moffat in the Scottish Borders. The site is situated within an area of commercial forestry, on the southern side of the ridge between Weird Law, Ewelaw Rig and Upper Oliver Dod, which form part of the northern slopes of the Tweed Valley at Tweedsmuir. The site descends to the River Tweed on the south side of the A701. Elevation within the site decreases steeply from the north-east peak of Upper Oliver Dod (approximately 490 m AOD) to the River Tweed at approximately 260 m AOD.
- 7.6.2 Several watercourses run through the site, and a forestry access road which could be used for recreational use traverses the site from the A701, near Tweedsmuir, to the summit of Upper Oliver Dod. The western spur of this access track wraps around the northern slope of Weird Law before descending to re-join the A701 road, 2 km south of Tweedsmuir.

### The Surrounding Study Area

- 7.6.3 The initial study area of 45 km radius from the outermost turbines in all directions (see Figure 7.1) extends from the Edinburgh bypass to Dumfries, and New Cumnock to Melrose. This extensive area was reduced to enable a more focussed assessment, of 15 km from the Proposed Development for landscape effects, and 25 km from the Proposed Development for visual effects. The 25 km area extends from Peebles and Lanark to the Lowther Hills and the Ettrick Valley, and includes lowland, valley and upland landscapes. Visibility of tall features such as turbines is greatly influenced by topography, as illustrated by the Zone of Theoretical Visibility (ZTV, see Figure 7.1 and subsequent figures).

### Existing Wind Farms

- 7.6.4 There are several existing wind farms across the study area, which are set out in Table 7.2 and shown on Figure 7.9. Whitelaw Brae Wind Farm is currently under construction. These wind farms, as existing features, are included in the baseline throughout the LVIA and form the baseline described as the 'Existing Scenario'.

**Table 7.2 – Existing Wind Farms within 25 km**

Wind Farm	Number of turbines	Blade tip height (m)	Approximate distance and direction
Glenkerie	11	118	2.4 km north
Clyde Extension	54	142	2.5 km west
Whitelaw Brae (under construction)	14	133.5	3.1 km south
Clyde	152	125	6.8 km west
Middle Muir	15	152	20.6 km west
Andershaw	11	250	22.1 km west
Burnhouse	2	64	24 km north-west
Harestanes	68	121.5	24.5 km south-west

- 7.6.5 It is noted that since the cumulative data collection cut-off at the end of February 2024, and although construction has commenced for Whitelaw Brae Wind Farm, no turbines are yet present on the site. Given that their construction will progress, the turbines have been added to the photomontages presented in Figures 7.13 onwards.

### Landscape Baseline

- 7.6.6 The study area includes a range of landscapes from lowland valley farmland to rounded open hills and plateaux; slopes with large coniferous plantations; and narrow valleys.
- 7.6.7 Landscape character is defined as a distinct, recognisable and consistent pattern of elements in the landscape that makes one tract of land different from another. Landscape character types (LCTs) refer to distinct tracts of land that are relatively homogenous in character. LCTs are generic in nature and can occur more than once in different parts of the country.
- 7.6.8 The LCTs across the study area are identified in the Scottish Landscape Character data (updated in 2019 by Scottish Natural Heritage (now NatureScot)), as shown on Figure 7.4. The Tweed Valley south-east of the site is 'Upland Valley with Pastoral Floor' (LCT113); with the hills of the site and much of its surroundings of Southern Uplands (LCT95 in the Scottish Borders area, LCT217 within South Lanarkshire, and LCT177 in Dumfries and Galloway). Adjacent LCTs reflect changes in topography and land use.



**Designated Landscapes**

7.6.9 The site is located within the Tweedsmuir Uplands Special Landscape Area<sup>1</sup>. Locally and nationally designated landscapes in the surrounding area are listed in Table 7.3 and shown on Figure 7.5.

**Table 7.3 – Designated Landscapes within 25 km of the site**

Designated Landscape Name	Approximate Distance and Direction from the Proposed Development
Tweedsmuir Uplands SLA	Contains the site
Upper Clyde Valley and Tinto SLA	2 km north-west
Upper Tweeddale National Scenic Area (NSA)	6 km north-east
Moffat Hills SLA	10 km south
Dawyck GDL	12 km north-east
Leadhills and Lowther Hills SLA	14 km south-west
Stobo Castle GDL	14 km north-east
Pentland Hills and Black Mount SLA	17 km north
The Glen GDL	20 km north-east
Tweed Valley SLA	20 km north-east
Douglas Valley SLA	20 km south-west
Thornhill Uplands SLA	21 km south-west
Pentland Hills SLA	23 km north
Middle Clyde SLA	24 km north-west
Kailzie GDL	24 km north-east
Falls of Clyde GDL	24km north-west

7.6.10 In addition to the designated landscapes listed above, NatureScot has identified Wild Land Areas (WLAs) across Scotland. The Talla Hart Fell Wild Land Area lies approximately 6 km to the south-east of the Proposed Development. Based on the consultation response from NatureScot (August 2023) and following NPF4, assessment of effects on WLAs is not required if the Proposed Development is not within wild land.

**Visual Amenity Baseline**

7.6.11 The landscape around the study area changes from lowland farmland; to moorland plateaux; to hills and valleys. Visibility around the study area is reflective of the topography and woodland cover, with views from many locations limited or framed by adjacent slopes and woodlands, yet views from hill tops are panoramic and long-ranging. There are therefore divergent viewing experiences from different parts of the study area.

7.6.12 Further detail regarding the existing views from particular locations is contained in the visual assessment, in Technical Appendix 7.3.

**7.7 Standard Mitigation**

7.7.1 Mitigation of landscape and visual effects has been undertaken through design modifications and input to the design process. The design evolution is set out in Chapter 2 and the accompanying Design and Access Statement. All mitigation is therefore embedded within the final design for the Proposed Development.

**7.8 Receptors Brought Forward for Assessment**

7.8.1 The LVIA considers the landscape and visual receptors listed below. The areas of search for each receptor are set out, followed by individual receptors scoped into the assessment. Detailed assessment of effects on receptors, and justification for receptors not considered in detail, is set out in the relevant Technical Appendices 7.2 to 7.7.

- LCTs within approximately 15 km radius.
  - LCT95 Southern Uplands – Borders.
  - LCT113 Upland Valley with Pastoral Floor.
- Designated landscapes within approximately 20 km radius.
  - Upper Tweeddale National Scenic Area (NSA).
  - Tweedsmuir Uplands Special Landscape Area (SLA).

<sup>1</sup> NatureScot advises that all local designations can be referred to as Local Landscape Areas. The term Special Landscape Areas is retained here for consistency with SBC terminology.

- Selected viewpoints within approximately 25 km: 20 viewpoints, including five viewpoints for assessment of aviation lighting effects in detail.
- Settlements within approximately 10 km.
  - Tweedsmuir.
- Routes within approximately 25 km, and paths to 10 km include:
  - the A701 along the Tweed Valley, from Moffat to Blyth Bridge;
  - the minor road from Tweedsmuir to the Talla Reservoir and over Talla Linn to the Megget Reservoir;
  - the minor road from Tweedsmuir to the Fruid Reservoir;
  - Core Path Chapelgill Hill to Glenwhappen Rig
  - Core Path/ROW from Hearthstane to Broad Law
  - Core Path/ROW along Fruid Reservoir to Spout Craig
  - Core Path/ROW Kingledores settlement to Drumelzier
  - ROW Thief's Road, Dollar Law
  - Wider network path over Culter Fell
- RVAA: Residential properties within approximately 2.5 km.

## 7.9 Potential Effects

7.9.1 This section of the chapter provides summary information on the assessment of potential effects of the Proposed Development, the detail of which is contained in the appendices to this chapter (Technical Appendices 7.2 to 7.7).

7.9.2 The LVIA includes existing wind farms and those under construction as part of the baseline. This is later referred to as the Existing Scenario in the cumulative assessment, in which increasingly speculative cumulative scenarios (with consented, application and scoping schemes) are considered separately.

### The Proposed Development

7.9.3 The Proposed Development is described in full in Chapter 3. The elements with the potential to affect the landscape and visual amenity of the study area are:

- turbines – seven turbines of up to 200 m to blade tip height with internal transformer housing;
- battery storage units and compound;
- on-site access tracks and hardstanding areas;
- sub-station/ site control building;
- aviation lighting, required by law, comprising a 2000 candela (cd) steady red light on top of the nacelle of three turbines (Turbine 1, Turbine 3 and Turbine 6 in a reduced lighting scheme as agreed by the CAA). The lights will be dimmed to 200 cd in conditions of good visibility (over 5 km). They will be designed to have a horizontal beam with decreasing intensity/brightness below the horizontal until they are effectively screened at about -4° (see Technical Appendix 7.5);
- construction activities relating to the construction of the above elements and decommissioning at the end of the operational phase.

7.9.4 The Proposed Development would have construction, operation and decommissioning phases. The operational life of the Proposed Development would be 50 years, and effects are considered to be long term, and although ultimately reversible, the Proposed Development has been assessed as if it is to be permanent.

### Construction and Decommissioning Effects

7.9.5 During construction, vehicle movements and other activities associated with the construction of access tracks, borrow pits, compounds, BESS, substation, the import of materials, turbine installation, and reinstatement works at the end of the construction phase would have direct effects on the Proposed Development site. As set out in Technical Appendix 7.2, the effect of construction works on the site, involving ground disturbances and activity is judged to be significant (**moderate**) for the duration of the construction period.



- 7.9.6 Effects during decommissioning will be less than those during the construction phase and will reduce during the works to not significant (**negligible to none**) upon completion of decommissioning.

#### Landscape Assessment

- 7.9.7 The landscape assessment for the Existing Scenario (which includes existing wind farms and those under construction) is set out in Technical Appendix 7.2 and considers the changes to the character of the surrounding area that would result from the Proposed Development during the operational phase.
- 7.9.8 Key findings of the landscape assessment in Technical Appendix 7.2 are set out as follows.
- Effects during operation are identified as being significant out to approximately 6 km to the north-east (LCT 113 only) and would not be as distant in other directions. These include:
    - significant (**major**) indirect effects on the Upper Tweed unit of LCT113 Upland Valley with Pastoral Floor within approximately 4 km, from Hearthstane to the upper (southern) edge of the LCT near Menzion; and significant (**moderate**) indirect effects from Hearthstane northwards to Stanhope (within approximately 6 km); and
    - significant (**moderate**) direct and indirect effects on the character of the LCT95 Southern Uplands – Borders, over the ridge that hosts the site. This ridge is narrow but extends to 3 km to the north-east, and towards Clyde to the south-west. Significant effects would be limited to within 3 km.
  - For other LCTs around the study area, significant effects would not occur, due largely to intervening distance, landforms and vegetation giving the sense of the Proposed Development being set away from the immediate landscape. The Proposed Development would be introduced as background features to most LCTs, at a distance and without altering local character.

#### Visual Assessment

- 7.9.9 The visual assessment for the Existing Scenario considers the effects of changes to the views that people would see from the surrounding area as a result of the introduction of the Proposed Development to the existing landscape. The assessment was carried out using the methodology set out in Technical Appendix 7.1 and is set out in Technical Appendix 7.3. Accompanying graphics include baseline figures and the ZTVs (Figures 7.1-7.12) and visualisations (Figures 7.13-7.32).

#### Analysis of the Zone of Theoretical Visibility of the Turbines

- 7.9.10 The ZTV (shown on Figure 7.1 and subsequent figures) is an analysis of the theoretical visibility of the proposed turbines based on a 'bare earth' model and as such represents the maximum visibility of the turbines. The actual visibility is expected to be less in some parts of the study area due to screening afforded by vegetation/woodland and buildings.
- 7.9.11 The location of the site on a forested ridge within the Southern Uplands would give rise to theoretical visibility of the Proposed Development across the closest hills, but more restricted visibility would occur within valleys and beyond ridges of hills. The north-east to south-west grain of the Tweed Valley, with perpendicular valleys to the south-east creates a constrained ZTV in this area. Beyond immediate hills and valleys, theoretical visibility would be more limited by topographic screening, limited to high hilltops and slopes only.
- 7.9.12 The ZTV illustrates that theoretical visibility of the turbines is generally curtailed by the uplands around the site such that visibility is largely contained within 3-5 km except from higher ground or where views between hills are possible. Theoretical visibility is generally limited to the Upper Tweed Valley and tributary valleys to the south-east, i.e. the Fruid and Talla Valleys; the Kingledoors Burn Valley to the north-west, and high ground further away. The main points regarding theoretical visibility are noted as follows:
- The Proposed Development would be visible from the immediate surroundings of the site including the ridge it occupies, to approximately 2-3 km away;
  - the Upper Tweed Valley to the south and east of the site would have theoretical visibility of the Proposed Development (appearing on the hill ridge above or along the valley), seen from south of Hearthstane to south of Glenbreck from the valley floor/A701;
  - the north-west facing flanks of the Upper Tweed Valley (on its eastern side) would have visibility of the Proposed Development on the hill ridge opposite (within approximately 4 km);
  - the Proposed Development would be visible along tributary valleys to the Tweed including the Fruid and Talla Water Valleys;
  - the Proposed Development would be seen from within the Kingledoors Burn Valley immediately to the north, although not from around Kingledores settlement where it meets the Tweed;

- there would be very limited to no visibility from valley locations beyond the Tweed Valley south of Stanhope and no visibility from other tributary valleys to the Tweed;
  - high tops and ridges within 6-10 km to the east of the site would have views of the Proposed Development, such as from Hart Fell, Broad Law, Pikestone Hill and Dollar Law, albeit that Whitelaw Brae may be closer in views from the south-east;
  - further north, elevated locations would have patchy visibility of the Proposed Development, including from Trahenna Hill and Broughton Heights; and
  - high tops in other directions to the north-west, west and south all also have theoretical visibility, but the Proposed Development would be seen beyond the Clyde group and/or Whitelaw Brae.
- 7.9.13 The ZTV to hub height (Figure 7.3) indicates that within approximately 10 km, the hubs would be visible across the same areas as the tip ZTV, but with some reduction around the edges. The greatest difference in visibility would be across more distant parts of the study area, where intervening hills mean that it is only tips of the proposed turbines that would be visible, and hubs would not be visible (compare Figures 7.3 and 7.1).
- 7.9.14 It is noted that the Study Area includes many forested landscapes and wooded valleys with frequent shelterbelts, roadside vegetation, and plantations. Actual visibility of the Proposed Development would therefore be more limited than indicated by the ZTV. This is explored through the visual assessment (Technical Appendix 7.3).

#### Visual Effects

- 7.9.15 Viewers within the study area who would be affected by the changes in views and visual amenity include local residents, tourists, walkers and recreational route users, and road users. 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 assessments are set out in detail in Technical Appendix 7.3 and summarised below.
- 7.9.16 The Proposed Development would be located to the east of the existing Clyde group, and south of Glenkerie Wind Farm. Given the presence of these existing turbines (albeit smaller) and rising land in that direction which limits the ZTV at lower elevations, there would be limited significant visual effects from the west or north. Likewise to the south, Whitelaw Brae and Clyde group are closer to the viewer such that significant effects are limited to the south.

#### *Summary of Findings of the Visual Assessment*

- 7.9.17 The Proposed Development would be seven tall turbines on the ridge to the north of the Upper Tweed Valley around Tweedsmuir. Access tracks and ground level structures will also be present on the hill slopes, and the Proposed Development includes BESS units at the substation compound, to be located on lower slopes to the south of the site. The proposed turbines would be visible from the Tweed Valley from around Stanhope southwards, although parts of the valley are wooded so that actual visibility would be reduced. The proposed turbines would be visible on the horizon to the west of the valley, generally oblique in views, and closest to the A701 as it passes the site. From the closest sections, the substation and BESS facilities would also be visible set back approximately 100 m from the A701 above the site entrance.
- 7.9.18 The ZTV illustrates the containment of visibility by topography in the surroundings to the site.
- The ridge to the north-west and west of the site, which carries Glenkerie Wind Farm to Clyde group turbines, is higher than the ridge of the site, and would contain most views in that direction. Comparison of Figures 7.1 and 7.3 illustrates that what visibility there is to the west of that ridge is limited to tips only, and it is noted that views are through the Clyde group. As such, there would be no likely significant effects beyond that ridge to the north-west, west or south-west, except that a significant (moderate) effect is identified at Culter Fell (VP16) due to the potential for the Proposed Development to give the impression of the pattern of development extending along the ridges from Clyde group to Glenkerie Wind Farm from this high sensitivity viewpoint.
  - Hills to the east and south-east limit visibility to approximately 11 km such that there is no visibility (of hubs or tips) beyond that distance.
- 7.9.19 There is therefore a limited area, effectively the eastern half of an area within approximately 10-11 km of the Proposed Development that would be influenced by it. Within that area the Proposed Development, where visible, would appear to be relatively nearby, and effects would potentially be significant. It is noted that the presence of Clyde group, Whitelaw Brae and Glenkerie mean that wind energy is present in this area.
- Located on the ridge, the Proposed Development would be seen above its immediate valleys to north-west (Kingledoors Burn) and south-east (River Tweed). From the Tweed Valley, experienced

from the A701, the winding nature of the valley would obscure some views from sections within this area, and significant effects on the route are not continuous. From Tweedsmuir, the proposed turbines would be tall structures on the hills to the west, obliquely opposite the main parts of the settlement, with significant visual effects where local vegetation and buildings do not screen views.

- From the tributary valleys of the Talla and Fruid Waters, the Proposed Development would be seen framed along these valleys in views towards the Tweed Valley and the ridge beyond it. In these views it is noted that existing wind farms are visible: Clyde group along the Talla Valley, and Glenkerie Wind Farm along the Fruid Valley, with Whitelaw Brae to the south of the Fruid Reservoir. Significant effects are identified due to the position of the proposed turbines in the framed parts of these views.
- From the elevated locations within this area, the Proposed Development would be seen on a separate ridge from the Glenkerie Wind Farm and Clyde group turbines, but in the context of them and of Whitelaw Brae on the south side of the Tweed Valley. From hills to the east, the Proposed Development would be closer, and would be seen to be of larger turbines than the existing wind farms, and in relation to Whitelaw Brae. However, the Proposed Development would be seen as a small (not numerous) group of turbines in the wider context of the existing wind farms and the panoramic views that also include wind energy development further afield.

7.9.20 Significant effects identified for viewpoints are set out below. It should be noted that the viewpoints were selected to be within the ZTV and many areas nearby have no visibility and no effects.

- The Upper Tweed Valley: Significant (**major**) effects:
  - along the A701 between Glenbreck to Tweedsmuir (approximately 7 km) and at viewpoints that lie along the A701: VP3, VP4, VP5; and
  - from Tweedsmuir village and VP8 on Tweedsmuir Bridge.
  - briefly on the A701 past Stanhope southbound, VP6.
- The Upper Tweed Valley: Significant (**moderate**) effects:
  - briefly on the A701 past the source of the Tweed northbound, VP1; and
  - briefly on the A701 between Stanhope and Kingledores settlement southbound.
- Tributary valleys: Significant (**major**) effects:
  - along the Talla Water Valley at Talla Linn, VP11;
  - from within the Kingledores Burn Valley, VP7.
- Tributary valleys: Significant (**moderate**) effects:
  - along the eastern half of the Talla Reservoir below Talla Linnfoots and at the dam (VP10); and
  - along the Fruid Water Valley from the reservoir dam, VP9, and the minor road below the dam.
- Surrounding hills: Significant (**moderate**) effects:
  - Culter Fell and paths over Culter Fell (VP16 and a section of the Core Path Chapelgill Hill to Glenwhappen Rig); and
  - The Coomb Hill to Glenwhappen Rig ridge (another section of the Core Path Chapelgill Hill to Glenwhappen Rig).

7.9.21 Other viewpoints and receptors considered are identified as having effects that are not significant.

7.9.22 Significant visual effects are identified for viewpoints within 9.5 km to the south (at VP1) and more limited in other directions. These and the ZTV are considered to be of limited and localised extent given what could be expected of a development of this scale.

## 7.10 Cumulative Assessment

7.10.1 The assessment of cumulative effects is set out in Technical Appendix 7.4 and considers the additional effects of the introduction of the Proposed Development with cumulative wind farms. There are several wind farms proposed within approximately 25 km of the Proposed Development, as shown on Figure 7.9. Consented and application stage developments are set out in Table 7.4.

**Table 7.4 – Cumulative Wind Farms**

Wind Farm	Status (February 2024)	Number of turbines	Blade tip height (m)	Approximate distance and direction
Glenkerie Extension	Consented	6	100 m	2.7 km
Priestgill	Consented	7	145 m	11 km
Lampits Farm	Consented	1	64 m	23 km
NHS The State Hospital	Consented	1	67 m	24 km
Grayside	Application	15	200 m	7 km
Rivox	Application	29	230 m	16 km
Daer	Application	17	180 m	18 km
Bodinglee	Application	37	250 m	18 km
Little Gala	Application	7	149 m	18 km
Scoop Hill Community	Application	60	250 m	23 km
Cloich Forest 2	Application	12	149.9 m	24 km

7.10.2 Scoping stage sites are also shown on Figure 7.9, and include M74 West, approximately 15 km away beyond the Clyde group to the west; West Andershaw beyond Andershaw and Middle Muir approximately 23 km to the west and Stevenson Hill approximately 20 km away from the Proposed Development to the north. Given the highly speculative nature of scoping sites, and intervening existing wind farms, these sites were scoped out of the CLVIA.

7.10.3 The cumulative assessment in Technical Appendix 7.4 considered the potential additional effects of the Proposed Development under three scenarios:

- a Consented Scenario with consented wind farms present in the baseline (in addition to existing wind farms), i.e. a likely future scenario. This scenario has been considered in Technical Appendix 7.4;
- an Application Scenario with undetermined proposals in the baseline (in addition to the above), i.e. a less certain future scenario. This scenario was scoped out of the CLVIA in Technical Appendix 7.4 because these proposed wind farms would be distant, beyond other existing schemes, and would not alter the pattern of development greatly from the relationships established by the existing and consented wind farm groups; and
- a Scoping Scenario with wind farm developments currently at scoping stage included as well, i.e. a more speculative future scenario. As set out above, the scenario in which these sites are included was scoped out.

7.10.4 In the Consented Scenario, Glenkerie Extension will extend the Glenkerie group westwards slightly, and Priestgill will be located to the north-west of the Clyde group, on the other side relative to the Proposed Development. Cloich Forest will be located in the distance (approximately 24 km away) to the north. The cumulative assessment identified that:

- effects on landscape character for the hills around the site and for the Tweed Valley would reduce slightly in the Consented Scenario, but without alterations to the findings of significance;
- effects on visual amenity around the sites would be unaltered or slightly reduced in the Consented Scenario, but without alterations to the findings of significance, except for:
  - the Core Path route section over Chapelgill Hill: reduced to not significant (**minor**); and
- there are no instances in which the effects of the Proposed Development in the context of those wind farms is judged to be increased above the LVIA finding.

**Combined Cumulative Effects**

7.10.5 The assessment of additional cumulative effects in Technical Appendix 7.4 follows current guidance and considers the effect of the introduction of the Proposed Development to the landscape in addition to other wind farms and considers three possible cumulative scenarios (albeit that two are scoped out). It is acknowledged that this does not provide a view on the role of the Proposed Development in the overall combined effect of all wind farm developments that may occur depending on which proposed wind farms are consented and built<sup>2</sup>.

7.10.6 The future pattern of development is likely to lie somewhere between no additional development, and a maximum of all currently proposed (and potentially more proposals not currently in the planning system) being consented and built. In the minimum scenario, the future pattern of development would

<sup>2</sup> The additional effects consider the change with one more wind farm present (the Proposed Development as the 3rd, 4th or 8th wind farm for example), whereas combined effects consider the suite of windfarms together, and identify the role of the Proposed Development within that experience.

be very similar to the current pattern, as assessed in the LVIA. In the maximum development scenario, existing wind farm clusters may be enlarged, others may be introduced, and clusters may start to coalesce. Whilst this may be evident when looking at maps of developments, it would not necessarily be evident on the ground when moving around the landscape.

- 7.10.7 A LVIA assesses the effect on landscape character resulting from introducing the Proposed Development into the landscape. Several developments of the same type lead to an accumulation of effect on landscape character. In an assessment of cumulative effects on landscape character the increasing influence of turbines on landscape character types or areas may be described with terminologies reflecting a succession of landscape change. Terms may include 'landscapes with occasional wind farms', through to 'landscapes with wind farms', and 'wind farm landscapes'.
- 7.10.8 Existing Scenario: The Clyde group is a large group of 206 turbines with tip heights of 125 m to 142 m. It extends from approximately 6.8 km west of the site to over 15 km away to the south-west and is visible on successive ridges from much of the study area. Glenkerie forms a small group of turbines above the Tweed Valley north of the site, approximately 2.4 km to the north. Andershaw and Middle Muir form a group of turbines west of the M74, and the Hagshaw group and other smaller developments are located further north-west. Whitelaw Brae, currently under construction, will be present on the south side of the Tweed Valley approximately 3.1 km south of the Proposed Development. This part of the Southern Uplands, west of the Tweed Valley and extending to Whitelaw Brae around the upper reaches of the Tweed Valley, and to Abington and south of Elvanfoot can be described as a 'landscape with wind farms', with Glenkerie as an outlier group, and links across to Andershaw and Middle Muir that create a 'landscape with wind farm clusters' at a wider scale. There is more of a separation between Clyde group and Harestanes further south, but the M74 corridor is a route through a 'landscape with wind farms'.
- 7.10.9 The Proposed Development would contribute to this scenario as an additional group of turbines located between the Clyde group and Glenkerie, along the ridge to the north of the Tweed Valley. It would change the experience of the landscape of the wider area slightly in terms of increasing the presence of wind farm development within a section of the Upper Tweed Valley, particularly around Tweedsmuir where it would be the closest wind farm, forming part of a sequential experience along the A701 with Glenkerie, Whitelaw Brae and the Clyde group. It would be seen as additional turbines in the hills from elevated locations and would be seen in framed views along occasional valleys that align with it. The area west and south of the Tweed Valley would remain 'with wind farms' on the introduction of the Proposed Development but would be extended further down the Tweed Valley to be experienced from further north-east within it (south of Hearthstones).
- 7.10.10 Consented Scenario: With consented wind farms present as well as existing wind farms, the Glenkerie group will be enlarged with Glenkerie Extension and Clyde group will be slightly larger with Priestgill. In this baseline, the 'landscape with wind farms' will be of the same extent as in the existing scenario, with the Glenkerie group remaining as a slight outlier group.
- 7.10.11 The Proposed Development would contribute to this scenario as an additional group of turbines located between the Clyde group, Whitelaw Brae and the Glenkerie group geographically. It would increase the presence of wind farm development within the Upper Tweed Valley, around Tweedsmuir where it would be the closest wind farm, but seen in the context of Whitelaw Brae, the Clyde group and the enlarged Glenkerie group. The area of 'landscape with wind farms' would be altered only slightly by the introduction of the Proposed Development, extending northward into the Tweed Valley to south of Hearthstones, without differing greatly from the existing scenario.

## 7.11 Aviation Lighting Assessment

- 7.11.1 As the proposed turbines would measure over 150 m to blade tip, they are above the threshold for Civil Aviation Authority (CAA) Regulations for lighting (CAA, 2016). A reduced lighting scheme has been agreed with the CAA such that three turbines (Turbine 1, Turbine 3, and Turbine 6) would be lit with medium intensity steady red (2000 candela) lights on the hubs (plus back-up light), that can be dimmed to 10% when visibility exceeds 5 km. No tower lights are proposed. The other four turbines (Turbine 2, Turbine 4, Turbine 5 and Turbine 7) would not be lit with visible aviation lighting (see Technical Appendix 16.1).

### Lighting Baseline

- 7.11.2 During dark hours the site is not currently lit, although there is a single light on the temporary meteorological mast of 32 cd. There are lights at Tweedsmuir and on local properties. There are also lights of vehicles on the A701 and other roads.
- 7.11.3 Further afield, lights tend to be associated with properties along the valley floors, with brighter lights at farms. Street lighting and better-lit areas are found within Broughton, Biggar, Abington and other larger settlements across the study area. The M74 corridor has frequent vehicles at night.



- 7.11.4 Most night time viewers are on the road network or around properties and settlements, fewer people tend to be in more remote places after dark. People in darker locations may include late evening dog walkers (on paths closer to settlement), people finishing longer walks after dark, people out camping, or people out to see dark skies. People are likely to be focussing their attention on parts of their surroundings that they can see (associated with lit areas such as the road ahead within the beam of headlights) but may also be drawn to noticing lights in darker parts of the view (stars, aeroplane lights, and lights in the landscape).

#### **Proposed Development Lighting**

- 7.11.5 The reduced lighting scheme proposed is set out above and in Technical Appendix 16.1, involving visible lights on three turbines. Agreed 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. Meteorological data for the local area suggests that the 2000 cd lights would be at 2000 cd for 2 % of the time and at 200 cd for 98 % of the time when cloud-base is above hub height. The lights used will be designed to emit a horizontal beam of light with reduced upward and downward spill of light, such that the brightness of the light emitted is decreased for viewers close to the turbines viewing the lights from below.

#### **Assessment**

- 7.11.6 The assessment of the effects of the lighting on views after dark (in Technical Appendix 7.5) has considered key viewpoints and routes within the study area. The appearance of the proposed lighting relative to exemplar lights and existing lights in the views and the change to the night time viewing experience has been assessed.
- 7.11.7 Seen from the public road network, the lights would be at their brightest from the A701 south of Tweedsmuir. At VP4 near Hawkshaw, given the proximity to the site (little attenuation by distance) but a reduction of intensity due to a downward angle (-3 °), the lights would be seen appearing less bright than a car brake light at 2 km when the lights are operated at 2000 cd. This is judged not to incur significant visual effects during dark hours. In good visibility conditions, the lights would be reduced to 200 cd and would be noticeably less bright, appearing similar to a star in the constellation Orion.
- 7.11.8 An important factor for perception of light is the way in which human eyes adapt to different light environments. Dark adaptation of the human eye is related to 'rods' and 'cones', light-detecting cells in the back of the eye that have different roles in low light levels. Dark adaptation is when the rods can fully activate and can make out faint lights in a dark environment that cones cannot detect. Dark adaptation (activation of rods) takes time to achieve but is lost as soon as a light is switched on, even briefly, as cones take over rapidly. Lights clearly visible to dark-adapted eyes may be imperceptible when in a lit place or when other lights are first switched off (before dark adaptation can occur). In lit environments dark adaptation cannot occur in full as the rods cannot fully take over. It is noted that most people will be close to lights after sunset, either in lit houses/properties, or in vehicles with headlights on. This makes the perception of other fainter lights more difficult and will contribute to the perception of the aviation lighting on the Proposed Development.
- 7.11.9 Whilst the lights would be visible as low to very low intensity red lights from viewpoints and from routes across the study area, no significant effects are identified as arising from aviation lighting during dark hours, as set out in Technical Appendix 7.5.

## **7.12 Implications for Designated Landscapes**

- 7.12.1 There are numerous designated landscapes within approximately 25 km of the Proposed Development as shown on Figure 7.5. The implications of the findings of the LVIA for the designated landscapes are considered in Technical Appendix 7.6.
- 7.12.2 Many of the designated landscapes have limited or no ZTV coverage and are scoped out of detailed consideration as having no likelihood that their special qualities and reasons for designation would be affected by the Proposed Development. Those considered further include the Upper Tweeddale NSA and the Tweedsmuir Uplands SLA.
- 7.12.3 **Upper Tweeddale NSA** – This area is approximately 6 km north-east of the site at its closest point. Theoretical visibility is limited to elevated slopes and summits of hills around the fringe of the NSA only, with no visibility from the valley floor that is the focus of the NSA. Whilst the proposed turbines would be visible from the high hills around the valley NSA, they would appear as minor elements within panoramic views, and in a direction of view that is currently influenced by wind turbines. Therefore, there would be no discernible change to the special qualities of the NSA as a result of the Proposed Development.
- 7.12.4 **Tweedsmuir Uplands SLA** – This is an extensive area that includes the site. It hosts Glenkerie Wind Farm, Whitelaw Brae, and the Clyde group is immediately adjacent to the west. The Proposed Development would be on the ridge to the west of the Upper Tweed Valley. Significant landscape



effects are identified for the ridge and a section of the valley south of Stanhope, and visual effects are identified to be significant within the valley section also. From elevated vantage points within the SLA, the Proposed Development would be seen in the context of Glenkerie, Whitelaw Brae and the Clyde group, and the broad panoramas over the Southern Uplands. Effects are identified as not significant for elevated viewpoints, except at Culter Fell at the edge of the SLA, where the Proposed Development would be seen between Glenkerie and the Clyde group. Aviation lights would be visible from the A701, the minor road from Talla Linn past Talla Reservoir, and from the minor road from the Fruid Reservoir. Off-road locations have few viewers at night, although walkers on paths are considered in Technical Appendix 7.5.

- 7.12.5 A discussed in Technical Appendix 7.6, whilst the Proposed Development would be within and visible from some parts of the SLA, the proposed turbines would not add new elements into the landscape as there are existing turbines present within and around the SLA. The scale of the proposed turbines and location in relation to the Upper Tweed Valley mean that significant landscape and visual effects have been identified for the valley within approximately 8-10 km of the Proposed Development, which is a relatively small part of the SLA extent. It is judged therefore, that although the Proposed Development would alter aspects of the character of the western part of the SLA, it would not undermine the integrity of the designated area as a whole, and the reasons for designation would remain intact for the Tweedsmuir Uplands SLA, including the Upper Tweed Valley.

### 7.13 Residential Visual Amenity Assessment

- 7.13.1 An assessment of the effects on the visual aspects of residential amenity is set out in the RVAA (Technical Appendix 7.7). There are 34 properties within 2.5 km of the Proposed Development, as shown on Figure 7.7.1. These have been considered as individual properties or groups, with 14 considered in the RVAA. Grouped properties have similarity of location, setting, outlook and screening. Most properties are located within the Tweed Valley, and properties are set at or above the edge of the valley floor and look outwards across the valley.
- 7.13.2 The RVAA considered the change to visual amenity at each property, including consideration of likely views from the property, its curtilage (garden) and approach. Properties for which a high magnitude of change is identified are considered further with respect to whether or not the effect would reach what in current guidance is called a 'Residential Visual Amenity Threshold' (LI, 2019). It is noted that although the Proposed Development includes battery storage units and other ground level infrastructure elements, it is the proposed turbines that are most likely to affect visual aspects of residential amenity. At night, aviation lighting will theoretically be visible from some of the properties considered, although with strong downward angles at which the lights will emit light at limited intensities, such that the lights will have low brightness, including some properties for which the angle of view is  $-4^\circ$  or steeper, such that the lights will be of minimal theoretical visibility (see also Technical Appendices 7.5 and 16.1).
- 7.13.3 The assessment of the properties around the Proposed Development site found that there would be medium to high magnitude of change to the views from several properties within approximately 2.5 km. Those with a high magnitude of change, including Hawshaw; Menzion (group); Tweedsmuir Lilybank (group); Tweedsmuir south (group); and Hopehead, Kingledoors Valley were considered further. The RVAA found that effects at the properties would not reach the Residential Visual Amenity Threshold.
- 7.13.4 For the closest properties at Menzion, which are located to the south-east of the proposed turbine locations and would be approximately 1.08 km from the nearest proposed turbine<sup>3</sup>, the proposed turbines would be present on the hill horizon on the other side of the valley, oblique to principal views from the properties which look north and north-west. However, it is judged that they would not become overbearing, and the threshold would not be reached.

### 7.14 Additional Mitigation and Enhancement

- 7.14.1 No additional (secondary and tertiary) mitigation measures are proposed for landscape and visual effects. All primary mitigation measures are included in the Proposed Development, and will include restoration of disturbed ground, for example, access track sides, as soon as possible after construction (or decommissioning), planting of native broadleaf trees to screen (ground-level) elements of the Proposed Development and provide varied habitats for biodiversity (see Chapter 15 for detail).

### 7.15 Residual Effects

- 7.15.1 As stated above, mitigation of landscape and visual effects has been undertaken through design modifications and input to the design process (as set out in Chapter 2 and the Design and Access Statement). All effects identified are therefore residual effects.

<sup>3</sup> Distances quoted may be a little different from those quoted for noise monitoring locations.

## 7.16 Summary

- 7.16.1 The Proposed Development would consist of seven turbines of up to 200 m to blade tip, plus ground level structures, a battery energy storage system (BESS) and substation, located on the ridge to the north of the Upper Tweed Valley north-west of Tweedsmuir.
- 7.16.2 The topography of the Southern Upland hills around the site would influence visibility of the Proposed Development. It would be visible from the site ridge and from the valleys either side: the Upper Tweed Valley and the Kingledoors Burn Valley. The ridge that runs to the north-west and west of the site, which carries Glenkerie and Clyde group turbines, is higher than the ridge of the site, and would contain most views in that direction, with limited visibility of tips only from high ground beyond. It is noted that views from the west would be through Clyde group turbines. There would be no significant effects beyond that ridge to the north-west, west or south-west, except at Culter Fell. Hills to the east and south-east would limit visibility to within approximately 11 km. There is therefore a remarkably limited area, effectively the eastern half of the area within approximately 10-11 km of the Proposed Development, that would be influenced by it. Within that area the assessment has identified that the Proposed Development would have significant effects from some locations. Key view experiences include views along the Upper Tweed Valley such as from the A701 and from Tweedsmuir settlement, and from tributary valleys that have framed views towards the site. From elevated locations within this area, the Proposed Development would be seen in the context of Glenkerie, Whitelaw Brae and Clyde group turbines (Whitelaw Brae is currently under construction) and the panoramic views that also include wind energy development further afield.
- 7.16.3 Significant effects are identified for visual receptors within approximately 11 km, and landscape receptors within approximately 6 km. Given the distribution of effects within that area, these are considered to be limited and localised for a development of this scale in this type of landscape.

**Table 7.5 – Summary of Significant Landscape and Visual Effects**

Receptor	Effect
Site and its landscape fabric during the construction phase	Significant ( <b>moderate</b> )
LCT 95: Southern Uplands - Borders	Significant ( <b>moderate</b> ) for the ridge that would host the site (within approximately 3 km)
LCT 113: Upland Valley with Pastoral Floor	Significant ( <b>major</b> ) Upper Tweed unit south of Hearthstone (within approximately 4 km) Significant ( <b>moderate</b> ) between Hearthstone and Stanhope (within approximately 6 km)
VP1 A701 Source of the Tweed layby	Significant ( <b>moderate</b> )
VP3 A701 layby south of Glenbreck	Significant ( <b>major</b> )
VP4 A701 layby near Hawkshaw	Significant ( <b>major</b> )
VP5 A701 Tweedsmuir Village Hall	Significant ( <b>major</b> )
VP6 A701 by Stanhope	Significant ( <b>major</b> )
VP7 Hopehead, Kingledoors Burn	Significant ( <b>major</b> )
VP8 Tweedsmuir Bridge	Significant ( <b>major</b> )
VP9 Fruid Dam	Significant ( <b>moderate</b> )
VP10 Talla Dam	Significant ( <b>moderate</b> )
VP11 Talla Linn	Significant ( <b>major</b> )
VP16 Culter Fell	Significant ( <b>moderate</b> )
Tweedsmuir	Significant ( <b>moderate</b> )
A701 along the Tweed Valley	Significant ( <b>major</b> ): Glenbreck to Tweedsmuir (approximately 7 km) Significant ( <b>moderate</b> ): Stanhope to Kingledores settlement (southbound, approximately 2.5 km)
Minor road from Tweedsmuir to Talla Linn	Significant ( <b>major</b> ) from the top of the Talla Linn to Talla Linnfoots; and within approximately 1 km of the dam to Tweedsmuir; Significant ( <b>moderate</b> ) along the eastern half of the Talla Reservoir
Minor road from Tweedsmuir to the Fruid Reservoir	significant ( <b>moderate</b> ) while open views over young woodland remain, reducing to not significant ( <b>minor</b> ) when trees have grown
Core Path Chapelgill Hill to Glenwhappen Rig	Significant ( <b>moderate</b> ) for two ridge sections of approximately 3.5 km long in total, but not significant ( <b>minor</b> ) overall.
Core Path/ROW from Hearthstone to Broad Law	Significant ( <b>moderate</b> )

## 7.17 References

*Civil Aviation Authority (2017) DAP Policy 124. Lighting of Onshore Wind Turbine Generators in the United Kingdom with a maximum blade tip height at or in excess of 150 m Above Ground Level.*

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

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