ESB Asset Development UK Ltd

# Millmoor Rig Wind Farm

## Further Environmental Information – Chapter 3 Landscape and Visual

663320

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## CONTENTS

# 3 LANDSCAPE AND VISUAL

## Introduction

3.1 This section of the **FEI Report** has been prepared by Pegasus Group in response to minor changes to the design of the Proposed Development and requests for additional information and clarifications raised in consultation responses received from Scottish Borders Council (SBC), NatureScot (NS), Northumberland National Park (NNP) and Natural England (NE) to the Landscape and Visual Impact Assessment (LVIA) (Chapter 6) of the **EIA Report** that accompanied the application for consent under Section 36 of the Electricity Act 1989 and deemed planning permission under Section 57(2) of the Town and Country Planning Act 1997 (as amended), as submitted to the Scottish Government's Energy Consents Unit (ECU) in November 2022.

3.2 It is supported by the following:

- Updated visualisations from a representative selection of ten of the LVIA viewpoint locations:
  - FEI - Updated Figure 6.40 Rev B - Viewpoint 1 - A6088, Chesters;
  - FEI - Updated Figure 6.41 Rev B - Viewpoint 2 - A6088, Southdean;
  - FEI - Updated Figure 6.42 Rev B - Viewpoint 3 - Fort north-east of Southdean;
  - FEI - Updated Figure 6.43 Rev B - Viewpoint 4 - A6088, Western approach to Chesters;
  - FEI - Updated Figure 6.44 Rev B - Viewpoint 5 - Bonchester Hill;
  - FEI - Updated Figure 6.45 Rev B – Viewpoint 6 – B6357 Vantage Point;
  - FEI - Updated Figure 6.47 Rev B - Viewpoint 8 - A6088, north-west of Carter Bar;
  - FEI - Updated Figure 6.50 Rev B - Viewpoint 11 - Footpath and Minor Local Road, Chesters Brae;
  - FEI - Updated Figure 6.51 Rev B - Viewpoint 12 - Rubers Law;
  - 
  - FEI - Updated Figure 6.53 Rev B - Viewpoint 14 - Wolfelee Hill;
  - FEI - Updated Figure 6.58 Rev B - Viewpoint 19 - Wheel Causeway;
  - FEI - Updated Figure 6.7 Rev A - Lit Turbine ZTV to 35km with Viewpoints;
  - FEI - Updated Figure 6.8 Rev A - Lit Turbine ZTV to 20km with Viewpoints;
  - FEI - Updated Figure 6.30 Rev A - Lit Turbines ZTV to 35km (NE Quadrant) with Viewpoints;
  - FEI - Updated Figure 6.31 Rev A - Lit Turbines ZTV to 35km (SE Quadrant) with Viewpoints;
  - FEI - Updated Figure 6.32 Rev A - Lit Turbines ZTV to 35km (NW Quadrant) with Viewpoints;
  - FEI - Updated Figure 6.33 Rev A - Lit Turbines ZTV to 35km (SW Quadrant) with Viewpoints;

- FEI - Updated Figure 6.34 Rev A - Other Wind Farms within 35km;
- FEI - Updated Figure 6.35 Rev A - Other Wind Farms within 25km;
- FEI - New Figure 6.61 - Turbine Lighting Intensity ZTV to 35 km with Viewpoints;
- FEI -New Figure 6.62 - Turbine Lighting Intensity ZTV to 20 km with Viewpoints;
- FEI - New Figure 6.63 – Cumulative ZTV with Post-Scoping Liddesdale Wind Farm to 35km;
- FEI - New Technical Appendix 6.11 – Report on Light Propagation from the Aviation Warning Lights; and
- FEI - New Technical Appendix 6.12 – Comparative Wirelines.

## Statutory Consultee Comments

3.3 The requests and comments from SBC, NS and NNP are addressed in **Table 3.1**. This section of the **FEI Report** should be read in conjunction with **Chapter 6** of the **EIA Report**.

**Table 3.1: Summary of Statutory Consultee Comments**

| Consultee | Summary Response | Action taken |
|---|---|---|
| **Scottish Borders Council (dated 17 July 2023)** | Key consultee findings:<br>*"In the LVIA for the proposed scheme, it is recognised that the zone of theoretical visibility is largely restricted to areas within 5km of the nearest turbine and the development has more intermittent visibility beyond the 5km zone and this is largely from more elevated and less frequented locations where there are uninterrupted views across the landscape. I largely agree with the assessment and while it demonstrates that within the 5km zone a range of sensitive receptors, including users of local roads and footpaths and those in settlements and individual residential properties, experience significant effects, it finds that significant effects do not occur beyond the 5km zone.*<br>*It is my consideration that significant impacts at the localised level is likely to occur with turbines of this size and it is when these significant effects become widespread that a proposal may become unacceptable. The significant effects are not widespread beyond the local area and I therefore I do not feel justified to object on that basis but any layout amendment that improves the overall appearance of the scheme would be welcomed"*<br>(Underline added) | |

| Consultee | Summary Response | Action taken |
|---|---|---|
| | SBC Point 1<br>*"Mitigation - 'mitigation by design' (6.7.2 of LVIA) has not been particularly successful, as from some of the nearest and potentially most sensitive receptor locations the turbine layout still exhibits inconsistent turbine spacing e.g. from VP11 and a number of other viewpoints exhibit a scheme layout with outliers e.g. from VPs 1 & 11. Furthermore, there are a number of VPs from where turbines T9-11 sit well above the skyline, despite being of the smaller turbine height e.g. from VPs 4 & 5.*<br>*It is my opinion that project design and design mitigation to reduce the visual impacts has not been adequately addressed.*<br>*Policy 11 of NPF4 requires it to be demonstrated that significant landscape and visual effects have been addressed through project design and mitigation, including impacts on communities and individual dwellings, particularly residential amenity and visual impact.*<br>*If consideration could be given to improving some of the design weaknesses, including designing out outliers and those turbines that appear particularly prominent on the skyline when seen from the north, I think it's possible that the visual effects could be reduced and the scheme appearance improved, particularly from the most sensitive locations."* | Turbines 9, 11 and 13 have been relocated *inter alia* to improve the spacing between turbines, reduce the appearance of outlying turbines and has reduced the number of visible aviation warning lights required.<br>An updated embedded design mitigation section is presented at paragraphs **3.173.17** to **3.28**. |
| | SBC Point 2<br>The Landscape Officer at SBC queries that if T9-T11 were to be removed aviation lighting could be reduced to 4 turbines (T1, T3, T8 and T12) or if relocated to be less prominent above the skyline, aviation lighting would also be less prominent in the night sky. | The EIA Layout proposed that Turbines T1, T3, T8, T9, T11, T12 **would be fitted with steady state red visible aviation warning lights.**<br>Turbine T9 has been moved approximately 140 m to the south and is no longer a cardinal turbine that requires to be lit. This has reduced the number of lit turbines from six to five.<br>The turbines proposed to be fitted with visible aviation |

| Consultee | Summary Response | Action taken |
|---|---|---|
| | | warning lights are now **T1, T3, T8, T9, T12.**<br>This revised reduced lighting scheme has been agreed with the Civil Aviation Authority (CAA) dated 20 May 2024.<br>An updated assessment of the significant effects of the Proposed Development during the hours of darkness is provided at paragraphs **3.61** to **3.70**. |
| **NatureScot**<br>**(dated 2 March 2023)** | ***"Summary of Advice***<br>***Landscape and Visual Impacts***<br>*The proposed wind farm would not cause significant adverse effects on landscape areas of national interest (National Scenic Areas, National Parks or other nationally distinctive landscapes).*<br>*The proposal would however cause a range of adverse landscape and visual effects as a result of the large turbine heights and its relatively prominent location."*<br><br>**NS Point 1**<br>*"Summary of effects upon Scottish National Landscape Designations.*<br>*We agree with the assessment that finds there to be no significant effect upon The Eildon and Leaderfoot National Scenic Area (NSA). This is due to the distance, at 23km of the designation from the proposed Development. Though noting there would appear to be visibility of the entire proposal from the Eildon Hills looking southwards."* | No further action is required. |
| | **NS Point 2**<br>***"Summary of potential significant landscape and visual effects***<br>*The visual appraisal finds that of the 16 representative viewpoints assessed, significant daytime effects would be predicted to occur at 11 of the 16 viewpoints, with seven locations where receptors would receive major adverse effects, two receiving major moderate and two moderate but still significant effects. During the hours of darkness receptors at 10 out of the 16 representative viewpoints would additionally receive significant adverse* | We note the general agreement of the assessment findings **but that NS finds a significant effect would be possible from VP12 and VP18.**<br>This a matter of professional judgement and for the reasons set out in the Viewpoint Assessment at **Technical Appendix 6.5** of the **EIA Report** a significant effect has not been identified at these viewpoints. |

| Consultee | Summary Response | Action taken |
|---|---|---|
| | *effects, though with 1 viewpoint receiving a major effect (VP 6 – B6357 vantage point). We generally agree with these findings, though consider in our view that a significant visual effect would also be possible from Rubers Law (VP 12) and Black Law (VP 18). The entire proposal would be visible at distances of between 9 -11 km. The large scale of the turbines would be readily appreciated in views to the south."* | No further action required. |
| | **NS Point 3**<br>*"In terms of landscape effects, the appraisal does not find significant effects upon either the Teviot Valleys SLA (southern boundary c. 3.5km from the proposed Development) or Cheviot Foothills SLA (3.6km to the north east ). We would agree that a significant effect on the Cheviot Foothills would be unlikely due to the screening of the proposal by landcover and intermittent visibility due to the grain of the topography."* | No further action required. |
| | **NS Point 4**<br>*"We would however disagree with the finding of no significant effect upon the Teviot Valleys SLA. We consider that the effect of the development upon the landscape qualities of the SLA would be significant, particularly as appreciated from the southern, central areas, encompassing visibility around the Rule Water, and the high points broadly between Bonchester - Rubers Law - Black Law. Noting that the pattern of tree cover may limit valley views, the views from these high points are not screened. The height of the proposal would visually compete with prominent landform focal points and contrast with the smaller scale, pastoral landscapes visible to the north of the proposed development."* | This a matter of professional judgement. As set out in paragraphs 6.6.292 to 6.6.298 of Chapter 6 of the **EIA Report**, some significant landscape and visual effects have been identified within very limited southerly parts of the SLA. However, the effects would not be of **such a scale so as to prevent an understanding or appreciation of the key characteristics or the underlying landscape qualities of the SLA.**<br>No further action required |
| | **NS Point 5**<br>*"In relation to the effects on landscape character, we largely agree with the findings of the assessment, though we consider that significant effects would extend out toward 5 - 8.5km for the assessed LCTs (the distance is variable within each LCT see Table 6.6) excluding Wooded Upland Fringe."* | We note the general agreement of the assessment findings.<br>This a matter of professional judgement and for the reasons set out in **Section 6.6 of Chapter 6** of the **EIA Report**, significant effects were identified extending to approximately 5km. **However, since Pines Burn Wind Farm is now** |

| Consultee | Summary Response | Action taken |
|---|---|---|
| | | **operational, the extent of significant effects has reduced to 3km to the west of the Proposed Development**.<br>No further action required |
| | **NS Point 6**<br>*"The assessment finds significant night time landscape character effects would occur out to around 5km due to the lighting at four landscape character types: Southern Uplands Forest Covered, Southern Uplands with Scattered Forest, Cheviot Hills – Falla Group and Grassland with Hills – Bonchester Dunion. We agree with this assessment."* | No further action is required. |
| | **NS Point 7**<br>***"Summary of cumulative landscape and visual effects***<br>*In relation to cumulative scenario 1 (consented classed as operational wind farms), this includes Pines Burn and Windy Edge, both are located within the LCT 4(iii) Southern Uplands with Scattered Forest – Cauldcleuch Head Group, close to the LCTs eastern edge and boundary with LCT 5(ii) Southern Uplands Forest Covered – Wauchope/Newcastleton the assessment finds a significant effect, that would reduce should both be operational to around 3km. We agree with this assessment. Additionally to this the assessment finds that apart from a reduction in the distance of effect should Teviot and Fawside wind farms be operational the assessment finds that the level of significance of effect on landscape character would remain as in the effects identified as part of the main assessment.*<br>*The visual assessment also finds that on the whole there would be no change to the level of significant effects already found as part of the main visual assessment."* | No further action is required. |
| | **NS Point 8**<br>***"Conclusion***<br>*We have largely agreed with the assessment of effects as set out within Chapter 6 of the EIA Report. We have found some minor points of disagreement though this seems to relate to where* | No further action is required. |

| Consultee | Summary Response | Action taken |
|---|---|---|
| | *significance is set at rather than a disagreement with the description of the effects.*<br>*The large size of the turbines and therefore the visibility of the proposal from sensitive receptors at relatively close proximity account for the spread of significant effects."* | |
| **Natural England (dated 28 February 2023)** | **NE Point 1**<br>*"The following information is required:*<br>*Additional assessment of the proposal's impacts on visual amenity from the Pennine Way as represented by Viewpoint 15 (Black Halls) and consistent with the information set out in the Guidelines for Landscape and Visual Impact Assessment (GLVIA - 3rd Edition - 2013)."* | See response to **NE Point 4** |
| | **NE Point 2**<br>*"With regard to the baseline for LVIA we understand that existing SNH guidance on choosing a representative Zone of Theoretical Visibility (ZTV) recommends initial use of a 45km ZTV for wind turbines exceeding 150m in height (to blade tip). The ES does not explain why a 35km ZTV has been used. We propose that this should be rectified, either through review using the 45km metric or, if appropriate, through the submission of information to explain why the 35km ZTV was chosen instead."* | See response to **NNP Point 1** |
| | **NE Point 3**<br>"Viewpoint 9 Carter Bar:<br>*We note the photomontage at figure 6.48 and conclude that owing to the topography of the intervening land the scheme, if approved, would not be visible to visitors at this location except following the cyclical clear fell of forestry plantations. As a result we agree that significant effects from this location can be screened out."* | No further action is required. |
| | **NE Point 4**<br>*"Viewpoint 15 Black Halls (VP15):*<br>*We understand that this viewpoint was chosen as being the closest and most representative of viewpoints from the Pennine Way National Trail. However as the Pennine Way continues north-east along the ridge top Scotland/England border, further scope exists for views towards the application site over a* | With reference to **Figures 6.3** and **6.9** of the **EIA Report**, theoretical visibility from the Pennine Way is very intermittent with a short section of the route at Black Halls (Viewpoint 15) where there is predicted visibility at a distance in excess of 15 km which is recognised |

| Consultee | Summary Response | Action taken |
|---|---|---|
| | *distance of 18km, as far as Pawston Hill (33km from the scheme). The inclusion of this viewpoint should therefore be regarded as the absolute minimum needed to assess sequential impacts on views from this National Trail."* | by Natural England as being the closest representative viewpoint from the Pennine Way.<br>A preliminary assessment of the viewpoint is presented in **Technical Appendix 6.4**, **EIA Report**. This found that there is no potential for a significant effect to be experienced from this viewpoint. Receptors in this location are considered to have high sensitivity to the change proposed. The magnitude of change is judged to be low medium small scale of the turbines, occupying a small geographical extent and seen in distant views. Combining the sensitivity of the receptor and the magnitude of change results in a minor moderate effect that is not significant. |
| | **NE Point 5**<br>*"Figure 6.54 shows that the impact of the proposed turbines on visual amenity from VP15 and Pennine Way route to the north-east requires detailed assessment consistent with the LVIA guidelines. This is because the proposed scheme:*<br>*(i) Comprises turbines appreciably larger than those from other wind energy schemes described in the cumulative effects section of the ES.*<br>*(ii) Lies at least 6km closer to the national trail than the schemes described under cumulative effects.*<br>*(iii) Will draw the walker's eye due to both the movement of the blades and the incongruous nature of the structures in the context of the wider views.*<br>*With respect to the movement of turbine blades we perceive the need for assessment of the dual effects of:*<br>*(i) The swept area for the majority of the turbines breaking the skyline, and*<br>*(ii) The turbines' pale colour and blade rotation contrasting visually with the darker tones of the receiving landscape.* | For the reasons set out in the response to **NE Point 4** above, it is considered that effect would not be significant. The movement of turbine blades **and colours of the turbines is factored into all judgements made.** |

| Consultee | Summary Response | Action taken |
|---|---|---|
| | *Notwithstanding the ES' conclusions regarding the cumulative impacts of the scheme with permitted and proposed wind energy proposals, Natural England notes the other wind energy schemes proposed or approved in the chosen ZTV area and is concerned that the current proposal would intensify the intrusion of manmade vertical structures proposed in the setting of this National Park landscape."* | |
| **Northumberland National Park**<br>**(dated 13 February 2023)** | **NNP Point 1**<br>The Zone of Theoretical Visibility used to scope the potential areas affected by this development only extends to 35km from the development site. The recommended distance for turbines of this height, (180m. - 230m.) is 45 km, and possibly further, as set out in paragraph 48 (see below) of Scottish Natural Heritage (SNH) guidance entitled Visual Representation of Wind Farms (V.2.2) 2017. With some of the proposed turbines being up to 230 meters high, these are significantly higher structures than any previous turbines erected in Northumberland or in the Scottish Borders within this proximity to the National Park. | SNH **Visual Representation of Wind Farms (V.2.2) 2017 guidance states at paragraph 46 that *"A ZTV map illustrates locations within a study area from where a development would potentially be visible. However, just because a development can be seen,* it does not automatically follow that this will result in likely significant landscape and visual impacts*."***<br>(Emphasis added)<br>It goes on to state that ***"…the distance recommendations given within the table below act as a starting point."***<br>*Paragraph 47 goes on to state that "**The extent of ZTV required may need to be adjusted inwards or outwards according to the specific characteristics of a landscape and/or proposed development."***<br>With reference to Figure 6.3 **that accompanied the LVIA Chapter of the EIA Report, theoretical visibility beyond approximately 5km is intermittent and is very limited within NNP. Therefore, it is considered that 35km is a proportionate distance and encompasses all areas within which significant landscape and visual** |

| Consultee | Summary Response | Action taken |
|---|---|---|
| | | **effects would be expected to occur.**<br>No further action required. |
| | **NNP Point 2**<br>The Authority can confirm that it disagrees with the findings as set out in the LVIA undertaken for the Millmoor Rig Wind Farm application, specifically in relation to Viewpoint 15.This viewpoint was put forward at the EIA Scoping stage of this development as it is representative of the many other publicly accessible receptor sites along the section of the Pennine Way that passes atop the Scottish/English Border Ridge, and that would have sight of this proposed development were it built but have not been assessed as part of this LVIA. | See response to NE Point 4 **above.**<br>No further action required. |

### Legislation, Policy and Guidance

3.4 Since the submission of the S36 application and **EIA Report** in November 2022, National Planning Framework 4 (NPF4) has been introduced (February 2023), superseding National Planning Framework 3 (NPF3) and Scottish Planning Policy (SPP) which the **EIA Report** was prepared in accordance with.

3.5 Additionally, the updated Onshore Wind Policy Statement (OWPS) was published by The Scottish Government in December 2022, which in relation to landscape and visual matter notes at paragraph 3.6.1 *"Meeting the ambition of a minimum installed capacity of 20 GW of onshore wind in Scotland by 2030 will require taller and more efficient turbines. This will change the landscape."* (underlining from the OWPS).

3.6 It goes on to note at paragraph 3.6.3 that: "Our Revised Draft NPF4 recognises that significant landscape and visual impacts are to be expected for some forms of renewable energy, and makes clear that where impacts are localised and/or appropriate design mitigation has been applied, they will generally be considered to be acceptable." Specifically, this point is recognised in the adopted NPF4 at Policy 11 e) ii.

3.7 The Scottish Government's planning policies in relation to landscape and visual matters are set out in NPF4 Part 2 National Planning Policy (The Scottish Government, February 2023). The policies relevant to this section of the FEI are:

### NPF4 Policy 4 Natural Places

*Policy 4a) Development proposals which by virtue of type, location or scale will have an unacceptable impact on the natural environment, will not be supported.*

3.8 This is a general expression of the overall planning balance in relation to the natural environment.

*Policy 4c) Development proposals that will affect a National Park, National Scenic Area, Site of Special Scientific Interest or a National Nature Reserve will only be supported where:*

*i. The objectives of designation and the overall integrity of the areas will not be compromised; or*

*ii. Any significant adverse effects on the qualities for which the area has been designated are clearly outweighed by social, environmental or economic benefits of national importance.*

3.9 The Eildon and Leaderfoot NSA is situated within the northern part of the study area, over 23 km from the Proposed Development. As set above in **Table 3.1** at **NS Point 1**, NatureScot agree that the Proposed Development will not result in a significant effect on the Eildon and Leaderfoot NSA.

*Policy 4g) g) Development proposals in areas identified as wild land in the Nature Scot Wild Land Areas map will only be supported where the proposal:*

*i. will support meeting renewable energy targets; or,*

*ii. is for small scale development directly linked to a rural business or croft, or is required to support a fragile community in a rural area.*

*All such proposals must be accompanied by a wild land impact assessment which sets out how design, siting, or other mitigation measures have been and will be used to minimise significant impacts on the qualities of the wild land, as well as any management and monitoring arrangements where appropriate. Buffer zones around wild land will not be applied, and effects of development outwith wild land areas will not be a significant consideration.*

3.10 As set out in paragraph 6.5.29 of the LVIA chapter, there are no areas of Wild Land within the 35 km LVIA Study Area.

**NPF4 Policy 11 Energy**

*Policy 11d) Development proposals that impact on international or national designations will be assessed in relation to Policy 4.*

3.11 As set above in **Table 3.1** at **NS Point 1**, NatureScot agree that the Proposed Development will not result in a significant effect on the NSA.

*Policy 11e) ii In addition, project design and mitigation will demonstrate how the following impacts are addressed:*

*ii. significant landscape and visual impacts, recognising that such impacts are to be expected for some forms of renewable energy. Where impacts are localised and/or appropriate design mitigation has been applied, they will generally be considered to be acceptable;*

3.12 This is considered further at paragraphs 3.17 to 3.28 below.3.17

*xiii. cumulative impacts.*

3.13 These are considered further at paragraphs 3.71 to 3.126 below.3.71

### Local Development Plan

3.14 Since the submission of the **EIA Report**, the Scottish Borders Local Development Plan 2 was adopted on 22 August 2024. A detailed consideration of both national and local planning policy is contained within the updated Planning Statement that accompanies this FEI.

### Guidance

3.15 NS has published "Guidance on Aviation Lighting Impact Assessment" (November 2024), the purpose of which is to "to bring consistency to the assessment and illustration of effects on the landscape and visual resource from visible aviation lighting located on onshore wind turbines. It is intended to assist developers in bringing clarity to the level of detail and content that is expected in support of planning applications for onshore wind farms, while providing decision makers and consultees with a framework for assessing impacts."

3.16 This section of the **FEI Report** has been prepared according to the most recent policy and guidance.

## Embedded Mitigation

3.17 **Section 6.7** of **Chapter 6** of the **EIA Report** set out the various mitigation measures that were embedded into the design of the Proposed Development. The layout of the Proposed Development as submitted in the **EIA Report** in 2022 was based on general good practice design principles (as set out in NatureScot guidelines), a review of the Scottish Borders Landscape Capacity Study and an analysis of site-specific opportunities and constraints. The Proposed Development layout evolved to take into consideration a number of landscape and visual constraints whilst maintaining an optimal development and seeking to maximise renewable generation and carbon reduction.

3.18 The design rationale adopted sought to avoid inconsistent turbine spacing, large gaps, outliers or excessive overlapping of turbines, to reduce visual effects and ensure a balanced / compact array from key views.

3.19 It is also important to note that the design of the Proposed Development as submitted in the **EIA Report** in November 2022 sought to maximise separation distances from nearby residential properties and sought to screen turbines from highly sensitive viewpoints such as Viewpoint 9 Carter Bar which is noted in the Scottish Borders Landscape Consultation Response dated 17 July 2023. The OWPS notes that modern wind turbines are taller structures than older models and NPF4 Policy 11 e) notes specifically that significant landscape and visual impacts expected for some forms of renewable energy and that where impacts are localised and/or appropriate design mitigation has been applied, they will generally be considered to be acceptable.

3.20 Following the submission of the **EIA Report**, the layout of the Proposed Development has been amended, in part, following receipt of consultation responses from Scottish Borders Council landscape specialist dated 17 July 2023 (see **Table 3.1** above **SBC Point 1** and **SBC Point 2**).

3.21 In the post-submission FEI layout in response to **SBC Point 1**, turbine T9 has been relocated approximately 140m to the south, turbine T11 has been relocated approximately 175m to the east south east and turbine T13 has been relocated approximately 55m to the north.

3.22 Referring to Viewpoint 1, the relocation of turbine T11, has reduced the vertical extent of the turbine tower appearing above the intervening landform and resulted in an even spacing between turbines at the western edge of the wind farm.

3.23 Referring to Viewpoint 11, the horizontal lateral extent of the wind farm has reduced due to the relocation of turbine T9 and its appearance as an outlying turbine at the western edge of the wind farm has been improved.

3.24 From Viewpoint 4, the horizontal lateral extent of the wind farm has reduced due to the relocation of turbine T9 at the western edge of the wind farm. The relocation of turbine T11 has also improved the spacing between turbines T9 to T12 inclusive. The relocation of turbines T9 and T11 has also reduced the vertical extent of the turbine tower appearing above the intervening landform.

3.25 From Viewpoint 5, the relocation of turbines T9 and T11 has slightly increased the clustering of turbines at the western edge of the wind farm. However, the turbines remain largely back clothed against the landform to the south.

3.26 These changes have resulted in a more consistent spacing, reduced the appearance of outliers and has reduced the prominence of turbines on the skyline of the views highlighted in **Table 3.1 SBC Point 1**.

3.27 In the post-submission FEI Layout in response to **SBC Point 2**, the turbine T9 relocation has resulted in the number of visible aviation lights required reducing from six in the EIA Layout (T1, T3, T8, T9, T11 and T12) to five in the FEI Layout (T1, T3, T8, T9 and T12) with T11 no longer being required to be fitted with a visible aviation warning light. As highlighted in **Table 3.1**, this revised reduced aviation warning lighting scheme has been agreed with the Civil Aviation Authority (CAA) dated 20 May 2024.

3.28 Mitigation of visible turbine lighting has been embedded into the design of the lighting scheme to reduce the intensity of lighting in certain atmospheric conditions and reduce the amount of vertical downwards lighting in order to reduce the visual effects experienced by receptors below the lights. Further explanation of this is set out in **Technical Appendix 6.10** that accompanied the **EIA Report** and in **New Technical Appendix 6.11** that accompanies this **FEI Report**. This has also been illustrated by the Turbine Lighting Intensity ZTVs at **New Figure 6.61** and **New Figure 6.62** that accompany this **FEI Report**.

## Updated Landscape Character and Visual Effects (Daytime)

### Introduction

3.29 The assessment of effects on landscape character and visual amenity presented in **Chapter 6** of the **EIA Report** was carried out against a baseline which consisted of one other operational wind farm at Langhope Rig, situated approximately 23.3km to the north-west of the Proposed Development (see **Table 6.11** of **Chapter 6**). Since the submission of the **EIA Report**, Pines Burn Wind Farm is now operational and so forms part of the

existing baseline landscape against which the landscape character and visual effects of the Proposed Development are assessed in this **FEI Report**.

3.30 Furthermore, since the submission of the **EIA Report** in 2022, following consultation feedback, the positions of turbine T9, turbine T11 and turbine T13 have been amended. Comparative wirelines showing the EIA Layout and the FEI Layout are provided at **Technical Appendix 6.12** of the **FEI Report**.

### Effects during Construction on Existing Landscape Features

3.31 Having considered the revised positions of the above turbines, there is no change to the effects on existing landscape features identified in **Chapter 6** of the **EIA Report** at **paragraphs 6.6.16** to **6.6.29**.

### Effects on Landscape Character

3.32 As set out in the assessment of effects on landscape character (see **paragraph 6.6.31** of **Chapter 6** of the **EIA Report**) six landscape character types (LCT) were identified as having the potential to experience significant effects and were assessed in detail.

*Effects on Landscape Character during Construction*

3.33 Having reviewed the revised positions of turbine T9, turbine T11 and turbine T13, there is no change to the effects on landscape character during construction identified in **Chapter 6** of the **EIA Report** at **paragraphs 6.6.63** to **6.6.70**.

*Effects on Landscape Character during the Operational Phase*

3.34 Having reviewed the revised positions of turbine T9, turbine T11 and turbine T13 and taken into consideration the revised landscape baseline which now includes the operational Pines Burn Wind Farm, with the exception of LCT 4 (iii) – Southern Uplands with Scattered Forest – Cauldcleuch Head Group - Scottish Borders, there is no change to the effects on landscape character during the operational phase identified in **Chapter 6** of the **EIA Report** at **paragraphs 6.6.71** to **6.6.152**.

3.35 In relation to LCT 4 (iii) – Southern Uplands with Scattered Forest – Cauldcleuch Head Group - Scottish Borders, the change to the assessment of effects on this LCT in a scenario where Pines Burn Wind Farm was operational was considered in the assessment of cumulative effects in **Section 6.8** of **Chapter 6** of the **EIA Report** at **paragraphs 6.8.21** to **6.8.22**.

3.36 This identified that if both Pines Burn and Windy Edge were already present in the baseline landscape, the extent of the significant effect resulting from the Proposed Development on LCT 4 (iii) would reduce from approximately 5km to the west of the Proposed Development to approximately 3 km due to the greater influence of Pines Burn Wind Farm on this part of the LCT.

3.37 Consequently, now that Pines Burn Wind Farm is operational and forms part of the baseline landscape against which the effects of the Proposed Development are assessed in this **FEI Report**, the extent of significant effects to LCT 4 (iii) resulting from the Proposed Development is reduced to approximately 3 km to the west of the Proposed Development during daylight hours.

3.38 In their consultation response dated 2 March 2023, NatureScot agreed with this finding (see **Table 3.1**, **NS Point 7**).

*Effects on Landscape Character during Decommissioning*

3.39 Having considered the revised positions of turbine T9, turbine T11 and turbine T13, there is no change to the effects on landscape character during decommissioning identified in **Chapter 6** of the **EIA Report** at **paragraphs 6.6.153** to **6.6.159**.

### Assessment of Visual Effects

*Construction Effects*

3.40 Having reviewed the revised positions of turbine T9, turbine T11 and turbine T13, there is no change to the effects on visual amenity during construction identified in **Chapter 6** of the **EIA Report** at **paragraphs 6.6.162** to **6.6.164**.

*Operational Effects*

3.41 Having reviewed the revised positions of turbine T9, turbine T11 and turbine T13 and taken into consideration the revised landscape baseline which now includes the operational Pines Burn Wind Farm, there is no change to the effects during daylight hours arising from the Proposed Development to any of the representative viewpoints brought forward into detailed assessment. The effects would remain as reported in **Table 6.7** of **Chapter 6** of the **EIA Report**.

### Assessment of Effects on Visual Receptor Groups

*Construction Effect on Visual Receptor Groups*

3.42 The revised positions of turbine T9, turbine T11 and turbine T13 result in no change to the effects on visual receptor groups during construction identified in **Chapter 6** of the **EIA Report** at **paragraphs 6.6.173** to **6.6.176**.

### Operational Effects on Visual Receptor Groups

*Residential Receptors within 3 km*

3.43 Having reviewed the revised positions of turbine T9, turbine T11 and turbine T13 and the revised landscape baseline which now includes the operational Pines Burn Wind Farm, it is concluded that there is no change to the effects during daylight hours arising from the Proposed Development to any of the residential properties brought forward into detailed assessment. The effects would remain as reported in **Technical Appendix 6.6** of **Chapter 6** of the **EIA Report**.

*Effects on Settlements*

3.44 Having reviewed the revised positions of turbine T9, turbine T11 and turbine T13 and taking into consideration the revised landscape baseline which now includes the operational Pines Burn Wind Farm, there is no change to the effects during daylight hours arising from the Proposed Development to any of the settlements brought forward into

detailed assessment. The effects would remain as reported in **Table 6.8** of **Chapter 6** of the **EIA Report**.

*Effects on Recreational Routes*

3.45 Having reviewed the revised positions of turbine T9, turbine T11 and turbine T13 and having taken into consideration the revised landscape baseline which now includes the operational Pines Burn Wind Farm, there is no change to the effects during daylight hours arising from the Proposed Development to any of the recreational routes brought forward into detailed assessment. The effects would remain as reported in **Table 6.9** of **Chapter 6** of the **EIA Report**.

*Effects on Roads*

3.46 Having reviewed the revised positions of turbine T9, turbine T11 and turbine T13 and having taken into consideration the revised landscape baseline which now includes the operational Pines Burn Wind Farm, there is no change to the effects during daylight hours arising from the Proposed Development to any of the roads brought forward into detailed assessment. The effects would remain as reported in **Table 6.10** of **Chapter 6** of the **EIA Report**.

### Effects on The Teviot Valleys and Cheviot Foothills Special Landscape Areas

3.47 A review of the revised positions of turbine T9, turbine T11 and turbine T13 and taking into consideration the revised landscape baseline which now includes the operational Pines Burn Wind Farm concludes that there is no change to the effects arising from the Proposed Development to either of the SLAs and that the effects would remain as reported in **paragraphs 6.6.292** to **6.6.304** of **Chapter 6** of the **EIA Report**.

### Visual Effects during Decommissioning

3.48 The revised positions of turbine T9, turbine T11 and turbine T13 would not result in any change to the visual effects arising during the decommissioning of the Proposed Development and the effects would remain as reported in **paragraphs 6.6.305** to **6.6.309** of **Chapter 6** of the **EIA Report**.

## Updated Landscape Character and Visual Effects (Hours of Darkness)

### Introduction

3.49 Following the submission of the **EIA Report** in 2022, several changes have occurred that have the potential to reduce the landscape character and visual effects during the hours of darkness that were reported in **Chapter 6** of the **EIA Report**.

3.50 Firstly, as explained above, the relocation of turbine T9 has resulted in the number of visible aviation lights required reducing from six in the EIA Layout (T1, T3, T8, T9, T11 and T12) to five in the FEI Layout (T1, T3, T8, T9 and T12). This revised reduced lighting scheme has been agreed with the Civil Aviation Authority (CAA) dated 20 May 2024.

3.51 Secondly, in November 2024 NatureScot published “Guidance on Aviation Lighting Impact Assessment” which sets out a process for assessing the landscape and visual effects resulting from visible aviation warning lighting required for the Proposed Development. The guidance provides further explanation as to how the value and susceptibility of both landscape and visual receptors may, in some instances, be different during the hours of darkness compared to daylight hours due to the influence of other existing light sources e.g. lights around properties and settlements or vehicular lights. This differs from how the assessment of landscape character and visual effects during the hours of darkness was carried out in **Chapter 6** of the **EIA Report** which used the same receptor sensitivity for both daytime and during the hours of darkness. Therefore, the judgements of sensitivity during the hours of the darkness have been re-assessed following the publication of this guidance and are presented in **Table 3.2** below.

3.52 Finally, the applicant commissioned an additional technical report in 2024 on the propagation of light from the aviation warning lights (see **Technical Appendix 6.11** of this **FEI Report**) that enables an assessment of how bright the visible aviation warning lights would appear to be to observers and provides a comparison with other light sources, such as the moon, stars and other man-made light sources.

3.53 As the above factors all contribute to a reduction in effects during the hours of darkness, this section of the **FEI Report** solely focuses on the significant effects on landscape and visual receptors identified in **Chapter 6** of the **EIA Report** during the hours of darkness as no new significant effects would be identified due to the reduction in effects.

3.54 This section of the FEI is supported by the following:

- FEI - Updated Figure 6.7 Rev A - Lit Turbine ZTV to 35km with Viewpoints;
- FEI - Updated Figure 6.8 Rev A - Lit Turbine ZTV to 20km with Viewpoints;
- FEI - Updated Figure 6.30 Rev A - Lit Turbines ZTV to 35km (NE Quadrant) with Viewpoints;
- FEI - Updated Figure 6.31 Rev A - Lit Turbines ZTV to 35km (SE Quadrant) with Viewpoints;
- Updated Figure 6.32 Rev A - Lit Turbines ZTV to 35km (NW Quadrant) with Viewpoints;
- Updated Figure 6.33 Rev A - Lit Turbines ZTV to 35km (SW Quadrant) with Viewpoints;
- New Figure 6.61 - Turbine Lighting Intensity ZTV to 35 km with Viewpoints; and
- New Figure 6.62 - Turbine Lighting Intensity ZTV to 20 km with Viewpoints.

## Updated Landscape Character Effects (Hours of Darkness)

### Landscape Character Sensitivity During the Hours of Darkness

3.55 Having reviewed the sensitivity judgements made for each of the landscape character types where a significant effect during the hours of darkness was predicted in the **EIA Report**, it is considered that there would be no change to the level of sensitivity during the hours of darkness. This is due to a combination of factors. Although specific landscape features of each LCT may be less apparent during the hours of darkness, their landform provides visual enclosure and a distinctive, recognisable profile that forms the

skyline of views during the hours of darkness. Additionally, the LCTs are relatively remote with few other existing light sources.

### Magnitude of Change during the Hours of Darkness

3.56 As explained above, the relocation of turbine T9 has resulted in the number of visible aviation lights required reducing from six in the EIA Layout (T1, T3, T8, T9, T11 and T12) to five in the FEI Layout (T1, T3, T8, T9 and T12).

3.57 The turbine lighting intensity ZTVs at **New Figure 6.61** and **New Figure 6.62** that accompany this **FEI Report** illustrate the vertical directional intensity mitigation which is embedded into the design of the Proposed Development.

3.58 As highlighted in the Millmoor Rig *"Report on Light Propagation from the Aviation Warning Lights"* in **New Technical Appendix 6.11** of the **FEI Report**, the perception of light during the hours of darkness is dependent on many factors that include background ambient light levels, human perception of light which varies from person to person and how adapted a viewer's eyes are to darkness, as set out at **paragraph 2.1.1** of **Technical Appendix 6.11** of the **FEI Report**.

3.59 While it is not possible to illustrate these factors in a ZTV, the turbine lighting intensity ZTVs at **New Figure 6.61** and **New Figure 6.62** of the **FEI Report** nonetheless provide a reasonable approximation of the vertical directional intensity mitigation embedded into the design of the Proposed Development and help inform the judgements of the magnitude of change during the hours of darkness.

3.60 Collectively, the above factors serve to reduce the magnitude of change to landscape character during the hours of darkness. A summary of the changes to the landscape character effects between the EIA Layout and the FEI Layout is provided in **Table 3.2** below.

**Table 3.2: Summary of Updated Landscape Character Effects during the Hours of Darkness during Operation**

| | EIA Layout - Landscape Character Effects During the Hours of Darkness Reported in the EIA Report | | | | FEI Layout - Updated Landscape Character Effects During the Hours of Darkness | | | |
|---|---|---|---|---|---|---|---|---|
| **Landscape Character Type** | **Sensitivity** | **Magnitude of Change** | **Level of Effect** | **Significant** | **Sensitivity** | **Magnitude of Change** | **Level of Effect** | **Significant** |
| **LCT 5i(ii) Southern Uplands Forest Covered Wauchope/Newcastleton** | | | | | | | | |
| *Up to 5 km to the west, south and 5 km to the east* | Medium | Medium high | Moderate | **Yes** | Medium | Medium | Moderate | **Yes** |
| **LCT 4 (iii) – Southern Uplands with Scattered Forest – Cauldcleuch Head Group** | | | | | | | | |
| *Up to 5 km to the west* | Medium | Medium | Moderate | **Yes** | Medium | Medium | Moderate | No |
| **LCT 7 – Cheviot Foothills – Falla Group** | | | | | | | | |
| *Up to 5 km to the north and east* | Medium high | Medium high | Moderate major | **Yes** | Medium high | Low medium | Moderate | No |
| **LCT 11(i) – Grassland with Hills – Bonchester/Dunion** | | | | | | | | |
| *Within 5 km* | Medium high | Medium high | Moderate major | **Yes** | Medium high | Low medium | Moderate | No |

**Bold** text indicates a significant effect

## Updated Visual Effects (Hours of Darkness)

### Sensitivity of Visual Receptors During the Hours of Darkness

3.61 Having reviewed the sensitivity judgements for each visual receptor where a significant effect during the hours of darkness was predicted in the **EIA Report**, it is considered that the level of sensitivity during the hours of darkness for receptors may reduce in some in some instances.

3.62 The sensitivity of receptors in settlements would reduce as they would be less susceptible due to the presence of existing light sources around properties and in settlements. The sensitivity of receptors travelling along the roads considered in the assessment would also reduce as receptors would be less susceptible due to the presence of lights from their vehicles and other road users.

3.63 The susceptibility of receptors in residential properties considered in **Technical Appendix 6.6 – Residential Visual Amenity Assessment** of the **EIA Report** would not reduce due to the properties being located outside of settlements in areas that are dark. However, it is acknowledged that there may be some lights around the properties.

3.64 The susceptibility of receptors in remote upland locations and hills would not reduce due to such areas being dark. However, it is acknowledged that walkers in such locations may have some form of light such as a torch with them.

3.65 This approach accords with NatureScot guidance on Aviation Lighting Impact Assessment (Table 1).

### Magnitude of Change during the Hours of Darkness

3.66 As explained above, the relocation of turbine T9 has resulted in the number of visible aviation lights required reducing from six in the EIA Layout (T1, T3, T8, T9, T11 and T12) to five in the FEI Layout (T1, T3, T8, T9 and T12).

3.67 The turbine lighting intensity ZTVs at **New Figure 6.61** and **New Figure 6.62** that accompany this **FEI Report** illustrate the vertical directional intensity mitigation which is embedded into the design of the Proposed Development.

3.68 As highlighted in **New Technical Appendix 6.11 - Report on Light Propagation from the Aviation Warning Lights, FEI Report**, the perception of light during the hours of darkness is dependent on many factors as set out at **paragraph 2.1.1** of that appendix that include background ambient light levels, human perception of light which varies from person to person and how adapted a viewer's eyes are to darkness.

3.69 While it is not possible to illustrate these factors in a ZTV, the turbine lighting intensity ZTVs at **New Figure 6.61** and **New Figure 6.62** of the **FEI Report** nonetheless provide a reasonable approximation of the vertical directional intensity mitigation embedded into the design of the Proposed Development and help inform the judgements of the magnitude of change during the hours of darkness.

3.70 Collectively, the above factors serve to reduce the magnitude of change to visual amenity during the hours of darkness. A summary of the changes to the visual effects between

the EIA Layout and the FEI Layout is provided in **Table 3.3**, **Table 3.4**, **Table 3.5**,**Table 3.6**, and **Table 3.7** below.

**Table 3.3: Summary of Updated Effects on Representative Viewpoints during the Hours of Darkness during Operation**

| | EIA Layout - Effects on Representative Viewpoints During the Hours of Darkness Reported in the EIA Report | | | | FEI Layout - Updated Effects on Representative Viewpoints During the Hours of Darkness | | | |
|---|---|---|---|---|---|---|---|---|
| **Viewpoint** | **Sensitivity** | **Magnitude of Change** | **Level of Effect** | **Significant** | **Sensitivity** | **Magnitude of Change** | **Level of Effect** | **Significant** |
| *1 - A6088, Chesters* | High | Medium high | Moderate major | **Yes** | Medium | Medium | Moderate | No |
| *3 - Fort north-east of Southdean* | Medium high | Medium high | Moderate major | **Yes** | Medium high | Medium high | Moderate major | **Yes** |
| *4 - A6088, Western approach to Chesters* | High | Medium high | Moderate major | **Yes** | Medium | Medium | Moderate | No |
| *5 - Bonchester Hill* | High | Medium | Moderate | **Yes** | High | Low medium | Moderate | No |
| *6 - B6357 Vantage Point* | High | High | Major | **Yes** | High | Medium high | Moderate major | **Yes** |
| *7 - Footpath at Knox Knowe* | High | Medium high | Moderate major | **Yes** | High | Medium high | Moderate major | **Yes** |
| *8 - A6088, north-west of Carter Bar* | Medium | Medium | Moderate | **Yes** | Medium | Medium | Moderate | No |
| *11 - Footpath and Minor Local Road, Chesters Brae* | High | Medium high | Moderate major | **Yes** | High | Medium high | Moderate | **Yes** |
| *14 - Wolfelee Hill* | Medium high | Medium high | Moderate major | **Yes** | Medium high | Medium | Moderate | **Yes** |
| *19 - Wheel Causeway* | Medium | Medium high | Moderate major | **Yes** | Medium | Medium high | Moderate | **Yes** |

**Bold** text indicates a significant effect

**Table 3.4: Summary of Updated Operational Effects on Residential Properties during the Hours of Darkness**

| | EIA Layout - Effects on Residential Properties During the Hours of Darkness Reported in the EIA Report | | | | FEI Layout - Updated Effects on Residential Properties During the Hours of Darkness | | | |
|---|---|---|---|---|---|---|---|---|
| **Property** | **Worst-case sensitivity** | **Worst-case Magnitude of Change** | **Worst-case Level of Effect** | **Significant** | **Worst-case sensitivity** | **Worst-case Magnitude of Change** | **Worst-case Level of Effect** | **Significant** |
| *Property 7 – Dykeraw Farm Cottage* | High | Medium high | Moderate major | **Yes** | High | Low | Moderate | No |
| *Property 9 – Dykeraw Farmhouse* | High | Medium | Moderate | **Yes** | High | Low | Moderate | No |
| *Property 10 – Southdean Lodge Bothy* | High | High | Major | **Yes** | High | Medium | Moderate major | **Yes** |
| *Property 11 – Southdean Lodge* | High | High | Major | **Yes** | High | Medium | Moderate major | **Yes** |
| *Property 12 – Charlie's Hill* | High | High– from upper floor window only | Major | **Yes** | High | Medium | Moderate major | **Yes** |

**Bold** text indicates a significant effect

**Table 3.5: Summary of Updated Operational Effects on Settlements during the Hours of Darkness**

| | EIA Layout - Effects on Settlements During the Hours of Darkness Reported in the EIA Report | | | | FEI Layout - Updated Effects on Settlements During the Hours of Darkness | | | |
|---|---|---|---|---|---|---|---|---|
| **Receptor** | **Sensitivity** | **Magnitude of Change** | **Level of Effect** | **Significant** | **Sensitivity** | **Magnitude of Change** | **Level of Effect** | **Significant** |
| *Chesters* | High | Medium high | Moderate major | **Yes** | Medium | Medium | Moderate | No |

**Bold** text indicates a significant effect

**Table 3.6: Summary of Updated Operational Effects on Routes and Paths during the Hours of Darkness**

| | EIA Layout - Effects on Routes and Paths During the Hours of Darkness Reported in the EIA Report | | | | FEI Layout - Updated Effects on Routes and Paths During the Hours of Darkness | | | |
|---|---|---|---|---|---|---|---|---|
| **Receptor** | **Sensitivity** | **Magnitude of Change** | **Level of Effect** | **Significant** | **Sensitivity** | **Magnitude of Change** | **Level of Effect** | **Significant** |
| *Other paths and routes within 5km* | Medium | Medium | Moderate | **Yes** | Medium | Medium | Moderate | **Yes** |
| *Bonchester Bridge & Hill Promoted Path – northeast at Bonchester Hill* | High | Medium | Moderate | **Yes** | High | Low medium | Moderate | No |
| *Borders Loop – Doorpool to east of Chesters – approximately 5.1 km* | High | Medium high | Moderate major | **Yes** | Medium | Medium | Moderate | No |

**Bold** text indicates a significant effect

**Table 3.7: Summary of Updated Operational Effects on Roads during the Hours of Darkness**

| | EIA Layout - Effects on Roads During the Hours of Darkness Reported in the EIA Report | | | | FEI Layout - Updated Effects on Roads During the Hours of Darkness | | | |
|---|---|---|---|---|---|---|---|---|
| **Receptor** | **Sensitivity** | **Magnitude of Change** | **Level of Effect** | **Significant** | **Sensitivity** | **Magnitude of Change** | **Level of Effect** | **Significant** |
| **A6088 – Westbound from Carter Bar** | | | | | | | | |
| *A6088 – 1.9 km section from Charlie's Hill to Merryoaks, Southdean* | Medium | Medium high | Moderate | Yes | Medium | Medium | Moderate | No |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **A6088 – Eastbound from northwest of Bonchester Bridge** | | | | | | | | |
| *A6088 – 1.2 km section Doorpool to Chesters* | Medium | Medium high | Moderate | **Yes** | Medium | Medium | Moderate | No |
| *A6088 – 1.1 km section Whiteburn to Southdean* | Medium | Medium high | Moderate | **Yes** | Medium | Medium | Moderate | No |
| *A6088 – 1.9 km section from Charlie's Hill to Merryoaks, Southdean* | Medium | Medium high | Moderate | **Yes** | Medium | Medium | Moderate | No |
| **Other Roads** | | | | | | | | |
| B6357 – 2.3 km section near Wauchope | Medium | Medium | Moderate | **Yes** | Medium | Medium | Moderate | No |

**Bold** text indicates a significant effect

# Updated Cumulative Landscape and Visual Impact Assessment

## Introduction

3.71 This section of the FEI replaces the cumulative landscape and visual impact assessment presented in **Section 6.8** of **Chapter 6** of the **EIA Report**, taking into consideration the changes that have occurred since the submission of **EIA Report** in 2022.

3.72 It is supported by:

- FEI – Updated Figure 6.34 Rev A - Other Wind Farms within 35km; and
- FEI - Updated Figure 6.35 Rev A - Other Wind Farms within 25 km.

## Cumulative Update

3.73 At the time the cumulative landscape and visual impact assessment was prepared, a cumulative 'cut-off' date of 31 August 2022 was set and six other operational, consented/under construction, in planning or scoping wind farms were identified within the detailed 25 km study area as presented at **Table 6.11** of **Chapter 6** of the **EIA Report**.

3.74 In the intervening period, the consented Pines Burn Wind Farm has been constructed and is now operational, the in planning Faw Side was refused (determined 22 December 2023[1]) and Liddesdale Wind Farm is at scoping.

3.75 The revised cumulative baseline based on a 'cut-off' date of 13 June 2025 is set out in the table below.

**Table 3.8: Other Wind Farms within 25 km of the Proposed Development**

| Site | Blade Tip Height | Number of Turbines | Distance and Direction |
|---|---|---|---|
| **Operational** | | | |
| Langhope Rig | 121.2 m | 10 | 23.3 km northwest |
| Pines Burn | Phase I<br>3 x 145 m<br>4 x 149.9 m<br><br>Phase II<br>4 x 130 m<br>Phase II will be built at a later date | 7<br><br>4 | 5.8 km west |
| **Consented or Under Construction** | | | |
| Windy Edge | 3 x 125 m<br>6 x 125 m | 9 | 14.1 km southwest |

[1] Faw Side Determination Letter dated 22 December 2023. Available at: https://www.energyconsents.scot/ApplicationDetails.aspx?cr=ECU00001833&T=6

| Site | Blade Tip Height | Number of Turbines | Distance and Direction |
|---|---|---|---|
| **In Planning** | | | |
| Teviot | 180 m – 240 m | 52 | 12.1 km west southwest |
| **Scoping** | | | |
| Caple Rig | 250 m | 80 | 26.5 km southwest |
| Cliffhope | 200 m | 47 | 3.5 km southwest |
| Liddesdale | 250 m | 80 | Immediately south |
| Windy Edge Scoping | 200 m | 12 | 13.3 km southwest |

**Table 3.9: Summary of Combined Cumulative Visual Effects by Viewpoint Location**

| Viewpoint Location | Operational Langhope Rig | Operational Pines Burn | Consented Windy Edge | In Planning Teviot | Scoping Liddesdale | Scoping Windy Edge | Scoping Caple Rig | Scoping Cliffhope |
|---|---|---|---|---|---|---|---|---|
| 1 - A6088, Chesters | - | | - | - | X | - | - | X |
| 2 - A6088, Southdean | - | | - | - | X | - | - | X |
| 3 - Fort north-east of Southdean | O | O | O | X | X | X | - | X |
| 4 - A6088, Western approach to Chesters | - | - | - | - | X | - | - | X |
| 5 - Bonchester Hill | O | O | O | O | X | O | O | X |
| 6 - B6357 Vantage Point | - | - | - | - | X | - | - | O |
| 7 - Footpath at Knox Knowe | X | - | - | - | X | - | - | O |
| 8 - A6088, north-west of Carter Bar | X | X | - | X | X | X | - | X |
| 9 - Carter Bar (eastern vantage point) | X | X | - | - | - | - | - | - |
| 10 - Pike Fell | O | X | O | O | X | O | O | X |
| 11 - Footpath and Minor Local Road, Chesters Brae | - | O | - | O | X | - | - | X |
| 12 - Rubers Law | - | X | O | O | X | O | O | X |
| 13 - A6088 Approach to Bonchester Bridge | O | O | O | O | X | O | O | X |
| 14 - Wolfelee Hill | O | O | O | O | X | O | O | X |

| Viewpoint Location | Operational Langhope Rig | Operational Pines Burn | Consented Windy Edge | In Planning Teviot | Scoping Liddesdale | Scoping Windy Edge | Scoping Caple Rig | Scoping Cliffhope |
|---|---|---|---|---|---|---|---|---|
| 15 - Pennine Way, Black Halls | X | X | - | X | X | X | X | X |
| 16 - Five Stanes | X | X | - | X | X | X | X | X |
| 17 - A7 Approach to Hawick | - | X | O | O | X | O | O | X |
| 18 - Borders Abbey Way, Black Law | O | X | X | X | X | X | O | X |
| 19 - Wheel Causeway | O | - | - | O | X | O | O | X |
| 20 - A68, north of hairpin past Carter Bar | - | X | - | X | X | X | - | X |
| 21 - Rowan Road, Jedburgh | - | X | - | X | X | X | - | X |

**(Key: X = Simultaneously, O = In Succession and '-' = No Combined Visibility)**

### Cumulative Effects on Landscape Character - Update

*Cumulative Scenario 1 – Other consented schemes are also considered to be operational*

3.76 Since the submission of the **EIA Report** in 2022, Pines Burn Wind Farm is now operational and as such forms part of the existing baseline landscape against which the effects of the Proposed Development are assessed in this **FEI Report**.

3.77 Consequently, in the first cumulative scenario (where other consented wind farms are also considered to be operational) the only other consented wind farm is Windy Edge situated approximately 14.1 km to the south-west.

3.78 Windy Edge is located within LCT 4(iii) Southern Uplands with Scattered Forest – Cauldcleuch Head Group, close to the LCTs eastern edge and boundary with LCT 5i(ii) Southern Uplands Forest Covered – Wauchope/Newcastleton.

3.79 The assessment of the solus effects of the Proposed Development against the updated landscape baseline that now includes Pines Burn Wind Farm as an operational wind farm in **paragraphs 3.34** to 3.38 above, identified a significant effect on the Southern Uplands with Scattered Forest – Cauldcleuch Head Group LCT extending to approximately 3 km to the west from the Proposed Development overlapping the north-east corner of this LCT by approximately 2.5 km. Effects beyond this are considered to be not significant.

3.80 In a scenario in which Windy Edge was already present in the baseline landscape, the extent of this significant effect would remain the same due to the distance from the Proposed Development and the additional effect of the Proposed Development would be not significant beyond this distance.

*Cumulative Scenario 2 – Other consented and in-planning schemes are considered to also be operational*

3.81 Since the submission of the **EIA Report** in 2022, Faw Side was refused in 2023 and as such it no longer forms part of Cumulative Scenario 2. Therefore, the other in-planning scheme would be Teviot, situated approximately 12.1 km to the west southwest.

3.82 Teviot is mostly situated in LCT 4(iii) Southern Uplands with Scattered Forest – Cauldcleuch Head Group, with a number of turbines also being situated within LCT 5i(ii) Southern Uplands Forest Covered – Wauchope/Newcastleton, in which the Proposed Development is located.

3.83 Given the location of Teviot and its distance from the Proposed Development, it is considered that the effects on landscape character would be the same as those identified for Cumulative Scenario 1, in that there would be no change to the extent of significant landscape character effects to the updated landscape baseline considered in this **FEI Report**.

3.84 For all other assessments of landscape character effects there would be no change to the significant effects already identified in the main assessment of the EIA.

*Totality of the Combined Effect of All Schemes*

3.85 Consideration has also been given to the overall totality of the effect, when the Proposed Development is considered alongside the other operational, consented and proposed schemes. Of most relevance to this, is a consideration of the overall impact on the three LCTs where a significant effect was identified in the main assessment, and which cover the majority of the 5 km area around the Proposed Development: LCT 5 (ii) Southern Uplands Forest Covered – Wauchope/Newcastleton; LCT 4(iii) Southern Uplands with Scattered Forest – Cauldcleuch Head Group and LCT 7 Cheviot Foothills – Falla Group.

3.86 The Proposed Development is located in LCT 5 (ii) Southern Uplands Forest Covered – Wauchope/Newcastleton. No other wind farms are currently located within the LCT. However, the operational Pines Burn and the consented Windy Edge schemes are situated close to the southwestern edge of the LCT. Furthermore, the 'in-planning' Teviot scheme overlaps the southwestern edge of the LCT, with a number of turbines sited within the LCT. The introduction of the Teviot turbines within part of the LCT would introduce direct significant effects on a localised part of the LCT and indirect significant effects that would extend across a further part of the LCT beyond the immediate vicinity of the turbines.

3.87 It is acknowledged that the combined overall effect on the character of the Southern Uplands Forest Covered – Wauchope/Newcastleton LCT, were the Proposed Development and the other in-planning schemes consented, would be notable, such that collectively the character area would become one in which the presence of occasional wind farms was a recognised characteristic feature. There would remain a considerable spacing between the Proposed Development and the other schemes, a point recognised in the 2016 Update of Wind Energy Landscape Capacity and Cumulative Impact Study, which states: *"Much of this LCA has the potential to accommodate occasional well-separated windfarms …"*

3.88 However, it would not be the case that wind energy would become the single dominant characteristic of the LCT so as to prevent an understanding and appreciation of the character of the LCT.

3.89 LCT 4(iii) Southern Uplands with Scattered Forest – Cauldcleuch Head Group is situated to the west of the Proposed Development and the operational Pines Burn Wind Farm is located in the north-eastern part of the LCT. Taking into consideration the updated baseline landscape considered in this **FEI Report**, indirect significant effects have been identified on a part of this LCT as a result of the Proposed Development extending to approximately 3 km.

3.90 The operational Pines Burn and the consented Windy Edge schemes are located within the northern half of the LCT, along with the majority of the in-planning Teviot turbines. Considered collectively, the direct effects on the character of the LCT introduced by these other schemes would have a characterising effect on the LCT, effectively creating a new landscape character subtype, one 'with wind turbines' in the northern half of the LCT. This effect would be brought about by these other schemes in any case, without the Proposed Development, which would only reinforce this existing effect.

3.91 LCT 7 Cheviot Foothills – Falla Group is situated to the north and east of the Proposed Development, in the opposite direction to the other consented and in-planning schemes which are situated to the southwest of the Proposed Development. When the combined effect of these other schemes is considered, there would be no additional effects over and above those identified for the Proposed Development. Wind energy development beyond the boundary of the LCT would not become the single dominant characteristic of the LCT to prevent an understanding and appreciation of its wider underlying characteristics.

### Cumulative Effects on Views and Visual Amenity

*Cumulative Scenario 1 – Other consented schemes are also considered to be operational*

3.92 Since the submission of the **EIA Report** in 2022, Pines Burn Wind Farm is now operational and as such forms part of the existing baseline landscape against which the effects of the Proposed Development are assessed in this **FEI Report**.

3.93 Consequently, in Cumulative Scenario 1 (where other consented wind farms are also considered to be operational) the only other wind farm is Windy Edge situated approximately 14.1 km to the south-west.

3.94 The addition of Pines Burn into the existing baseline landscape established wind energy as a visual component in the part of the landscape to the west and south-west of the Proposed Development. The addition of the consented Windy Edge in the landscape to the south-west would reinforce this effect.

3.95 There would be a few locations to the west, such as viewpoint 10 where the Proposed Development would be seen successively with the consented Windy Edge. There would also be some locations to the east, such as viewpoints 15 and 16 where the Proposed Development would be seen successively with the consented Windy Edge in longer range

views. There would also be some locations to the north, such as viewpoints 3, 5, 13, 14 where successive views would be available.

3.96 If this scheme formed part of the visual baseline against which the Proposed Development were to be constructed, the effects would remain as reported in **Table 6.7** of **Chapter 6** of the **EIA Report**.

*Cumulative Scenario 2 – Other consented and in-planning schemes are also considered to be operational*

3.97 Since the submission of the **EIA Report** in 2022, Faw Side was refused in 2023 and as such it no longer forms part of Cumulative Scenario 2. Therefore, the only other in-planning scheme would be Teviot, situated approximately 12.1 km to the west southwest.

3.98 The location of these schemes in a broadly similar part of the landscape would mean there would be some simultaneous views, such as from viewpoints 3, 8, 15, 16, 18 and 20 and successive views from other elevated locations such viewpoints 5, 10, 12, 13, 14, 17 and 19.

3.99 If Teviot formed part of the visual baseline against which the Proposed Development were to be constructed, the effects would remain as reported in **Table 6.7** of **Chapter 6** of the **EIA Report**.

### Cumulative 'sequential' effects

3.100 The main assessment in **Chapter 6** of the **EIA Report** focussed on the following routes which were considered to have the potential to experience significant effects as a result of the Proposed Development:

- A68;
- A6088;
- B6357;
- Borders Loop; and
- Borders Abbey Way.

3.101 These routes are illustrated on **Figure 6.19** and **Figure 6.20** submitted with the **EIA Report**.

3.102 It is acknowledged that the main assessment also considered effects on several core paths and routes within 5 km. However, given their location in close to the Proposed Development and the extensive intervening forest plantation to the southwest between the Proposed Development and the other cumulative schemes, it is considered that there is very limited potential for users of these routes to experience cumulative sequential effects. As such they are not considered further.

3.103 In the Cumulative Scenario 1 (where other consented wind farms are also considered to be operational), this would comprise Windy Edge situated approximately 14.1 km to the southwest.

3.104 With reference to the cumulative ZTV at **Figure 6.37** of the **EIA Report**, views of these additional schemes may be experienced from very limited parts of these routes. However, given the distance from these routes it is assessed that the addition of Windy Edge would

not introduce any significant effects or materially change the findings of the main assessment as reported in **Table 6.9** and **Table 6.10** of **Chapter 6** of the **EIA Report**.

3.105 Similarly, in Cumulative Scenario 2 the Teviot scheme would form part of the baseline. While it is acknowledged there are some very limited sections of these routes where views of the Teviot scheme would be available, given the notable distance from the routes, its inclusion would not introduce any significant effects or materially change the findings of the main assessment as reported in **Table 6.9** and **Table 6.10** of **Chapter 6** of the **EIA Report**.

### Totality of the Combined Effects of All Schemes

3.106 Consideration has also been given to the overall totality of the cumulative visual effect, when the Proposed Development is considered alongside the other operational, consented and in-planning schemes.

3.107 It was identified in the main assessment in **Chapter 6** of the **EIA Report** that the Proposed Development introduces significant effects on a number of visual receptors located approximately within 5 km of the proposed turbines during daylight hours (see **Table 6.7**, **Table 6.8**, **Table 6.9** and **Table 6.10** of **Chapter 6** of the **EIA Report**) and in some instances during the hours of darkness see **Table 3.3**, **Table 3.5**,**Table 3.6**, and **Table 3.7** above in this section of the **FEI Report**.

3.108 When the combined effects of the other operational, consented and proposed schemes are considered, the addition of the Proposed Development would not result in the overall cumulative impact of turbines being dominant or oppressive in views. This is due to the separation distances between the schemes. Where seen simultaneously such as at Viewpoint 8 and at longer-range at viewpoint 15 and 16, the additional schemes would be seen at considerable distance.

### Scoping Stage Liddesdale Wind Farm

3.109 In accordance with NatureScot “Guidance - Assessing the cumulative landscape and visual impact of onshore wind energy developments” (March 2021), the cumulative assessment has focussed on assessing schemes that are under construction, consented or the subject of a valid planning application.

3.110 Typically, scoping stage schemes are not considered due to the uncertainty of design information or whether schemes will actually come forward to application. This is in accordance with the approach advocated in the Landscape Institute and Institute of Environmental Assessment’s “Guidelines for Landscape and Visual Impact Assessment Third Edition” (GLVIA3).

3.111 In 2023, a scoping request was submitted for Liddesdale Wind Farm based on a layout of up to 80 turbines. Since scoping, the number of turbines has reduced to 59 turbines and further public consultation has been carried out. This post-scoping revised layout is presented in the ten updated LVIA visualisations that accompany this **FEI Report** and has been used as the basis for calculating the cumulative ZTV (see **FEI - New Figure 6.63** Cumulative ZTV to 35 km Post-scoping Liddesdale Wind Farm) that illustrates theoretical visibility of the Proposed Development and Liddesdale Wind Farm.

3.112 A scoping request was submitted for Cliffhope Wind Farm in April 2025. However, given its location beyond Liddesdale it is considered that, Liddesdale is the most relevant scheme to consider as it is being proposed to the immediate south of the Proposed Development.

3.113 The Liddesdale scheme would be located within LCT 5i(ii) Southern Uplands Forest Covered – Wauchope/Newcastleton which is the same LCT where the Proposed Development is located. In a scenario in which Liddesdale Wind Farm was present in the baseline landscape, wind energy would already have been established as a key characteristic of the LCT. This would reduce the potential impact on the LCT that would be introduced by the Proposed Development.

3.114 When the Proposed Development and Liddesdale schemes are considered in combination there would be a significant cumulative effect to landscape character which would be contained within the northern part of the LCT extending from its northern edge near Southdean, southwards for approximately 8 km. However, this significant effect would for the most part be brought about by the Liddesdale scheme rather than the Proposed Development.

3.115 **FEI – New Figure 6.63**, illustrates areas where there is the potential for combined visibility of the Proposed Development and Liddesdale Wind Farm. Liddesdale Wind Farm would be seen simultaneously with the Proposed Development in all of the LVIA viewpoints with the exception of **Viewpoint 9** Carter Bar from where neither scheme would be visible.

3.116 In a scenario in which Liddesdale Wind Farm was present in the baseline landscape, it would reduce the visual effects resulting from the Proposed Development during both daylight hours and the hours of darkness experienced from all viewpoints. This would be particularly evident in views experienced at Viewpoints 6, 7 and 19 which are located to the south of the Proposed Development and to the south of Liddesdale. From such viewpoints, there would be a significant cumulative visual effect that would be mostly introduced by the Liddesdale scheme rather than the Proposed Development.

### Summary of Cumulative Effects

3.117 It is acknowledged that wherever more than one wind farm is visible at any given location in the landscape, there will be a greater overall or cumulative effect on landscape character than if just one wind farm was visible in the landscape. Likewise, it is acknowledged that the more wind turbines that are constructed in any given landscape, the greater the magnitude of overall (or combined) change to the landscape character.

3.118 When the other consented wind farm, Windy Edge, is considered to already form part of the baseline, there would be no change to the extent of significant effects on landscape character due to the distance from the Proposed Development.

3.119 When other consented and in-planning schemes are considered to also be operational there would be no change to the extent of significant landscape character effects to the updated landscape baseline considered in this **FEI Report**.

3.120 In terms of the totality of effect on landscape character, it is recognised that the combined overall effect on the character of Southern Uplands Forest Covered – Wauchope/Newcastleton LCT would be notable and that collectively the character area

would become one in which the presence of occasional wind farms was a recognised characteristic feature. There would remain a considerable spacing between the Proposed Development and the other schemes. However, wind turbines would not become the single dominant characteristic feature of the LCT.

3.121 In relation to LCT 4(iii) Southern Uplands with Scattered Forest – Cauldcleuch Head Group, the characterising effect on the northern part of the LCT, essentially creating a new landscape character sub-type 'with wind turbines' would occur in any case without the Proposed Development, which would only reinforce this existing effect.

3.122 LCT 7 Cheviot Foothills – Falla Group is situated in the opposite direction to the other consented and in-planning schemes such that there would be no additional effects over and above those identified for the Proposed Development and wind energy beyond the boundary of the LCT would not become the dominant characteristic feature so as to prevent an appreciation of its character.

3.123 As with cumulative landscape character effects, it is acknowledged that wherever more than one wind farm is visible in any given view, there will be a greater overall or cumulative effect on the view or visual amenity than if just one wind farm was visible in the landscape and that the more wind turbines that are constructed, the greater the magnitude of overall (or combined) change to the view or visual amenity that prevailed prior to the introduction of the first turbines.

3.124 When the other consented wind farm, Windy Edge, is considered to already form part of the baseline, it is considered that there would be no change to the previous assessment of effects on visual amenity and effects would remain as reported in **Table 6.7** of **Chapter 6** of the **EIA Report**. Similarly, if the other in-planning scheme, Teviot also formed part of the baseline, it is considered that there would be no change to the previous assessment of effects on visual amenity and effects would remain as reported in **Table 6.7** of **Chapter 6** of the **EIA Report**. Nor would they introduce any additional significant sequential effects on the routes.

3.125 In terms of the totality of effect on visual amenity, it is not considered that the addition of the Proposed Development would be such as to result in the overall cumulative impact of turbines being dominant or oppressive in views experienced at various points within the area.

3.126 In relation to the post-scoping Liddesdale scheme, this alone would establish wind turbines as a key characteristic of the northern part of LCT 5i(ii) Southern Uplands Forest Covered – Wauchope/Newcastleton consequently reducing the effect introduced by the Proposed Development. There would be a significant cumulative effect on the northern part of the LCT that would be largely brought about by the Liddesdale scheme rather than the Proposed Development. In relation to cumulative visual effects, the Liddesdale scheme would be seen simultaneously with the Proposed Development from the majority of the LVIA viewpoints. From viewpoints such as viewpoints 6, 7 and 19 there would be a significant cumulative visual effect that would be mostly introduced by the Liddesdale scheme rather than the Proposed Development.